

EVERY GARDEN TELLS A STORY: SUSTAINABLE
DEVELOPMENT IN A NEWLY EMERGENT
COMMUNITY GARDEN

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Abstract: Gardens, by their very nature, have the ability to speak to us about the role they play in the communities in which they are placed. Each story is unique and tied to the perspectives of those involved in the sowing, planting, and harvesting in each garden site. Community gardens shape the lives of the people who tend them as the people who tend them shape the life of the garden, and through the garden, the broader community. Thus, the interaction of people with the natural environment helps to create a garden's story. The central research questions addressed in this case study are: In what ways might newly emergent community gardens impact sustainability? What are economic, social, and/or environmental sustainability outcomes of a community garden within the first two-three years of existence? Finally, can a young community garden space become a catalyst for greater community involvement and the perpetuation of food security? For this research project I applied a case study approach, considering the case of Community of Hope Neighborhood Garden (COHNG), a newly emergent community garden in Tulsa, Oklahoma. Employing an inductive qualitative case study methodology, I utilized participant observation and semi-structured one-on-one and group audio-recorded interviews, exploring food security and sustainable development within the local space of the community garden through a political ecology approach. Findings indicated that the relatively low capital costs of gardening, perceived lower personal food costs, and expanded access to organic plant food contributed to economic sustainability. The garden raised awareness of environmental issues and environmental constraints through organic gardening, habitat preservation and environmental conservation, contributing to environmental sustainability. Social sustainability outcomes included: life-enhancement, education, and promotion of collective efficacy, social capital, diversity, and inclusion. COHNG became a catalyst for greater community involvement and the perpetuation of food security through the integration of the "Tables to Go" food outreach and improved food access to gardeners and persons in recovery from addiction. The case study of COHNG affirmed that newly emergent community gardens have the potential ability to enhance sustainable development and become catalysts for greater community involvement and the perpetuation of food security.

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CHAPTER I

AN INTEGRATED APPROACH TO COMMUNITY GARDENS AND SUSTAINABILITY

Gardens, by their very nature, have the ability to speak to us about the role they play in the communities in which they are placed. Each story is unique and tied to the perspectives of those involved in the sowing, planting, and harvesting in each garden site. Community gardens shape the lives of the people who tend them as the people who tend them shape the life of the garden, and through the garden, the broader community. Thus, the interaction of people with the natural environment helps create a garden's story.

Preserving the stories that accompany the studies of natural and human environments has involved a range of disciplinary approaches. Researchers reconstruct historical settings that have long since ceased to exist as well as observe the present as it evolves into history. Community garden researchers commonly use place-based approaches to focus on the dynamics of existing gardens in urban areas (Hanna and Oh 2000; Hou, Johnson and Lawson 2009). Peer-reviewed community garden literature focuses heavily on garden communities that have established endurance and longevity (Milburn and Vail 2010; Macias 2008, Armstrong 2000; Pudup 2008; Teig, Amulya, Bardwell, Buchenau, Marshall and Litt 2009). Recent research includes a newly emergent commercial urban agriculture in Vancouver (Stolhandske 2011) and a study of young church gardens in North Carolina (Smith 2012), but literature targeting newly emergent community gardens is largely absent, or at least copiously silent. One only needs to use the keywords "starting a community garden" to find resources that provide advice to people for new

community garden developments. Although a great deal of activity happens in the first two years of a community garden's life, it appears most common for research on community gardens to focus primarily on gardens of longer duration. Throughout the rest of this paper, the term "newly emergent" will apply to the first two years of a community garden's existence.

My interest in this project stemmed from direct involvement in community gardening and community food insecurity mitigation. As a part-time community garden leader, food outreach coordinator, and environmental science graduate student specializing in sustainability, my grassroots and academic interests led me to the study of a community garden and its relation to food security and sustainable development. To craft my understanding of this case, I use the sustainable development framework and broad elements of political ecology. The sustainable development framework includes the economic, environmental, and social aspects of sustainability, what is often referred to as the "three pillars of sustainability" (WCED 1987). I utilize the sustainable development framework to explore food security and sustainable development within the local space of the community garden through a political ecology approach. This perspective allows for greater breadth and depth of historical analysis and attention to the bio-cultural-political complexity of the space and its possible effects on the broader community beyond the garden (Greenberg and Park 1994). Community gardens are local and place-based and may have impacts on economic, environmental, political and social aspects of sustainable development that extend beyond each solitary garden and reverberate into the broader community (Bassett 1981).

For this research project, I utilized a case study approach, considering the case of Community of Hope Neighborhood Garden (COHNG). COHNG was built in the summer of 2010 by a handful of neighbors and members of the Community of Hope United Church of Christ (COH). COHNG is located in midtown Tulsa, Oklahoma and is the largest community garden in Tulsa. Within the US, Oklahoma ranks fourth in food insecurity (United Health Foundation

2010) and this constitutes a critical environmental problem for the state. A number of community gardens have sprouted up in Tulsa since the US financial crisis of 2008. The planning for

COHNG started in March 2010 and in June and July of the same year a group of neighbors, church members, and volunteers constructed forty raised-bed garden plots.

The building materials for the community garden were funded by the Indian Health Care Resource Center through a USDA Community Food Project (CFP) grant to reduce food insecurity. The grant provided lumber, hardware and soil to build the raised-bed plots. Forty garden plots were constructed and placed on open space behind the church, located in a primarily lower middle class neighborhood with a predominantly white population. The ecological landscape of the church property harbored an apple tree to the south of the garden and three cedar bushes to the east, but none of the trees had been pruned in many years. In developing the garden, members of a church-led land use task force comprising church members and neighborhood leaders suggested that the community garden could serve three objectives; 1) people could learn to grow their own food through organic methods, 2) people could grow healthy food for people other than themselves and 3) the holistic design structure of the garden would encourage and cultivate community.

The central research question that I address in this case study is: In what ways might newly emergent community gardens impact sustainability? Particularly, what are economic, social, and/or environmental sustainability outcomes of a community garden within the first two-three years of existence? Finally, can a young community garden space become a catalyst for greater community involvement and the perpetuation of food security? This case study allows for observation and analysis of the built environment of the community garden and considers how the garden influences sustainability, food security, and community building. This project also cultivates an understanding of the economic, environmental, political, and social happenings within the case garden and its place within community food security and community sustainability. As reported by Greenberg and Park, political ecology “develops the common

ground where various disciplines intersect” (1994:1). By expanding the sustainable development constructs beyond the economic, environmental and social aspects of sustainability into the realm of political ecology, with its critical attention to the conditions such as political economy, land tenure, economies of scale, and historical analysis, a greater analysis is possible. The integrated framework comprised of sustainable development and political ecology allows for the exploration of outcomes from the case garden to the three pillars of sustainability and community food security.

In the next chapter, I review the relevant community garden, food security, and sustainable development literature, closing the section with a framework that will assist in guiding my analysis. In Chapter Three, I review the qualitative methods approach used in this study and the process used to collect and analyze the data. Chapter Four, my first data analysis chapter, supplies the reader with historical background on the community garden space, demographics of the gardeners, brief histories of the church that supplied the land, an overall picture of the garden and the surrounding neighborhood and concludes with a discussion of the case garden structure. Chapter Five explores the findings associated with the three research questions and Chapter Six links my analysis back to political ecology, the sustainability themes and the contributions of my work to the current literatures.

CHAPTER II

LITERATURE REVIEW

I begin my literature section with a discussion of the political ecology perspective, drawing connections between this perspective and community garden research that will be central to the remainder of the literature review. I then turn to a discussion of community gardens, addressing the history, contexts and dynamics of community gardens in the United States. I provide a short explanation of the concept of sustainable development within what has been referred to as the “three- legged stool” of sustainability model, focusing on economic, environmental, and social sustainability (WCED 1987), and conclude this section with further elucidation of the individual intersections of economic development, social development, and environmental protection within the political ecology of community gardens. I close with a more explicit discussion of the contributions of my work to the current literatures.

Where is the Political Ecology in Community Gardens?

Political ecology (PE), is described by Smith as “rooted in social and political theory” and “grounded in ecology” (Heynen, Kaika, and Swyngedouw 2006:xiv). The most well-known definition of PE is that it “combines the concerns of ecology and a broadly defined political economy. Together this encompasses the constantly shifting dialectic between society and land-based resources, and also within classes and groups within society itself” (Blaikie and Brookfield 1987:17). According to Heynen, Kaika, and Swyngedouw (2006:5), “cities are built out of natural resources, through socially mediated natural processes”. The political ecology approach is appealing for this urban case study because of its fluidity and breadth of scope, the focus on

local space, and its scalar application. Political ecology offers the potential to work across disciplines and to collect information from diverse fields of study to tell more complete stories of human environmental change. From Mayer's work on the political ecology of disease to Heynen's focus on urban activism and environmental inequality to Niles' critique of food and agriculture, political ecologists strive to tease out the interactions and relationships between human-environmental interaction, political interests, public policy, and social institutions (Heynen 2006, Heynen 2010; Mayer 1996; Niles 2007).

Studying community gardens from this perspective requires looking at the economics, social dimensions and the environmental protection aspects of sustainable development as well as a "multiplicity of urban metabolisms, each with different interconnectivities and forms of instability" in order to provide a more complete analysis (Marvin and Medd 2006:143). A political ecology approach helps to unravel social, economic, environmental and political processes and "bring into focus elements of these multiple metabolisms and the partial interconnections between them" (Marvin and Medd 2006:150). City zoning regulations, biodiversity, land ownership, neighborhood associations or lack thereof, local food insecurity, social activism, environmental consciousness, community demographics, economic downturns and economic upswings are among many urban metabolisms that may play a part in the development of a garden community.

Community gardens are small entities within an urban area. They are affected by policies and politics of the city and the attitudes, dreams, tensions, and lives of the people that garden in them. Contemplating issues of sustainable development and food security within a community garden must include the stressors and tensions that exist for the people in the space because those tensions make up the "multiple metabolisms" and "partial interconnections" Marvin and Medd (2006) write about, and are part of the broader picture, reflecting political ecology at work. The environmental identity and social movement thesis within PE suggests that changes in our

environment encourage people to join together “to secure and represent themselves politically” (Robbins 2004:188). Building a community garden is one way that seemingly ordinary people are banding together in community to be represented. Garden communities reflect the environmental identity and social movement thesis of political ecology through its emphasis on drawing different people into collective action, in this case, to become community gardeners. Global economic and political pressures can be “delimited, modified, and blunted” as local people come together to make their own decisions about their interaction with the environment, outside interests and their livelihoods (Robbins 2004:189).

Pressures from the economy and political sphere have encouraged new forms of activism as seen in community gardens and alternative food movements. Guthman and Pudup offer rich, bold perspectives on the community garden movement and delve deeper into motives and meanings that may not be obvious to the naked eye. For example, regarding the popular Edible School Garden in Berkley, California, Pudup describes it as an “organized garden project” that is “cultivating citizen subjects” (Pudup 2008:1229,1231). The Edible School Garden educates kids in a manner that Pudup noticed stifled individual creativity and molds them into robots, or “citizen subjects.” The Garden Project, another garden in Berkley, is characterized as a space in “opposition to the wider culture’s racism and economic marginalization” (Pudup 2008:1237). According to Guthman (2008), activists often let their desires overshadow the desires of the people they are trying to help and this creates tension as “whiteness is produced and reproduced” (Guthman 2008:431). Leisure behavior in voluntary associations such as community gardening can even be unintentionally political and leaders tend to be more democratic than non-leaders (Glover et al. 2005:88). There are many dynamics at play within garden communities. I argue that through the wide lens of political ecology, a greater depth and breadth of community gardens might be captured and recorded.

Community Gardens: History, Contexts and Dynamics in the United States

Community gardens in the US have seen increases and decreases in popularity, contingent upon social, economic, political, and environmental protection contexts for over a hundred years. The American Community Gardening Association defines community gardens as “any piece of land gardened by a group of people” (www.communitygarden.org/learn). Urban community gardens in the United States can be traced back to the 1890’s, when vacant lots were first converted to gardens to assist unemployed people with food in large U.S. cities such as Detroit, New York, and Philadelphia (Bassett 1981; Lawson 2005). Since then, community gardens have had periods of popularity in the United States during World War I, the Great Depression, World War II, and again in the 1970’s (Bassett 1981; Lawson 2005). During the Great Depression, after the stock market crashed and the Dust Bowl was wreaking havoc with American farmland, land plots were given to people so that they might feed themselves and avoid idleness (Lawson 2005). During World War I, millions of people started backyard gardens to support the war effort through increasing the national food supply, easing the strain on the nation’s trains by promoting local food, and exhibiting patriotism (Bassett 1981; Lawson 2005). Victory Gardens were started in World War II as a rally point for Americans to grow food to raise household income, get together for recreation, enhance family nutrition and show support for the war effort (Lawson 2005). Rachel Carson’s book, *Silent Spring* (1962) prompted an increase in environmental awareness and in a roundabout way raised public consciousness of food. It became more important to know what chemical compositions are used to fertilize plants and what levels of bio-accumulation and bio-magnification of pesticides occur within bodies of animals. Lawson, a well-respected researcher of community gardening in the US, writes that the current community gardening movement actually began in the 1970’s, just as structured inequality began to increase in the United States (Lawson 2005). The back-to-the-land movement of the 1970’s revived the community garden movement once again as people became more interested in simpler living and attempted to combat inflation, unemployment and urban decay (Herbach 1998). Community gardens have met a variety of community exigencies since their inception.

The most common reasons cited for involvement in a community garden are the access to fresh foods, to enjoy nature, and to gain health benefits (Armstrong 2000). A number of studies have illustrated the potential of community gardens to provide social, political, and environmental benefits to gardeners and their broader communities (Francis 1987; Herbach 1998; Kingsley and Townsend 2006). Economic, environmental and social benefits, such as reduced food miles from farm to plate, greater biodiversity, and improvement in air quality are realized by growing food on vacant land (Broadway 2009). Community gardens provide a myriad of direct benefits to gardeners too, such as improving quality of life, promoting community development, and stimulating social interaction (ACGA 2012). In addition to the communal benefits, community gardens preserve green space, and provide opportunity for recreation, exercise, therapy and education (Hou, Johnson, and Lawson 2009). A reduction in crime may be noticed in neighborhoods with community gardens as neighbors spend more time outside their homes (Ferris, Norman, and Sempik 2001). A community garden further provides opportunities for intergenerational and cross cultural interaction (Dolesh 2011). Garden spaces reduce heat that is amplified by paved streets and parking lots in our cities (Broadway 2009) and community gardens have a positive effect on neighboring property values as real estate values increase depending upon proximity and quality of the garden space (Voicu and Been 2008). Even income opportunities and economic development may exist in some community gardens as people share homegrown food or grow food for sale that gives others the experience of tasting locally grown products (Bellows 2004).

As people face food shortages and insecurity it becomes practical to look at community gardens as a possible tool to increase the food availability of families. Food insecurity issues in the US have prompted families to grow food in their own gardens or in community garden areas (Alkon and Norgaard 2009; Brown and Carter 2003; Cohen 2002; Herbach 1998; Lawson 2005; Nord, Andrews, and Carlson 2008). Reducing food insecurity through freshly grown food addresses the economic benefits and social justice resolutions of community gardens (Linn 1999).

According to Gottlieb and Joshi, “from a food justice perspective, the lessons are clear: the exploitation and abuses of the dominant food system have become a central battleground in how we grow and produce the food we eat” (Gottlieb and Joshi 2006:38). Access to food has emerged as a justice issue as residential preparation of food has decreased, labels lack necessary information, deceitful marketing compromises nutrition and “malbouffe” (bad food) “has been stripped of taste, health and cultural or geographical identity” (Gottlieb and Joshi 2006:60). Food politics play a role in every farm bill and school lunch menu, as food lobbyists drive government agricultural policies. As diabetes and obesity soar, ordinary people are finding ways to grow their own fruits and vegetables to combat poor health, high prices, and food insecurity. Community gardens in the US have often times sprung up from the community based advocacy component necessary to address environmental injustice (Cutter 1995:118).

In the US, food activist discourse endorses localism as part of the answer to new alternative food networks. Community gardens maintain a place in those discussions (Goodman, DuPuis, and Goodman 2011) as part of the alternative food movement that includes farmers markets, community supported agriculture, and urban farms. Choosing alternative food networks as a solution to food procurement influences ecological sustainability, social justice, and different ways of governing (Goodman et al. 2011:9). Community gardens in the United States have historically evolved during times of hardship as people seek to provide food for themselves and others.

The benefits of community gardens resonate loudly in the literature and among gardeners, yet handicaps and hindrances exist as well. Land tenure becomes an enormous disadvantage when gardens are placed on property not owned by the gardeners, and land owners decide to develop the land, which disrupts the long-term viability of a garden community (Wakefield, Yeudall, Taron, Reynolds, and Skinner 2007). Neighborhood safety, inadequate funding, vandalism and theft, lack of community interest and rule enforcement and conflict resolution are a few of the challenges faced by community gardens (Emersen 1989). Maintaining

the appearance of a community garden to comply with city ordinances, landlord expectations, and even specific community garden guidelines can be a demanding and arduous task. Community gardens are unlike neatly groomed and tidy botanical gardens, and instead are vernacular gardens; gardens “from which the owner derives most pleasure by actually working in it and making changes in it, rather than from looking at it or passing through it” (Kimber 2004:264). Some gardens face the blight of soil contamination from industry and landfills. The Interbay P-Patch garden in Seattle sits on a capped landfill and required intentional soil building efforts to remediate the soil (Hou, Johnson, and Lawson 2009). In spite of the numerous challenges to community gardening, community gardens survive and thrive.

Well-established gardens receive the most research attention, perhaps because they are more well-known in their communities and therefore easier to find. The Alex Wilson Community Garden in Toronto is a permanent garden, established by friends of Alex Wilson after his death to honor his impact on the community after an earlier community garden Alex started was bulldozed for commercial development (Irvine, Johnson, and Peters 1999). This garden achieved a more permanent status by the granting of a conservation easement from city officials (Irvine et al 1999). William Penn’s dream to make Philadelphia a green country town is alive today as the number of community gardens in Philadelphia continues to multiply and over 2000 community green spaces exist in the city (Hannah and Oh 2011). The Garden of Eden, a community garden established in 1989 in the Bronx, takes up 5000 square feet of space and is one of 700 gardens located in New York City (Correia 2006). Seattle’s urban landscape includes gardens established in the 1970’s, and developed by the P-Patch Program, named after the 3 acre Picardo farm, which has been gardened since the 1920’s (Hou, Johnson, and Lawson 2009). There are thousands of community gardens in the US that have formed since the 1970’s and are connected to garden clubs, parks, and other civic and neighborhood associations (Lawson 2005). The research clearly indicates that community gardens with longevity have a significant influence

on the communities where they are located, suggesting that newly emergent gardens may have the ability to make such impacts as well.

Community Gardens and the “Three Legged Stool of Sustainability”

Sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987:43). This term, “sustainable development” was originally used in a document referred to as the “Brundtland Report” or “Our Common Future” (WCED 1987). The “three components of sustainable development – economic development, social development and environmental protection – as interdependent and mutually reinforcing pillars” was made part of the World Summit Outcome resolution in 2005 (UN General Assembly 2005). To develop sustainably, it is presumed that attention must be given to all three components.

The “three-legged stool” analogy is used to accentuate the importance of each of these three variables; if one leg of a stool is broken, a stool cannot achieve balance. Two conservation biologists argue that the biggest mistake that the three-legged stool analogy makes is that it “perpetuates an even older myth that the environment is something apart from humanity, humanity’s economy, and its social well-being” (Dawe and Ryan 2003:1458). Regardless, social, economic, and environmental concerns must include each other to be solvable (Haberl, Wackernagel and Wrabka. 2004). I turn now to a brief review of the literature supporting the specific aspects of each sustainability dimension and address intersections of economic development, social development, and environmental protection within a political ecology of community gardens framework.

Community Gardens and Economic Sustainability

Community gardens impact a person or a family’s economic sustainability by providing food for consumption, for barter, for sale, or for sharing. Consumption of organic food is typically a “well-educated, middle class privilege” (Goodman et al. 2011:47). It is difficult for low and middle-income people to afford premium prices to partake in eating organic food. As

people are starting to become more aware of what they are consuming, community gardens are apt to be organic gardens. Studies show that price, inconvenience, lack of local supplies, and lack of knowledge all prevent people from choosing organic and that organic consumers are demographically highly educated and predominantly white (Goodman et al. 2012). As consumers are becoming more reflexive about their food consumption patterns, community gardens provide opportunity for access to more nutrient-rich, local, organic produce. Community gardens are an added economic value when food is grown in them, then consumed and/or sold.

Community gardeners grow and harvest fresh, local food that can reduce family food budgets by enabling people to grow their own food rather than purchase it at a grocery store (Linn 1999). This can be particularly important in low-income areas that lack fresh food access and growing one's own food can contribute to increased food security. For example, Portland, Oregon had thirty community gardens in 2005 that encompassed about 1,000 plots and generated a half million dollars in produce (Hess 2005). Detroit had 70,000 vacant lots in 2009 and the city's Green Task Force has recommended turning the lots into community gardens (Bontiglio 2009). Detroit is one of many cities wanting to use or using community gardens as an economic development tool. Community gardeners may grow food for personal consumption or storage, sell produce at local farmers markets (depending on zoning regulations) or donate to charity (Bellows 2004).

The structure of community gardens varies. While one may publicly post that local neighbors can "help themselves," as a mechanism for food distribution to those in need, others operate on a more individual gardener basis. Members of community gardens as a whole are more likely to participate in food distribution projects, which have an economic impact, as well as social impact on the local community (McCormack, Laska, Larson, and Story 2010).

Community garden plots are often used to provide seasonal produce to families through distribution networks that attempt to get food to people that need it and that cannot afford nutritious vegetables and fruits. Food distribution projects promote social justice and improve

inequality challenges for marginalized persons (Brown and Carter 2003; Correia 2005; Hannah and Oh 2000; Macias 2008).

A political ecology approach to sustainable economic development may inquire whether an environment is useful as a result of the human action that created the community garden (Robbins 2004). To measure the usefulness of a community garden requires that a decision be made whether usefulness is measured in dollars or some other criteria (Robbins 2004). Planting and harvesting a particular food may decrease grocery costs or even provide exercise that would not have otherwise occurred. Sustainable economic development is thought to support a healthy local economy through the application of green approaches, development of green infrastructure, alternative energy promotion and reduction of consumption and refuse practices (WCED 1987). Increased attention to sustainable development exists today and infrastructure is more often adapted to allow for a “greener” role within society than any time since World War II. Roof top gardens such as those built in Chicago since the 1990’s are seen as one way to save energy, minimize rainwater runoff, and cool the buildings and surrounding air, thus saving financial and material resources (Broadway 2009). To contribute to economic sustainability, community gardens must be useful.

One way for community gardens to become useful is to adapt a closed loop approach to development. This new and exciting innovation in sustainable economic development in the manufacturing sector could be emulated in community gardens. For example, traditional manufacturing is not self-contained. Resources from outside the manufacturing facility are used and wastes are produced that flow outside of the facility; these wastes include those in the air, soil, wastewater, manufactured products and manufactured solid waste. In closed loop, or cradle to cradle manufacturing processes, waste produced throughout the manufacturing process is used as input for another segment of the process, with no wasted pieces (McDonough and Braungart 2002). Community gardens have the potential to form a closed-loop system, where seeds are saved year to year for replanting, garden waste is composted and tilled back into the soil and

waste water returns to the water table without added synthetic chemicals. This kind of low impact development improves both economic and environmental sustainability and decreases landfill waste.

In addition to lowering personal food costs, community gardens could potentially lower city government costs. Community gardens are sprouting up on vacant lots and public parks throughout the United States. Historically, public places have been used for gardening in the US since the Victory gardens were built during World War I and II (Dolesh 2011). Public parks have become a source of land for community gardens due to a lower maintenance cost compared to traditional parks (Herbach 1998). Less landscape maintenance is needed for community common areas such as gardens compared to the amount of landscape attention needed for public parks. Saving local government financial resources by leveraging land resources for community gardening areas on public land such as public parks could save money for city government. According to Holland, there is not only a multiplicity of objectives reached by community gardens but the value of the money used to create them expands when multiple objectives of community gardens are reached simultaneously (2004).

Community Gardens and Environmental Sustainability

A healthy environment is seen by many people as a basic right (Cutter 1995). The natural biophysical environment must be amenable to a community garden in order for it to flourish. A political ecology approach recognizes that “the environment of the city (both social and physical) is the result of a historical-geographical process of the urbanization of nature” and “the control of nature and labor” (Heynen et al. 2006:6; Robbins 2004:52). Here I briefly address natural environmental and human-environmental dimensions of sustainability and relate them to community gardens and food production.

Attention to ecological characteristics of the landscape, such as habitat fragmentation, modification, and loss is an important part of the political ecology framework. The placement of community gardens within a healthy, non-toxic ecological environment that has access to basic

agricultural requirements such as healthy soil, water, sunshine, shade, and beneficial insects is desirable. Environmental changes, drivers of those changes, impacts of practices and ecological recovery are all key factors to understanding impacts on environmental sustainability (Robbins 2004). When the environment is sustainable, water quality is not compromised due to corporate economic considerations, such as a factory that is dumping waste into a waterway. Birds enjoy foraging for food and bees pollinate plants. When properly managed, natural resources are preserved for use by all.

Protecting the environment from synthetic chemicals continues to be a growing public concern. In order to achieve a semblance of environmental sustainability, the current environment must last and be available to future generations. Though pesticides can accumulate in food chains and groundwater resources can be contaminated by fertilizer, pesticides and animal excrement (Carson 1962), the use of pesticides has increased the amount of food that can be grown in parts of the world (Swaminathan 2010). At the same time, the natural insect predators of many insect pests are also killed in the quest to kill undesirable insects and protect agriculture. Fertilizer runoff from modern agriculture and landscaping practices stimulates aquatic growth and degrades water resources as it enters the groundwater, causing increased costs for water filtration treatment (Heathcote 2009). Herbicides may control unwanted noxious weeds but may also disrupt normal vegetative growth, eliminating many flowers and native species in the process. Composted organic matter amends the soil to allow water and air to move to the roots of plants and protects soil from erosion. Habitat preservation encourages biodiversity by preserving the food webs, which lead to healthier, more vibrant ecosystem function (Heathcote 2009).

Urban hunger is generally thought of as a social problem and as such, environmental causes of hunger are often dismissed (Heynen, Kaika and Swyngedouw 2006). A healthy environment is able to produce food whereas an unhealthy environment produces none or very little. Some people do not have green space to grow food and oftentimes the green space lacks adequate sunlight, soil, or access to water. Spatial restructuring and spatial isolation have

contributed to a growing number of food deserts, places where there are not many grocery stores and convenience food stores exist in their place, limiting access to nutritious food options (Beaulac, Kristjansson, and Cummins 2009). The urban origin of many environmental problems was largely ignored by urban social theorists in the twentieth century (Heynen et al. 2006). In order to have community gardens in urban areas, it is necessary to promote healthy natural environments.

Community participation is essential to sustainable environmental development and it “can only occur when the people it affects participate in the design of the proposed policies, and the model which is implemented thereby corresponds to the local people’s aspirations” (Peet and Watts 2004:27). Ideally, environmental sustainability is concerned with the preservation and conservation of nature; as well as the human components of social and environmental justice. Community gardens are one answer to protect pieces of the environment and create a healthy space that allows humans to interact with the natural environment (Ferris et al. 2001).

According to Petrini, the founder of the Slow Food movement, production and distribution of food that is “good, clean and fair” is dependent on a healthy environment (2007). People are increasingly aware that we do not often know where our food comes from anymore (Andrews 2008; Petrini 2007; Petrini and Padovani 2009). Industrial agriculture has become so large in scale that it is impossible to trace the path of your grain, fruit, vegetable or meat with any certainty. A number of community gardens promote environmental sustainability by organic farming methods and environmental protections, such as integrated pest control management (IPM) and converting food and green manure to rich soil compost. Sustainable practices minimize or eliminate activities that burden the general population. In addition, community resilience is strengthened through taking care of the environment, supporting the local food economy through alternative food networks and improving consumer health (Metcalf and Widener 2011).

Community Gardens and Social Sustainability

The political part of political ecology “is to enhance the democratic content of socio-environmental construction by means of identifying the strategies through which a more equitable distribution of social power and a more inclusive mode of the production of nature can be achieved” (Heynen 2006:13). In a community garden, social power and nature are negotiated just like they are negotiated in every socio-environmental setting. From a constructivist political ecology viewpoint, nature is “intricately bound-up and constitutive of the social” (Haraway 1991). Within a community garden, nature and people are hardwired together. Social sustainability has been defined as: “a life-enhancing condition within communities and a process within communities that can achieve that condition” (McKenzie 2004:12). As community gardeners come together to build a garden and a community, they are choosing to engage in nature and also collective action as part of the alternative food movement, whether or not prior knowledge of the alternative food movement exists. The alterity of “social justice, citizenship, and democratic governance” helps the alternative food movements become more inclusive and even get away from the white privilege and power that is heavily present in the organic movement (Goodman et al. 2012:154). Community gardens have the capability to be life-enhancing, inclusive urban spaces through the social connections within them (King 2008).

Political ecology research is concerned with concepts and constructions of community and nature (Robbins 2004). Collective efficacy, defined as “the link between mutual trust and a shared willingness to intervene for the common good of the neighborhood” (Sampson et al. 1997:1115) is an important part of overall community health. The social environment of a community garden is known to promote this behavior of collective efficacy (Teig et al. 2009) as well as nurturing diversity (Holland 2004). The social dimension of sustainable development links social issues, such as health, education, community development, and food security (Ferris, et al. 2001). These social aspects are present in sustainable systems and may offer some security to people in the garden community.

Community gardens are known to increase the social capital of a community (Hanna and Oh 2000). A complex term, social capital is defined as “the personal, relational, and organizational resources available to improve community life and solve social problems” (Nelson, Kaboolian and Carter 2003) as well as the “features of social organizations, such as networks, norms, and trust that facilitate actions of cooperation for mutual benefit” (Putnam 1995:67). Linn (2001) describes social capital as giving an individual access to previously unavailable resources. Neighbors with little sunlight at their homes may choose to participate in a community garden because the space offers the direct sunlight that is missing in their yard. Apartment dwellers often lack space to garden and a community garden gives them that space. According to Glover, Shinew, and Parry (2005), “community gardens often serve as social spaces in which people build relationships. The byproduct of such relationships is social capital” (Glover et al. 2005:86). Allowing people a voice in decision making and conflict resolution binds people together, creating stronger communities through an increase in social capital. Kingsley and Townsend’s research study of a Melbourne, Australia community garden found that social capital exists within the community garden but acknowledge that more research is needed to explore how long it takes to develop social capital beyond the garden (Kingsley and Townsend 2006). While examining the social theory of poverty in their analysis of urban gardens in West Philadelphia, Hanna and Oh (2000) learned that there is strength in poor communities that build community gardens due to the social capital it generates for the neighborhoods.

Community gardeners contribute free labor and leadership for sustainable development through their active participation in the garden community. The commitment required by volunteers of a community garden “is essential to the garden’s sustainability” (Hou et al. 2009:39). For sustainable development to meet the economic needs, environmental needs, and social needs of community gardeners, positive outcomes must be generated through the process of being in community with one another. Gardeners are apt to come together for community wellness and increase their empathy toward other community garden members (Glover et al.

2005). Social capital is contingent upon community building and an important piece in social sustainability.

Though many people are attracted to the idea of community gardening because of the desire for socialness, not everyone knows how to garden before becoming a community gardener. Literature that promotes topics of quality food and localism plus the “conventionalism” of organic agriculture has integrated the consumer into the food equation (Niles and Roff, 2008:5). According to Winne, “training and technical assistance are essential not only to help gardeners overcome emotional setbacks such as bug-infested plants and poor-quality crops but also to provide an appropriate amount of organizing assistance so that community remains the most important word in community garden” (2008:68). When the flow of ideas and information transcends the normal channels of social stratification, collective efficacy emerges within garden communities. Social processes described by 67 respondents in 29 garden sites in Denver elicited responses geared towards social connections, mutual trust, reciprocity, civic engagement, social norms and collective decision-making (Tieg et al. 2009). Little is known about the effect of community gardens on the health and general well-being of the gardeners or how the processes that drive the community garden are felt in the broader community. Exploration of the activities driving key community-building social processes within the garden community furnish insight into the use of collective efficacy and social capital to promote sustainability, community building and food security.

Community gardens can be a strong contributor to sustainable social development by improving the social capacity and health of neighborhood communities. Community control, in the form of secured land tenure, sustained interest, community development and appropriate design are also seen as important variables to start up and run a community garden (Milburn and Vail 2010). Using natural human capital “draws attention to our dependency on the natural world for our collective survival” and focuses “on the interactional basis of our relationship with nature, and the structuring of that relationship through social institutions” (Macias 2008:1090).

According to Macias (2008), the local food movement and the physical and mental health of people depend on the ability of people to eat healthy food, to be in community with others and to have a relationship with nature, which encompasses the notion of a “three legged stool” of sustainability: economic, social and environmental.

Food equity is an important social and political variable to examine due to existing class, race and gender inequalities. High levels of obesity, hypertension, heart disease and diabetes abound across class lines in the United States. We are becoming a health impoverished nation due to the lack of nutrition in many American diets and the incidence of chronic disease (Grotto and Zied 2010). Social integration may have moved to a more consumer-identified role and people may appear less socially integrated in respect to class, race, and educational levels but people are often more socially integrated than they realize, sharing the outcomes of poor health, chronic disease, and access to nutritious food. The “social practice of sustainability”, according to Niles, “involves reforming food commodity flows and reassessing consumption habits” (2009:444, 446). Agyeman, Bullard, and Evans (2002) argue that sustainability “cannot be simply a ‘green’ or ‘environmental’ concern, important though ‘environmental’ aspects of sustainability are. A true sustainable society is one where wider questions of social needs and welfare, and economic opportunity, are integrally related to environmental limits imposed by supporting ecosystems” (Agyeman et al. 2002:78).

Analytical Framework

Using an inductive qualitative case study methodology, I will explore the impact of community gardens on each part of the three-legged stool of sustainability, gaining specific insight into economic development, environmental protection, and social development outcomes through the lens of political ecology. Additionally, I will consider how community garden spaces may be a catalyst for greater community involvement and the perpetuation of food security.

Documenting this case will contribute to the current literatures because research is lacking that specifically ties community garden outcomes to recently started gardens. The project

also adds to political ecology research in the global North on community gardens and urban food security. Today's global human-environmental and sustainability challenges require academic attention to the various dimensions of sustainability and bio-cultural-political influences that shape global realities. I used the three dimensions of sustainability as a tool; to interrogate my research questions and to subsequently nudge my interview respondents to consider their personal roles in the economic, environmental and social aspects of sustainability. From an applied perspective, recording the lived experiences of people in newly emergent garden communities could be useful to city planners and other non-profit and for-profit policy makers working in areas of parks and recreation, zoning, food banks, food pantries, sustainability initiatives, economic development, and other areas. Additionally, research on these topics may help community gardeners to secure funding (Hou et al. 2009:192). This case study also adds to the general literature of alternative food networks and on the real and perceived benefits of sustainability to gardeners. It could pave the way for future studies of "ghost gardens", a term coined by one of my interview respondents to describe the community gardens that do not survive. Exploring processes that contribute to broader community sustainability may provide important insight to building social capital and community while at the same time increasing food security.

CHAPTER III

METHODOLOGY

This project utilized participant observation and semi-structured one-on-one and group audio-recorded interviews with respondents representing the COH neighborhood garden community (COHNG) and others affiliated with Tulsa community gardens; N=27. Nineteen semi-structured one-on-one interviews and one focus group interview, each lasting approximately 30-90 minutes, were conducted with respondents involved in the case garden, as well as four semi-structured one on one interviews with respondents involved with community gardens in Tulsa. During the first two years of operation, twenty-seven different people gardened at various times at COHNG. Twenty-two of those gardeners were formally interviewed as well as one church member, who incidentally chose to continue gardening at her home rather than drive to the community garden. The five gardeners not interviewed included: one gardener who gardened the entire first two years but was under the age of eighteen, two former gardeners that moved away after gardening the Fall season of 2010, one gardener that was simply too busy to interview, and one gardener who joined late in the second year of operation as interviews were winding down. The single focus group interview was made up of four of the five members of the Tulsa AIDS United AmeriCorps team that worked at the case garden during 2010 and 2011. Four respondents were interviewed that were not COHNG gardeners but were active with community gardening in various capacities; two persons from Indian Health Resource Center (IHRC) ,a financial backer of the garden, one person from OSU Agricultural Extension services and the President of the Tulsa Community Garden Association. The materials (lumber, hardware, and soil) to build COHNG

were donated by IHRC and two people were selected from IHRC to interview; the grant writer and the community garden coordinator. The OSU Agricultural Extension Specialist was selected because she had been working with community gardens in the Tulsa area for the past twenty-five years and had experience that put the Tulsa community garden initiative in a broader perspective. Likewise, the President of the Tulsa Community Gardening Association had a wide range of experience with community gardens and had channeled grant money to COHNG for the first two years to purchase plants, soil amendments, and a garden shed. 66.67% (18/27) of the interviews were conducted during the summer garden season of 2011, between June 9 and August 5. The four interviews with IHRC, Tulsa Community Gardening Association and OSU Agricultural Extension made up 14.81% of the interview and were conducted in September 2011. The last five interviews (18.52%) occurred in April of 2012. All gardeners were interviewed in the midst of the spring/summer garden season. It is possible that the timing of the interviews may affect human responses but there is no evidence to suggest that the responses received would be significantly different if the interviews had been timed to take place outside of a gardening season. Demographic and personal information, such as age, education, family size, race, gender and household income, were obtained from the respondents through the interviews.

I utilized purposive sampling in order to gain access to individuals representing various dimensions of the COHNG (Hesse-Biber and Leavy 2011). To set up the interviews I engaged a variety of communication tools, such as face-to-face contacts, social media (Facebook and the Community of Hope Neighborhood Garden Facebook page), emails and phone calls. Because of my involvement in the garden and local food community I used my knowledge of the case and community to gain access to key individuals. I used my position as a key informant and participant observer to provide archival information collected over the two year period. The archival information included email correspondence, photographs, garden diagrams, gardener guidelines, gardener applications, the Community of Hope Neighborhood Garden Facebook page and church newsletters. To facilitate my reflexivity I engaged my thesis committee chair to

interview me first, before I began the interviews, using the interview guide. I was interviewed a second time after all the respondent interviews had been completed. The purpose of interviewing me twice was to include my voice in the data collection to insure I was equally present but at the same time to insure that my voice would arise from the same interview process as the voices of the other respondents.

The semi-structured interviews were designed to document the lived experiences of the community gardeners regarding community building, food security, economic sustainability, environmental sustainability, and social sustainability. Questions were divided into four categories: personal and social dimensions of gardening, community and organizational impacts of gardening, gardening and the social, environmental and economic dimensions of sustainability and demographics of the interviewee. A semi-structured interview guide was created to prompt respondents with a series of open-ended questions related to their perceptions of the issues of sustainability, community involvement and food security. The questions were the same for all interview respondents. Interview outlines graciously shared by other community garden researchers were useful in crafting my interview guide (Tieg et al. 2009).

Upon completion of the interviews, I transcribed them and using an interpretivist approach (Hesse-Biber and Leavy 2011), I conducted line by line coding by hand, without the aid of computer software, to identify pertinent themes that corresponded to the variables I selected to study. After all of the transcripts were coded, I compiled the material by theme, using exact respondent quotes in each thematic category. Prominent themes identified through the coding of the interviews included: costs of gardening, lower perceived food costs and greater access to organic produce, organic gardening, environmental constraints, habitat, environmental protection, life-enhancing qualities, education, collective efficacy and social capital, diversity and inclusion and food distribution projects, among others.

CHAPTER IV

THE URBAN LANDSCAPE OF COHNG

I begin this section with demographic data on the interview respondents. Next, I present a brief history of Community of Hope United Church of Christ to describe the unique history of this garden and set the tone for the garden's story. To omit Community of Hope United Church of Christ would ignore the deep, historical significance of why the pastor of this church reached out to the surrounding neighborhood and in consensus from the church community, offered the land to create a community garden. I then turn to the beginning of COHNG, a glimpse of the surrounding neighborhood, and the early structure of the garden in an attempt to provide a richer description of the setting in which the community garden sits.

Demographics of Community Gardener Respondents

Of the twenty-seven persons interviewed for this project, twenty-three are connected specifically to the Community of Hope Neighborhood Garden. One person I interviewed did not join the community garden but was a long-time church companion of Community of Hope. It is important to talk about the race, age, sex, and income of the gardeners interviewed in this space to illustrate a greater depth to the garden's story.

Table 1: Demographics of Interview Respondents

Interview Respondents	Age	Sex	Race	Education	Income per year
1 Gardener	59	M	Caucasian	BS	\$75-90K
2 Gardener	40	F	Mixed Cherokee/ Caucasian	HS, some college	>\$15K
3 Gardener	58	F	Caucasian	MSW	>\$15K
4 Gardener	43	F	Caucasian	Masters	\$45-60K
5 Gardener	31	M	Cherokee/ Creek	Some college	\$45-60K
6 Gardener	30	F	Korean	Some college	\$45-60K
7 Gardener	54	M	Caucasian	Masters	\$45-60K
8 Gardener	37	F	Caucasian	Masters	\$90-100K
9 Gardener	35	F	Caucasian	High school	\$60-75K
10 Gardener	71	F	Caucasian	High school	\$90-100K
11 AmeriCorps	24	F	Caucasian	Bachelor's	>\$15K
12 AmeriCorps	25	F	Caucasian	Bachelor's	>\$15K
13 AmeriCorps	23	F	Caucasian/ Cherokee	Bachelor's	>\$15K
14 AmeriCorps	23	F	Caucasian	Bachelor's	>\$15K
15 Gardener	43	F	Caucasian	Bachelor's	\$30-45K
16 Gardener	51	M	Caucasian/ Cherokee	Master's	<\$100K
17 Gardener	77	F	Caucasian/ Iroquois	High school	>\$15K
18 Gardener	56	F	Caucasian	PhD	\$30-45K
19 Gardener	48	F	Caucasian	Master's	\$30-45K
20 church companion	71	F	Caucasian	High school	>\$15K
21 Gardener	22	F	Caucasian	College student	>\$15K
22 Gardener	49	F	Caucasian	Some college	\$30-45K
23 IHRC	60	M	Caucasian	Bachelor's	\$90-100K
24 IHRC	64	F	Caucasian	some college	\$15-30K
25 TCGA	23	M	Caucasian	BS	\$15-30K
26 OSU Extension	53	F	Caucasian	MS	\$75-90K
27 Gardener	51	F	Caucasian/ Cherokee	Graduate Student	\$30-45K

The majority of respondents (74%) identify as White. Six respondents (22.22%) describe themselves as mixed race (of White and Native American descent); five of these classify themselves as White and Cherokee and one responded as White and Iroquois. One gardener is Korean and another is Native American Cherokee/Creek. Gardeners ranged in age from 22-77 years old, with the majority of gardeners in the 20-59 age range. Gender was predominantly female (78%), with only six (22%) male interview respondents. Income was extremely varied, ranging from less than \$15,000 a year to over \$100,000 a year. One third of the interview respondents (9 of 27) were in poverty, with an income of less than \$15,000 a year, while five respondents (18.5%) had income ranging from \$30-45,000. Six respondents (22.22%) had income in excess of \$75,000 a year, one of which made over \$100,000.

Community of Hope United Church of Christ

Community of Hope United Church of Christ in Tulsa, Oklahoma has had a long-term presence in social activism and food insecurity response, through HIV outreach, the “Tables to Go” food outreach for those affected by HIV/AIDS, feeding the homeless at the Day Center, and helping those on the margins. A \$7500 Kaiser Grant is given to the church’s HIV/AIDS ministry team each year to assist with the “Tables to Go” food program which supplies groceries to persons with or affected by HIV/AIDS on a monthly basis. To tell the story of this newly emergent garden and place the garden’s food security activism into the historical context it deserves, it is essential to start with the story of Community of Hope. The Community of Hope (COH) was a rogue element among Christian churches beginning before its formal birth in 1993 because as one long-time companion says, “they were unabashedly welcoming”. A small group of Methodists within the Memorial Drive United Methodist Church in Tulsa, Oklahoma began to openly stand in solidarity with people that had HIV/AIDS. Initially, the Methodist Bishop allowed the group and the group’s pastor to leave the Memorial Drive church and retain their denomination as Methodists. The group’s pastor, however, broke the Methodist rules and began to perform holy unions for homosexuals. The pastor - white, female, and heterosexual – was

asked to resign, or face a Methodist church trial. She chose to resign. In 1998 the group of gay, straight, young, and old found a home within the United Church of Christ (UCC).

Community of Hope merged well with the UCC, as the UCC has a solid history of social justice activism. As one church companion stated:

... Community of Hope has always been sort of on the progressive side of social justice issues, working with people with HIV & AIDS, working with the Day Center for the Homeless and feeding once a month, for many, many years, and some of the idea is to use what we grow in what we prepare for the Day Center. We've been doing Angel Baskets for the past, probably, six or seven years—that's where a lot of the produce goes...And so, value-wise, tending to people's basic needs is something that we have been a part of since day one, especially with—because in the beginning we had a lot of people who were HIV-positive or had AIDS, and their nutrition was a big issue, bigger issue in some ways than it is now. We lost fifty people in the first five years of the community, and we're seventeen years old now.

The church continued to lose people to AIDS in the early years, before HIV/AIDS ceased to be a death sentence. Community of Hope is not a gay church, though it is a place where gays and lesbians, bisexuals and transgendered are all accepted (<http://tulsacohope.org/>). On most Sunday mornings, the small congregation is about half homosexual and half heterosexual. One church companion stated,

It had the reputation of being a gay church and that is not what it has been. It is more about social justice and addressing issues of racism, homophobia and classism. Just because gay people get that pretty well. It is because of the history of being part of that movement to help people with HIV that it has been labeled for a long time.

The Community of Hope eventually settled and planted physical roots when a church building was purchased on the western edge of the Hoover neighborhood, in midtown Tulsa. Hope Testing Center, an HIV testing facility, shared the building with Community of Hope for several years which created unwarranted suspicion that needles were in the dumpster. One church companion and community gardener later commented:

That's when we got a lot of guff from neighbors. Not just the primary neighbor over here that doesn't like us, but concerns about what are we doing, and people with using needles, and they just went—some people went bonkers in a negative way. Other people were supportive.

A few of the neighbors displayed open homophobia and church companions noted that the church found it difficult to form a relationship with the neighborhood. According to multiple conversations with Community of Hope church members, the most conspicuous neighbor lived next door and used to mow her lawn during the church's Easter sunrise service, making it difficult to hear anything. One elderly heterosexual woman and church companion, who was with the original group that left the Methodist church, recalls the following:

Yes (in sad voice). Yes, from what I understand and probably a lot of other things were going on that I didn't know about, they didn't want a gay church in the neighborhood. And they didn't want to see us, or hear us. In fact, some of the families made us build a fence down the side of our property. That side, we had to build a fence, so they wouldn't have to look at us.

The Decision to Build a Community Garden

The founding pastor of Community of Hope retired and in early 2010 the church's new pastor organized a Land Use Team to make proposals to the congregation on what to do with the large vacant space behind the church. In an unprecedented move, COH's new pastor reached out to the neighborhood around the church through the Lortondale and Hoover neighborhood associations and engaged three of their members to join the church Land Use team. The proposal

to build a community garden came out of the Land Use Team. As the Land Use Team’s proposal was being created, the pastor reached out to one of the two Community Food and Gardening Coordinators at Indian Health Resource Center (IHRC) to inquire into the community garden work they were doing as part of a community food insecurity grant. According to interview respondents, IHRC had two grants; one grant written for the food deserts of West Tulsa, Central Tulsa, and North Tulsa and another grant written for ten zip codes known for ethnic health disparities. Though Community of Hope Neighborhood Garden is not in a food desert or in a neighborhood known for ethnic health disparities, the now-deceased Community Food & Gardening Coordinator at IHRC donated lumber, hardware and soil to start up Community of Hope Neighborhood Garden. According to the remaining food security grant coordinator at IHRC, the other coordinator “basically took any project that came his way, just ‘cause the grant sort of made him feel like –the way it was written—made him feel like if he was doing as much as he could, he’d be satisfying the grant.” This early connection between the Community of Hope Neighborhood Garden and Indian Health Resource Center was the first defining link between the community garden and community food security.

The church congregation reached consensus to allow a community garden on the property and the proposal from the Land Use Team passed. One church companion and community gardener described it this way: “It’s not just that we use some excess land for people to grow stuff but that this actually fits into our lives as a community.”

The Surrounding Neighborhood

Community of Hope United Church of Christ (COH-UCC) is tucked into a piece of property that takes up more than two city blocks, located on the west side of the Hoover Neighborhood, which extends a full square mile north and south and another full square mile east and west in midtown Tulsa, Oklahoma. Lortondale is a smaller neighborhood within the much larger Hoover neighborhood. Every Lortondale resident is a member of the Hoover neighborhood but the Lortondale neighborhood consists of several blocks of homes built in the

1950's with a unique architectural style of flat top homes. The residents of Lortondale are a close-knit group of people that are extremely passionate about their homes and the retro look of the 1950's. One architect from the Lortondale neighborhood has opened up a small shop in downtown Tulsa filled with collectibles from the 1950's era. It is common to see a picture of a piece of retro furniture posted on Facebook that someone has found at a flea market or garage sale. One community gardener was distraught last year when his original model stove could no longer be repaired, because the stove itself was not just a stove, but an important part of the home's history.

The Lortondale homes were built between 1954 and 1956 and the yards are now filled with established trees that create welcome shade in the backyards, something especially important due to the architecture of each home. The living room of each home looks into its backyard through an entire wall of glass, stretching from one end of the living room to the other on the back side. One gardener noted, "I know that one of the reasons for the Lortondale Homeowners Association in particular was excited about us doing this is that surrounding us is a lot of homes with older trees. So they are not able to grow the vegetables that they can grow here in this garden. It's something that people can't do in their own yards."

The Lortondale Neighborhood Association has meetings every quarter of the year and operates a neighborhood pool. When the pastor of COH first approached the Lortondale Neighborhood Association, he learned that the members wanted a community garden already, so the possibility of using the church land appealed to them.

According to respondent interviews, the Lortondale Neighborhood Association was initially created in order to meet the guidelines established to gain entry to the National registry of historical preservation while the Hoover Neighborhood Association was established after a young elementary student of the neighborhood school was abducted and murdered. The tragedy caused neighbors to mobilize together for a safer neighborhood. The importance of noting this is to illustrate the diverse neighborhood dynamics prompting neighborhood association startups as

well as the possible fear and distrust perpetuated by a heinous crime. As such, one interview respondent described the surrounding Hoover and Lortondale neighborhoods as two very different demographics with the same square mile.

The Hoover Neighborhood Association holds regularly scheduled meetings once per month and also owns and operates its own neighborhood pool. A longtime resident of the Hoover neighborhood described the demographic changes in the neighborhood over several decades:

I've been in the neighborhood thirty-seven year and it has changed a lot. It is for the good I guess. It's more diverse than it was before. Different, you know, races, and foreign people, you know. That, it just wasn't there before. People love to get together and they're very proud of the community that we have here.

A Democratic Garden Structure

On June 10th, 2010 a meeting was held at Community of Hope UCC to sign up for raised bed plots in the garden. The Lortondale and Hoover Neighborhood Associations and the church had advertised the meeting in advance through internal correspondence, Facebook, and word of mouth. A variety of people, mostly strangers, primarily Caucasian or Native American or a mix of the two, and predominantly female showed up to find out more about the plans to build a community garden in the field behind the church building. Both "Tables to Go" coordinators signed up for plots that later served the HIV/AIDS food outreach. The Land Use Team had by this time dissolved as its original mission to recommend land use options to the church community had been completed. A new Community of Hope Neighborhood Garden leadership team of four emerged from the Land Use Team and spearheaded the new venture. Of this first garden leadership team, two were neighbors from Hoover, one was a neighbor from Lortondale and the fourth was a companion of the church; one male and three females. "Gardener Guidelines" and "Gardener Applications" were crafted and revised. Neither document was intended to be set in stone, but open to modification and a living document that would serve the people of the community. The documents were modeled largely after the Community Garden

Toolkit on the University of Missouri's extension website (<http://extension.missouri.edu>). These handouts were printed prior to the meeting to distribute to interested persons.

Everyone at the first community garden meeting signed up for at least one plot. The youngest new gardener was a fifteen year old female of Caucasian and Miami Native American tribal descent. The eldest new gardener at this initial meeting was a seventy one year old Caucasian female. The Gardener Applications included a space that allowed each new gardener an opportunity to choose to be a Garden Leader. Everyone that chose to be a Garden Leader was accepted as such. After the first meeting, there were three new Garden Leaders, bringing the leadership total to seven persons, which now included one male and six females.

Without exception the community gardeners regard Community of Hope Neighborhood Garden as a place where people feel welcomed. All applications that were filled out that night were accepted, without questions. The general tenor of the respondents regarding inclusivity was overwhelmingly positive and reflected in such statements as: "It's kind of an automatic acceptance, which is kind of unique. Kind of fun" and "If there are people that are willing to work the garden; we will find a plot for them. I can't imagine otherwise."

This idea of accommodation, automatic acceptance and inclusion set the tone for the community garden early on. As the garden community began to form, the hard work of preparing the garden site began. The early health setbacks of one gardener were met by support from other gardeners who did not even yet know him, setting a positive tone for garden relationships. The initial structure of the garden was based on guidelines established by the first four Garden Leaders that emerged from the church's Land Use Team. Each gardener was encouraged to "please read the guidelines and direct any questions or comments to the Garden Leaders". The guidelines stressed organic cultivation as well as basic housekeeping essential for upkeep and maintenance. The guidelines were designed to establish healthy boundaries and give direction. None of the leadership team or anyone in the garden community had ever belonged to a community garden before this experience.

In the beginning stages of the community garden, the basic hierarchical structure was meted out during scheduled discussions and email correspondence with the first four Garden Leaders and the church's pastor as the Gardener Guidelines and Garden Applications were written and revised. The garden was structured to be hierarchical, in the sense that there are two different gardener roles. The job of the Garden Leader at COHNG was designed primarily as a central contact point. In the beginning, the Garden Leaders were each assigned 2-4 gardeners, typically gardeners that gardened in close proximity to them. If a gardener planned to leave town on a trip, the Garden Leader coordinated watering of said gardener's plots.

Within the first month, it became evident to the Garden Leaders that one person was needed to lead the community garden through the construction and early community building because it was difficult for the gardeners to remember who their garden leader was and information was not always reaching all of the Garden Leaders. One Garden Leader, a graduate student of social work, agreed to take the lead and maintained that role for three months until she graduated and found gainful employment in her field. This first and only Garden Leader Chair was instrumental in setting initial workdays to get the raised beds built and placed in the garden space. Gardener meetings were scheduled each month during her tenure as the gardeners awkwardly at times navigated the new space together. The structure became more fluid over time as people learned what to do and worked at their own pace and on their own schedule. Less attention was given to the guidelines as people became comfortable with being community gardeners. One interview respondent referred to the structure as being "organic." She said,

It is amazing because it is so – I like to use the word organic, in a way. What I mean by that is – even though we set up a lot of rules and regulations - structure – at the beginning, people just seem to do things without asking. That part has kind of changed from the initially starting. It used to be more like a business the first year. I don't think that works for us.

Another gardener, who'd suffered a stroke, recently had brain surgery, and tended a plot with a

I like that everybody has a voice in it. Not that I need, I feel like I don't need a voice in it ... but I like it that I can have a voice if I want one, and everybody cooperates and we have monthly meetings and things like that and I feel like if I want to do something I can certainly ask people to, if I can or whatever, I can participate as much or little as I want to. I like that.

The open, inclusive nature of the garden community emulated the consensus political model of the church through its intentional structure. The diverse group of individuals joined together for collective action to build the community garden mirrors the environmental identity and social movement thesis as well as the urbanization of nature. There is 'more than meets the eye' to all social/political relationships and setting the stage for the case study grounds the reader, while emphasizing the multiple metabolisms and interconnecting relationships existent in the new community.

CHAPTER V

EVERY (NEWLY EMERGENT) GARDEN TELLS A STORY OF LOCAL SUSTAINABILITY

In this analysis chapter, I use the pieces of information gleaned from the interview responses to craft the story and political ecology of this newly emergent garden through its relationship to sustainable development and food security. In the process of analysis, the economic, environmental, political, and social constructs uncovered within the case garden bring to light the dynamics and relationships in human-environmental interaction occurring in the garden space. To analyze my data I draw on the integrated framework I supplied early in the paper and expand the sustainable development construct beyond the economic, environmental and social aspects of sustainability into the broader realm of political ecology. I turn first to some preliminary thoughts regarding newly emergent gardens, gardeners and perceptions of sustainability, providing context for the first research question: In what ways might newly emergent community gardens impact sustainability? The sections that follow build upon this first question and address each leg of the sustainability stool (economic, environmental, and social) in turn to explore the more specific second question: what are possible economic, social, and/or environmental sustainability outcomes of a community garden within the first two-three years of existence? The final analysis section delves into the realm of food security and responds to the question: can a young community garden space become a catalyst for greater community involvement and the perpetuation of food security?

Newly Emergent Community Gardens and Sustainability

Sustainability as a term is so frequently used in popular culture that its definition is often mistaken. Thus, I asked the interview respondents to define sustainability in their own words prior to offering a common interpretation of the term, in order to gauge their familiarity with the concept. Respondent remarks indicated a clear understanding of the idea. All of the gardeners concurred that they understood the definition provided, whereby “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987:43). Every respondent agreed that it was desirable to be sustainable, although two interviewees (7.4%) indicated that the questions regarding sustainability were quite challenging. Words and phrases commonly used by respondents to describe sustainability included: longevity, environmental integrity, perpetuity, maintain, thrive, survival, and a responsible use of resource. It was noted that “It’s funny. It’s like asking how would you define Xerox machines? Well it’s a Xerox, it’s a copy machine. You know, sustainability is sustainable.”

When asked to describe the sustainable practices each individual uses, the respondents talked about the different behaviors they used in the production of sustainability. The sustainable practices cited by the respondents here related primarily to environmental or economic dimensions, ignoring the social dimensions of sustainability. Engagement in sustainable behaviors included such diverse actions as: home composting, organic and biological fertilizers and pest control, balanced diet and limited processed foods, reusing and recycling, water and energy conservation, seed saving, and sustainability as a form of inflation resistance. 100% of respondent remarks represented aspects of the primary research question in a general way, yet did not address any outcomes of social sustainability at this point in the interview. I will build upon these initial insights into sustainability as I continue my analysis.

Community Gardens: Economic, Environmental and Social Sustainability

The next three sections respond to each leg of the sustainability stool (economic,

environmental, and social) to consider the economic, environmental, and/or social sustainability outcomes of a community garden within the first two-three years of existence. For each leg of sustainability I integrate the perspectives of PE and sustainable development with the respondent interviews to explore some possible outcomes in each leg for building a community garden.

Economic Sustainability Outcomes

The community gardeners and other interview respondents overwhelmingly saw the garden as an economic benefit to the gardeners and to the community. Two economic sustainability outcomes emerged; the low cost of gardening and the lower food costs and greater access to organic produce.

First, COHNG had a number of benefactors, which eased the costs of starting a garden, improving the soil and planting. Indian Health Care Resource Center (IHRC) provided over \$2400 in supplies, consisting of lumber, hardware, and soil. IHRC dispersed funds to the Tulsa Community Gardening Association (TCGA) during the spring of 2011 and again in 2012 and COHNG purchased items that improved the community garden. A garden shed was purchased in 2011 (\$704) and in early 2012 four thousand pounds of mushroom compost, a truck load of dirt, and a variety of herbs, vegetables, fruit trees, and seeds was purchased to remediate garden plots, improve the soil and assist garden members with the cost of planting (\$893). Whole Foods Market donated rose bushes, food waste and herb plants. Two separate local tomato growers donated hundreds of tomato plants during 2010 and 2011; Duck Creek Farms and The Tomato Man's Daughter. Pleu Gardens donated vegetables, herbs and flowers during 2011. A flea market vendor gave one of the garden leaders over a hundred plants in the early summer of 2011, after spring planting was over. Multiple times COHNG had too many plants and offered them to other community gardens or individuals. In 2012 one new gardener grew enough pepper and tomato plants from seed to share with everyone in the garden. In 2011 the Garden Leaders collected \$5 per plot per month from each community gardener for water during the months of March through July. Monies and donations from outsiders gave the community garden sufficient

surplus funds that monthly charges were no longer needed. Though gardeners did incur costs if they purchased their own seeds and plants, the support from benefactors in the broader community made it possible to plant a raised bed plot without spending out of pocket funds, allowing individuals with limited financial resources to maintain a plot. One gardener reflected on the economic aspects: “Economic benefits to the gardeners, again it’s just the bottom line food expenditure. You know, the cost is minimal.”

To be economically sustainable in the area of gardening costs, solutions should mitigate the costs of gardening without dependence on outside benefactors. Gardeners at COHNG utilized several methods to improve the economic sustainability of the garden while enhancing the physical environment simultaneously. Composting enabled gardeners to have free composted material to improve soil health throughout the season and seed-saving provided seeds for use in future garden seasons. Gathering fallen grass from the church lawn contributed free mulch, helping the plants to retain moisture and supplying “free nitrogen.” One gardener grew tall, beautiful sunflowers and shared the seeds with the rest of the community at the end of the season. The next season the youngest gardener planted sunflowers from those seeds in her plots. Cilantro and basil reseeded themselves each spring. At one time a gardener had an entire eight by four foot plot filled with cilantro that had seeded itself. The cilantro crop benefited the “Tables to Go” food outreach by providing a culturally appropriate product to the Hispanic families served, which saved money and gave people an ingredient used frequently in cultural dishes. The pastor had so many volunteer tomato plants that seeded from the past season’s heirloom plants that there was no need to plant tomatoes in that plot during the spring of 2011. Gardeners planted blackberries, figs, and grapes though none bore fruit during this project. Planting perennial plants, which do not have to be planted year after year, saved money in seeds, plants and food costs.

Second, the gardeners’ perception overall (100%) is that they lower their personal food costs through gardening. Definitive data is not available to support this conclusion. Stories

abounded about the amount of food produced in individual plots but nobody provided any concrete data to support this notion that less money was spent on individual family food budgets. One gardener said that not only was it definitely cheaper but that “I’m kind of scared of how many tomatoes we’re going to have.” The general feeling was that gardening is a good way to mitigate food costs and increase personal food security. According to the respondents, growing one’s own food saves money and enables people to eat healthier. The troubled economy and higher food costs influenced them to grow food for their own consumption, as well as share with others. One gardener that was on disability had this to say about her food costs:

I’m on food stamps and \$70 doesn’t go very far and it certainly benefits me. I know that sometimes I would bring my bag up here and I’d get like ten pea pods from ___ and some lettuce from the community, from you, and I’d go home and have salad for two or three days. When my food stamps are gone I’m scrounging to eat, what I can gather in the garden or things I have in the closet, I eat very little.

Two-thirds of the persons interviewed were less concerned with personal food security, yet committed to increase personal access to healthy, nutritious, organic food in an affordable way. Organic tomatoes and strawberries were two items one young mother was motivated to grow because she did not want to pay the high cost of purchasing heirloom tomatoes and organic strawberries. Another gardener lamented the high cost of grocery store green peppers as her reason for growing them. A Garden Leader who loved to eat salads grew lettuce, cucumbers and tomatoes every year to lessen the costs of buying organic produce at the grocery store. As she commented:

If I am growing food for myself that’s less than I’m buying at the store or even at the Farmer’s Market. If I’ve got a whole bunch of weeks’ worth of spinach that I could put in my salads then I’m not spending \$6 bucks a bucket at Whole Foods.

That may not benefit Whole Foods but it helps my budget because then that money can go somewhere else for some other thing.

Growing herbs is popular in the case garden. Rosemary, thyme, an assortment of basil, cilantro, parsley, lavender, and chives are grown throughout the garden. Two gardeners planted an herb garden plot to share with the rest of the community which supplied no-cost fresh herbs for cooking and making pesto. The gardeners preferred to eat organic produce but price prevented many of them from purchasing it at the grocery store or farmer's markets. By growing their own organic food, they were able to afford to consume it. One gardener shared her experience with buying herbs from the grocery store. She stated, "Economically I don't have to buy some weird mint or rosemary from I don't know where and that saves me money, I got my rosemary plant for two dollars and I can have rosemary forever."

Gardeners at COHNG saved money from the beginning because major costs of gardening - soil, plants and seeds - were provided through benefactors and private donations during the first two years and sustainable practices saved money that might otherwise be spent on pesticides and herbicides. The case garden clearly affected the economic sustainability of the gardeners through the negligible startup costs and the cost savings associated with growing their own organic produce. The story of the woman that lived on \$70 of food stamps each month, and foraged from the garden points out that a young garden produces an important outcome in economic sustainability for her. Numerical data are missing in this study but knowing that this woman survives by "scrounging to eat" out of the garden speaks to a larger, global concern that many people lack access to fresh produce and live daily with food insecurity.

In the Community of Hope Neighborhood Garden, 36.4% of the gardeners had incomes of less than \$15,000 per year, placing them in poverty. Growing food in the garden reduced the weekly food costs of the gardeners, enabling them to produce pesticide-free organic food otherwise unaffordable at the grocery store. The gardeners that were not in poverty (63.6 %) expressed concern that they could not afford to eat completely organic as well, so the food grown

gave them access to an organic diet. COHNG contributed to the economic sustainability of persons in the first two years of building a community garden by providing access to land and garden supplies. Individual labors then produced quality food stuffs and lowered grocery bills. As gardening is a seasonal activity, newly emergent gardens supply typical benefits of long standing gardens.

Environmental Sustainability Outcomes

The first two years of the garden were a lesson in environmental sustainability challenges, impacts, failures, and successes. The garden, set up to be an organic garden, required gardeners to learn how to work within that framework. According to one gardener, “if you look at all the other things that we learned and the things that we picked up in knowledge - that was a semester in college.”

One of the first things gardeners noticed at the start of building the garden was that the soil in the ground held water better than the soil provided through the CFP grant. Since the plots were raised beds and required enough soil to fill a 320 cubic foot box, it was impractical to dig up the ground soil so the donated soil was shoveled into each bed by its plot holder. The first year of operation several of the gardeners chose to purchase compost and others used llama and rabbit manure to blend into the sandy soil.

When asked about environmental sustainability outcomes, both successes and failures, respondents shared what they had done to improve the environment. They indicated that setting up an organic garden was hard, but it was also a sense of pride. Rather than using garden fertilizers to grow vegetables, the gardeners learned to add organic matter, such as compost and manure, which also improved the texture, drainage and fertility of the soil. Gardeners tilled plants, leaves and grass clippings into garden beds, adding nitrogen, and this practice increased as gardeners became more familiar with organic agriculture. One gardener described her experience as follows:

Well I think that just speaking from what I know from the Community of Hope garden, you know the composting is great. That you don't have to buy as much stuff to amend the soil. You know where it's coming from. You're able to not have to dispose of a lot of the garden waste, and even your yard waste from the rest of the property. So I know that has a significant impact. And again since it's a community garden with those practices, I think the more people see stuff like that, the more people realize that it is doable.

Gardeners grew a wide variety of crops during the first two years, including lettuce, spinach, carrots, sugar snap peas, blue potatoes, sunflowers, tomatoes, squash varieties, okra, green peppers, a variety of hot peppers, melons, basil, green beans, cauliflower, onions, garlic, corn, green beans, various heirloom beans, broccoli, radishes, collards, mustard greens, parsley, sage, rosemary, thyme, Swiss chard and even quinoa. The gardeners learned how to care for the different plants and learned which plants did not do well in drought, which hit Oklahoma both summers (2011 and 2012) with over 30 successive days of temperatures over 100 degrees. Tomatoes did well in early spring and fall but had little to no production during the hottest periods. A few gardeners rotated their crops, though some gardeners chose to plant tomatoes in the same place each year. As tomatoes are heavy feeders, both of soil nutrients and water, tomatoes planted in the same soil two years in a row did not seem to be as prolific or as strong. According to one of the outside respondents from IHRC, "Well primarily gardens are just sort of a good lesson in environmental constraints... putting the idea in their head and helping them start to think about like you know what sort of limits does the biosphere have in place...um well these are important concepts".

A mixture of Bermuda grass, Dallas grass, Lambs Quarters, and assorted weeds surrounded the community garden. Each of these plants invaded the community garden and the gardeners eventually gave up trying to completely eradicate the grass around their garden plots. The thick grass challenged the gardeners and the gas weed eaters because it was difficult to trim

neatly. One of the garden leaders purchased a commercial weedeater and left it in the garden shed for several months but most gardeners gave up tending the weeds that clung to the outside of their garden beds. Since the Gardener Guidelines disallowed even a small amount of Roundup sprayed along the outside of the garden beds the garden never looked tidy. One gardener referred to this as the “eclectic look”: “It’s maybe not the most groomed garden, but who cares? And that’s part of it to me—the eclectic look, you know?” The gardeners accepted the fact that Roundup was not allowed, but periodically people yearned for it. According to one of the older women, “Trying to be organic is fun, but it’s hard. You want to just, if there’s a weed, I’d rather spray something on it than have to try to dig down in there and find that root that I can’t get. [Laughter]”

In an effort to dispel the grass and weeds that relentlessly made their way into the garden plots, two gardeners periodically solarized their beds by placing plastic over them and letting the heat kill the weeds inside. One of the gardeners shared his story:

We solarized by using .4mil painters plastic keeping it tied to the ground cause there’s a lot of Dallas grass and Bermuda grass around those beds. And it’s really we haven’t had a problem with weeds because of the solarizing. I see other beds that are completely taken over. Where we have an issue, if we do have an issue with weeds it’s in the encroachment of the weed growing into the area not germinating in the area. So the solarizing was highly effective. I mean it really needs to be a practice everybody can do during select times to kill what’s in there and germinate anything that’s in the soil.

Solarizing is healthier for the environment than using Roundup and other herbicides. Though most of the gardeners lacked familiarity with the process of solarization initially, and the majority never solarized, they learned that it was used in place of herbicides. The majority weeded the old fashioned way; they pulled the weeds by hand and hoped to pull out the roots.

Since all but organic pesticides were forbidden in the community garden, gardeners slowly learned how to fight pests without commercial pesticides. Gardeners planted marigolds because other gardeners shared information that marigolds repelled insects. Gardeners planted basil to repel aphids and mosquitos and to make pesto and season food. Flowers and flowering vegetable plants attracted pollinators. When insects infested plants, gardeners either picked the pests off by hand or sprayed an organic insecticidal soap on them. One frustrated gardener bought a pint of 100 proof grain alcohol and attempted to set squash bugs on fire. She soon found that a pint bottle of alcohol was insufficient to battle an invasion of squash bugs and later removed the diseased plants and solarized the plot using heavy plastic.

As the garden developed, the biodiversity of the area improved as the habitat was modified by the garden's presence. Rabbit families lived under the gnarled trees and in the larger pile of brush that collected at the back of the garden. Before the community garden was built, the garden area was a flat open space, mowed regularly. The garden gave the rabbit's additional ground cover. A birdbath, placed in the middle of the garden, attracted a variety of birds and birds became prevalent in the space. Grass snakes slithered through the tall grassy areas. Baby bunnies had no fear of the gardeners. Amazingly, they ate very little that anyone noticed. One night as a gardener watered her plots, she saw a large cat laying to the south of the garden, positioned in a stalking sort of crouch and it occurred to the gardener that perhaps that the cats kept the rabbit population under control.

The biodiversity improved the garden by attracting beneficial insects, birds, and rabbits. The drought took its toll on the garden both years and gardeners provided water to the wildlife and plant life. As the gardeners learned organic practices, they viewed the water system unsustainable. The primary water source (since rainwater was scarce) came from the faucet on the side of the church building, over 100 feet from the garden and logistically inconvenient. Often, gardeners watered before work or after work and resented spending extra time reeling the hose back in to its container by the faucet. A 250 gallon barrel, donated in the fall of 2010, held a

ton of water. From that point forward, gardeners filled the barrel as needed from the faucet and filled water buckets from the large barrel to water their plots. Typically, people with one or two plots used the water from the 250 gallon barrel and those with multiple plots, such as the “Tables to Go” volunteers, continued to use the hose. The small volume of annual precipitation made city water the only recourse though.

Gardening organically was challenging, yet gardeners remained committed to the process of improving the environment. Caring for the earth came up time after time in respondent interviews. As one gardener noted:

It’s similar to the backpacking rule. Take only pictures and leave only footprints. We take from the environment only what the environment can be replenished with. So there’s that environmental aspect to sustainability. We don’t view the earth as our dominion, that we can take as much as we want out of it and somehow God is either going to give us a new earth or make more of whatever it is that we’ve destroyed.

A genuine regard for environmental protection existed among all of the gardeners of COHNG. Respondents clearly articulated how their garden efforts related to sustainable environmental outcomes through organic gardening, habitat conservation, environmental protection, overcoming environmental constraints, such as drought, pests, and weeds, and obtaining environmental education. With respect to this, one respondent noted, “You know, if we’re doing anything to the land there, we’re enriching it. We’re not taking anything away from it. And so we’re utilizing it. We’re being resourceful about what we’re doing, so it’s good for everybody.”

Social Sustainability Outcomes

Respondents attributed a myriad of social sustainability outcomes to the Community of Hope Neighborhood Garden. The outcomes shared by the majority of the gardeners include: life-enhancing, educational, and promoted collective efficacy, social capital, diversity, and inclusion.

The tensions arising from the “multiple metabolisms” and “partial interconnections” within the social environment of the gardeners influenced their responses.

Community of Hope church members repeatedly described the garden as “one of the greatest things that really has ever happened to our church.” Though the church was not affected greatly by the economic and environmental outcomes produced by the community garden, the social aspects of the garden carried over to the church community in definite ways. The neighborhood felt friendlier for one thing, and the garden spaces planted by the “Tables to Go” volunteers supplied 10-12 families with produce during the growing season. Church members gathered in the garden after the Sunday night church services to pick produce from the “Tables to Go” plots and to chat. Members of the Narcotics Anonymous groups that met at the church strolled to the garden with friends or sat alone in the quiet of the garden space. One church member and community gardener even characterized it as similar to a commune: “The people are sort of like a community—a close-knit community sharing their own food—kind of like a commune or something similar, a community garden sort of like a commune, sort of like, (laughing)”.

When asked, “What does it mean to you to be a community gardener?” the interview responses ranged but all reported thoughts and behaviors indicating that the experience was life-enhancing. Respondents saw the garden as a method of bringing a community together, a vehicle to help each other and a place to escape into the solace that nature provides. A multitude of responses revealed the gardeners believed that gardening enhanced their personal life.

The ability to grow nutritious, organic food for personal consumption, to mitigate family food costs and to contribute to education was reflected in comments such as this:

Gardening itself is a way to get fresher food items into our diet without paying the exorbitant organic price from the store. I also think that having a 5-year-old, there’s something almost magical for him about seeing the seeds go into the garden, seeing the food grow, and then to harvest the food. So there’s the double

component of, it makes it more affordable, and number 2 it enables me to do an education component.

The therapeutic quality of nature was a common theme in respondent interviews. One gardener, a college student, stated “I can just pull up and seeing all those things growing automatically lifts my mood.” Another gardener explained that “It’s one of the few places I can go that I feel like it is my place. Nobody, nobody bothers me. And I can just be me, when I am here.” Still another gardener said, “I think for me it’s more therapeutic. Like I love gardening and I don’t know - it’s something that gives me quiet time”.

During the first two years of the garden I observed specific outcomes that spoke to the idea that the garden is life-enhancing. A teenage gardener showed up by herself at the first garden meeting and signed up for three raised bed plots. She was a high school dropout who lived in the Hoover neighborhood. A garden leader confided that the girl’s best friend was murdered years earlier when the girls were in elementary school. During the first two years of the garden, the young gardener got her GED, started a part-time job with an agency that worked with teenagers through a tip and reference from other gardeners, helped harvest vegetables for “Tables to Go” and traveled to Nicaragua with a team from Community of Hope to learn more about the Nicaraguan people and the challenges of the poor in the global South. This young woman rarely spoke early on, but by the end of two years involved herself with helping others in the garden. In early 2012 this same teen introduced another new teenager, a recent high school dropout, to the garden and she began to work two of the raised bed plots. This particular individual arrived at the garden extremely depressed. Her grandmother had died recently and she quit going to school a month before graduation. The garden gave her a place to heal from the pain and grief in her life and today she holds a part time job and looks forward to the future as a homeopathic, using herbs and plants to cure illnesses. Another woman, a stroke victim who underwent a difficult brain surgery and was on disability, utilized the garden to improve the quantity and quality of her diet. Still another woman came to the garden from one of the Narcotics Anonymous (NA) groups that

meet in the COH church building. Her husband and kids worked with her in the garden through the spring and summer. At the time of this writing, she was nine months clean and sober.

The gardeners spoke fondly and often of the nature and social educational component of community gardening. As one community gardener and longtime COH companion stated: “I think it’s an educational process for the community as a whole. That it’s not just the soil and that you have a garden and you grow something. But you’re connecting to people.” The pastor that started the process to build COHNG discovered that the garden enhanced his understanding of the Bible and Christian faith. He stated, “From a religious standpoint, the parables and stories of our tradition mean a lot more to me now that I have become in touch with an agrarian understanding.”

The agrarian understanding of each gardener increased as they battled the insects and the droughts and celebrated the successes of growing food that they could take home and eat or donate to charity. Gardeners taught each other how to grow plants without resorting to herbicides and pesticides. One gardener said that the “education part of it is for everyone in the community to learn again what is a true natural way to produce food.” Another gardener told a story of a group of poor kids from the neighborhood that she’d brought to the garden:

... the children that I’ve gotten involved with the garden live well under the poverty level, and so one of the girls had a peach at my house, maybe a week or two ago. Well two of them did. And neither of the girls knew that peaches were fuzzy. So we’re bringing education to them, food to them, and now they’re growing their own food which they think is super cool.

There is an educational component in the garden, teaching people where their food comes from that surfaced repeatedly in communication with gardeners. The respondents consistently identified themselves within the local food movement and shared a certain amount of contempt overall for pesticide-laden food. One respondent summed it up when she said, “the neat thing about community gardens is that you actually see it through the process. At the farmer’s market,

you see the food after it has already been grown and harvested. At the community garden, you see that tomato that is green and you watch it turn day after day.”

Numerous responses indicated that the community garden aided in building both social capital and collective efficacy. Social capital expanded by giving people space to garden, which subsequently encouraged gardeners to build relationships with one another. Collective efficacy developed and multiplied as gardeners engaged in behaviors that helped strengthen the social space of the community. Respondents constantly talked about the importance of the community and the kindness of the people that shared space in the community garden. One gardener summed it up accordingly:

It is actually providing nourishment for all kinds of people, everybody in the community. It's also the responsibility of those involved. For example if you're there, I was there the other day, even though I may not have anything particularly growing at this time I saw the need for watering and I don't know whose plots they were but I watered. So that's a community garden, to kind of watch out for community because everybody's got the same goal, to produce, so kind of working as a community.

Gardeners intervened for the common good of the neighborhood in a variety of mostly simple ways. Once a gardener went out of town and her husband came out to the garden every day to take care of her plots. He noticed bugs under the leaves of the okra and another gardener gave him some insecticidal soap to spray on them which killed the bugs before his wife returned home. One garden leader brought neighborhood kids to the garden that lived in a troubled home environment with little food and parental alcoholism. A garden leader gave the kids a garden plot, seeds and plants and the children tended the garden until they moved away. Another garden leader traveled frequently and needed frequent help watering her plots, which people did willingly, without complaint. A gardener involved in a serious car accident was pleased when the

other gardeners helped him to plant while he was recovering so that he could continue as a community garden member. The woman who had the stroke had this to say,

... it helps to make new friends. The people are really nice. And helpful. When I was weeding, they helped me weed!!! (Laughter) I was so surprised! I know, I couldn't believe it! And they weeded the hardest part too. They helped clear out the bed and all I had to do was plant the seeds.

Another frequent sentiment was the pleasure that people got from getting to know each other.

One new gardener responded that it meant a lot to be involved in the community garden, and that she "met a lot of nice people that I wouldn't have ever met without joining the garden."

Gardeners reached out to each other and to their neighborhood community, intervening in positive, helpful ways, in an effort to make a difference in the lives of others. Interview after interview confirmed that this community garden space is a good catalyst for community building. All persons interviewed for this project agreed that the community garden is a benefit to the community. The community garden space is important to the church, the community gardens, the neighbors, non-profit organizations, and "Tables to Go", the church's food outreach program for those with or affected by HIV/AIDS.

Surprising to many of the church members, Community of Hope Neighborhood Garden mitigated homophobia in the neighboring community. The majority of gardeners were gay-friendly and most were gay allies when they joined the garden. One gardener's comments, however, strike to the core of the church's earlier struggles in the neighborhood and the expansion of relationships that can happen in a community garden setting:

To be honest, I never would have thought I'd be associating with gay people. I'm sorry to say that, but it's the truth. And it's like a slap in the face to me, because they're no different than I am, you know what I mean? And I've enjoyed it. We had a get-together last year and we brought a dish to the garden. And it was fun. Not very many gardeners came. Remember? It was mostly people from the

church that came. And they [gardeners] really missed out on a fun deal. They really did. And I met a lot of fun people that I never would have met, honestly, before, I wouldn't have done that. That probably sounds terrible.

The gardeners embraced each other in spite of their differences. When asked specifically to discuss how this experience with diverse populations affected their impressions of people that were different from them, the majority of the people answered that they did not think their perceptions of diversity had changed very much. However, the respondents that were originally less comfortable with social diversity claimed to learn that gay people were more like themselves than they had previously considered.

Respondents conveyed that a number of sustainable outcomes could be attributed to COHNG, relating to economic sustainability, environmental protection, and social sustainability, occurring during the first two years of the case garden's operation. The economic outcomes identified by the respondents centered primarily on the low cost of gardening, lower perceived food costs, and greater access to nutritious, organic produce. When asked to describe environmental consequences of COHNG, respondents talked chiefly about organic farming, environmental constraints, habitat preservation, and environmental protection. Social sustainability outcomes elucidated in the responses centered on education, diversity and inclusion, and the overall feeling that involvement in the community garden enhanced their lives. The overall tenor of the respondents is that the case garden made some inroads into all three legs of the sustainability stool in a time span of less than two years. A well-documented inroad, or sustainable outcome, came from the "Tables to Go" food outreach organization and is a focus of my last research question.

COHNG and Food Security

A significant success of the garden lay in the ways that the garden helped curb food insecurity, actively involving gardeners and volunteers. This section responds to my last research

question: can a young community garden space become a catalyst for greater community involvement and the perpetuation of food security?

Community of Hope UCC operates a food outreach program named “Tables to Go” for persons and families affected by HIV/AIDS. This organization works to provide a week’s supply of food the third weekend of each month to twelve families affected by HIV/AIDS. Since HIV/AIDS is an auto-immune disease it is reasonable to expect that nutritious, healthy food will better support immune system function than foods that lack significant nutritional value. A frequent supposition is that fresh fruits and vegetables cost more per calorie than fast food dollar menu items but, according to a new study by Carlson and Frazão (2012), when calculated by the price of edible weight (\$/100 edible grams) or the price of an average portion (\$/average portion), less healthy foods cost more than healthy foods. Growing food in a community garden provides a way to obtain quality, non-pesticide, non-herbicide produce to better the health of those with compromised immune systems.

In the process of engaging in this garden, gardeners experienced increased commitment to community outside the garden, often in solidarity with the poor, infirm, and food insecure. The overwhelming sentiment of the gardeners was to share what they had with others having less. Gardeners typically shared what they could not consume themselves with “Tables to Go.” This connected the gardeners with the HIV/AIDS community. One community gardener reported that:

“The gardeners have been more than willing to offer up food and want to be part of that. Their plots – they are like here - pick when you need stuff for “Tables to Go” – which is really cool. Then people feel like they are somewhat involved with the HIV community.”

No requirement existed for the gardeners to donate food from their plots or to participate at all in the “Tables to Go” HIV/AIDS food ministry, though those relationships evolved and flourished. In addition, produce was given freely from the twelve “Tables to Go” raised bed plots to people who did not have enough food. Twenty Narcotics Anonymous (NA) groups met at the

church, bringing 200-300 persons in recovery near the garden each week. Several of the NA members struggled with finances, resulting from their drug habits, and subsequently benefited from the on-site garden. Members of the NA groups were encouraged to pick food from the plots managed by “Tables to Go”, which are easily identifiable by metal signs carved into the shapes of human hands. Since the “Tables to Go” food delivery occurs one weekend each month, food was available to harvest at times that did not coincide with the delivery schedule. One garden leader interacted frequently with the NA group members, sharing that “a lot of them are having a really difficult time while they are trying to get off meth or whatever it is that they are doing.” Several of the NA members ate daily at the Iron Gate food pantry downtown, which provides a hot meal to the city’s poor 365 days per year, so gaining access to fresh, organic produce from the community garden was beneficial. The NA groups picked food from the “Tables to Go” plots and only one of the gardeners mentioned missing food from her garden, but attributed it to another gardener, whom she didn’t realize was food insecure.

When the gardeners were asked, “how do you use what you grow?” gardeners consistently shared responses which indicated a concern for those who were hungry. One gardener commented, “The plan is that what we cannot consume ourselves, which we have three people to eat from that plot, to donate the remainder to “Tables to Go”. Another gardener related that “when it came to needing salad items for “Tables to Go” I was sure to go over and get some of mine too.” One gardener and church companion said, “A lot of it goes to my garden partner, just to supplement her stuff, and then just to our own food budget.” Gardeners indicated that personal use and sharing with those who are food insecure were the principle uses of the food one grew.

During the first two years of its operation, 2010 and 2011, members of the Community of Hope Neighborhood Garden provided a small but unmeasured amount of produce to the families served by the church’s “Tables to Go” food outreach. Six plots were planted and cultivated at the Community of Hope Neighborhood Garden by volunteers from the “Tables to Go” group during

the first two seasons of operation, 2010 and 2011. The \$7500 Kaiser Grant given to the church each year made it possible for this food ministry to continue yet was not intended to fully fund the church's outreach efforts. From the \$7500 Kaiser Grant, \$5760 was designated to "Tables to Go" and the remaining was used for a HIV/AIDS long time survivor's retreat. The number of clients served soared by 185% from 2010 to 2012. This was due to the larger family sizes of the new families added to the program. In 2010, 80% of the families served were Caucasian and family size consisted of one to three individuals. By 2012, 86.5% served were Hispanic and 13.5% Caucasian. 45.9% were poor children with parents with the virus.

A substantial deviation between resources in hand and resources needed was calculated, using the USDA food security thrifty plan figures projected for each individual served by "Tables to Go", further revealing a significant shortfall in monies needed to feed the larger group of persons (Carlson, Lino, Juan, Hanson, and Basiotis 2007). In order to provide healthy, nutritious, and culturally appropriate food to a much greater number of people, the "Tables to Go" coordinators decided to grow more food in the community garden, mitigating the shortfall in available funds. In March 2012, twelve raised bed plots were planted, which was double that of the previous year. During the 2012 spring and summer growing seasons the majority of gardeners (twelve of seventeen) gave fresh produce to the food ministry from their personal garden plots as well. By increasing the amount of produce grown and purchasing more fruits and vegetables than protein, "Tables to Go" provided food for a healthier diet.

In early March of 2012 an Aids Fund AmeriCorps worker began work in the community garden "Tables to Go" plots for sixteen hours per week through June 30, 2012. The AmeriCorps worker's salary was waived because the national AIDS United AmeriCorps needed a placement for this worker, making her labor economically sustainable to the food outreach. Although the food was not measured and calculated to provide actual numerical data on food production, the community garden contributed to the economic sustainability of the "Tables to Go" food outreach organization through the harvests from raised bed plots and the bountiful apple tree next to the

garden. The AmeriCorps worker used produce from the garden to make zucchini bread and pesto to give to the families in need. Although it is impossible to estimate dollar figures and cost savings with any degree of reliability after the fact, the garden produced a wide assortment of produce which decreased food costs for the “Tables to Go” food ministry.

This newly emergent garden networked and partnered with several nonprofit organizations dedicated to food security. Through its relationship with “Tables to Go”, organizations that support people affected by HIV/AIDS have been instrumental in the food security work that has been going on at COH and COHNG. The George Kaiser Family Foundation (GKFF) supported “Tables to Go” with a grant to supplement their food outreach program. The Tulsa Center for Aids Resources (Tulsa Cares) case managers worked with the “Tables to Go” coordinators to refer clients and the nutritionist at Tulsa Cares helped with nutrition education. The AIDS United AmeriCorps Teams provided garden maintenance service for the first two years of the garden. Other organizations that supported COHNG and “Tables to Go” efforts to mitigate food insecurity for the city’s poor included Tulsa Food Security Council, IHRC, and Tulsa Community Gardening Association.

“Tables to Go” made a nice contribution to how an emergent garden can assist with food security. By the end of this study, 30% of the plots in the community garden belonged to “Tables to Go” and all but two of the 2012 gardeners contributed to the families served by the food outreach through sharing produce, harvesting “Tables to Go” plots prior to monthly food distribution, or both. One “Tables to Go” Coordinator said, “I kind of dreamed of something like that, but I didn’t realize that those two could be integrated with such little effort.”

A newly emergent garden’s ability to be a catalyst for community involvement and to ameliorate some degree of food security is validated by the data contained in this case study. COHNG cultivated an environment in which a food outreach organization engaged gardeners, volunteers, and non-profit assistance, supporting the organization’s efforts to provide groceries to

families with or affected by HIV/AIDS. Further, the young garden enabled gardeners and persons in recovery to access healthy produce, improving personal food security.

CHAPTER VI

DISCUSSIONS AND CONCLUSIONS

The Community of Hope Neighborhood Garden provides a unique opportunity to explore the role of sustainable development and food security in a newly emergent community garden and garden community. It was a privilege to document the garden's two year journey as a participant/observer, contemplating the intersecting multiple metabolisms that emerged in the stories of gardeners and allies. The case study of COHNG affirms that young community gardens do have the potential ability to enhance sustainable development and to become catalysts for greater community involvement and the perpetuation of food security. The quantifiable degree of impact is unmeasured in this study but the interviews overwhelmingly confirmed sustainable outcomes exist.

The relatively low capital costs of gardening, perceived lower personal food costs, and expanded access to organic plant food are economic sustainability outcomes of the case garden. Moreover, members of the broader community benefited financially by food shared beyond the garden. The "Tables to Go" food outreach distribution could be implemented in other gardens, which could have global implications for other non-profits working to improve food security and nutrition among the world's poor and disfranchised.

Community gardens are one answer to protect pieces of the environment. The garden raised awareness of environmental issues and environmental constraints through organic gardening, habitat preservation and environmental conservation. The plants contribute to improvements in air quality and capture CO₂, and composting, reusing, and recycling help to

encourage wildlife habitats and biodiversity supported ecosystem health. The environment of COHNG would not be the same today if the garden was not an organic garden because pesticides and herbicides would exist in the soil, affecting the quality of the compost and the biodiversity of flora and fauna in the garden.

From the view of the respondents to social sustainability, community gardening is life-enhancing and allowed people to interact with the garden in ways of their own choosing. For sustainable development to meet the economic needs, environmental needs, and social needs of community gardeners, positive outcomes must be generated through the process of being in community with one another. COHNG became a catalyst for community building in a neighborhood that was unfriendly to the social justice activism of the church that owns the land on which the garden sits. COHNG exhibited inclusivity and subliminal diversity education, which contributed to feelings of empowerment on social justice issues through a variety of behaviors, such as helping “Tables to Go”, changing decades of homophobia in an elderly gardener, and giving people a place to work through the dreams and the challenges in their lives. People joined for a multitude of reasons and the structure of the community allowed everyone to proceed unencumbered by prejudice. The changes in attitudes towards GLBT and the embrace of diversity and inclusion may be the most striking change of all, and its impact beyond the garden immeasurable. Giving people a voice in decision making bonded them together, creating a strong commitment to the community and increasing social capital. Coming together for the good of the community, whether to help another gardener or to support the “Tables to Go” efforts to feed the marginalized enhanced collective efficacy. The garden offered a space for people to share knowledge of plants, insects, plant diseases, soil remediation, and organic farming methods and to learn from each other and from the garden itself. Moreover, the effects of the social sustainability outcomes could have broader implications past the garden space and into the local and global community through the growth of social capital and collective efficacy, promotion of the local food movement and raising awareness of inclusivity and diversity.

COHNG became a catalyst for greater community involvement and the perpetuation of food security, making a substantial impact on a number of persons. The personal investments in “Tables to Go” of produce donations, labor, and food delivery was prodigious. In addition, the integration of “Tables to Go” with COHNG provided fresh produce to twelve families while concurrently raising awareness of HIV/AIDS. The substantial deviation between resources in hand and resources needed during 2012 caused the “Tables to Go” coordinators to increase the amount of food planted to manage the financial shortfall, leading to improved food security for the organization and the people served. The private funding available for the COH garden offered unique advantages in economic sustainability. This created space for people to garden while limiting out of pocket costs for gardeners. Donations for capital improvements are often uncertain donations and other community gardens may lack the initial startup financing required to establish a garden space. Community garden start-ups exist on an unlevelled playing field and land remains the largest obstacle (Bassett 1981; Lawson 2005). Composting and seed-saving as institutionalized aspects of a community garden become assets for economic sustainability. When gardens operate on a closed loop system, environmental sustainability is promoted as well. Low-income gardeners and people in recovery increased their access to fresh, nutritious produce. From the beginning, non-profit organizations concerned with the food insecurity in Oklahoma reached out to supply resources to the newly emergent garden. The social capital and collective efficacy generated by COHNG encouraged community involvement, further mobilizing people towards food insecurity mitigation.

As a theoretical perspective, the “three legged stool” model of sustainability offers a simplistic way of framing, leaving out the immeasurable and unmeasured transitions and interactions that are central to understanding the dynamics of sustainability. Based on findings here, Dawe and Ryan’s (2003) critique of sustainability as a three legged stool is well founded. Though scholars argue that social, economic, and environmental concerns must each be included to formulate solutions (Haberl, Wackernagel and Wrbka. 2004), it also behooves us to

acknowledge the multiple interconnections that exist in nature and political economy. In an effort to attenuate these concerns, additional theoretical approaches, such as political ecology, may prove useful in future work on sustainability.

Although I established a dichotomous relationship between newly emergent gardens and those gardens with longevity, newly emergent gardens may not necessarily be different from well-established gardens. Literature on established community gardens share outcomes similar to Community of Hope Neighborhood Garden. Low capital costs of gardening, perceived lower food costs and expanded access to organic food are familiar outcomes observed in long-standing gardens (ACGA 2012; Goodman et al. 2011; Herbach 1998; Hess 2005; Holland 2004; Lawson 2005; Linn 1999). Environmental outcomes such as using organic gardening methods, promoting habitat preservation, and practicing environmental conservation methods are outcomes present in well-established gardens (ACGA 2012; Broadway 2009, Metcalf and Widener 2011). The social sustainability outcomes of COHNG mirror findings in gardens of longer duration as well, such as collective efficacy (Sampson et al. 1997; Tieg et al. 2009), social capital (Glover et al. 2005; Hanna and Oh 2000; Kingsley and Townsend 2006), and life-enhancement (ACGA 2012; Lawson 2005; Macias 2008). It may be inconsequential that little research has been done on gardens that are in their first two years of operation, but it is possible that researchers and policy makers may find the distinction worthy in order to better understand the dynamics of community change as well as the institutionalization of community garden space.

Although a grounded, interpretive approach to data collection offers a number of opportunities, such flexibility during the interview process and a chance for the voices of respondents to be clearly expressed, these approaches also can cause several limitations, particularly in terms of design and interview content. A majority of the interviews were conducted individually. In hindsight, encouraging a greater number of group interviews could have facilitated greater conversation and inspired enhanced social capital or collective efficacy among the community garden members. At the start of the project, it was not expected that food

security outcomes through the “Tables to Go” organization would be integrated so heavily into the life of the case garden. Additional interviews with “Tables to Go” volunteers would have offered diverse perspectives on the garden community, and added to the political ecology framework by further exploring the possible effects on the broader community beyond the garden (Greenberg and Park 1994).

With regard to the interview questions, more questions that highlighted food costs might have provided a better sense of measure of cost savings perceived by the gardeners. Additionally, questions that elicited richer descriptions of the physical environment may have created a richer picture of the natural environment of the garden and allowed greater attention to the challenges faced by community gardeners in drought-stricken Oklahoma. Finally, my position as a leader, both in the garden and Tables to Go, required constant reflection to abate the bias that can occur when a person studies a topic and at the same participates in its life.

Future studies may work to better quantify economic, environmental and social sustainability factors to better measure impacts of newly emergent gardens on the dimensions of sustainability. Community garden work easily lends itself to mixed methods approaches that can assist with applied policy efforts. Looking more closely at gender may have proven interesting since gender is a common theme in global food justice studies, the majority of rural farmers in the US are male and literature indicates that gender roles change significantly in urban agricultural pursuits (Goodman et al. 2011; Lawson 2005). Future studies might also explore how gender influences democratic garden structure. Future work may also consider specific dimensions of garden failure and success and the relationships in such cases with amelioration of food insecurity. Political ecology work on community gardens might further expand the scalar applications of these local spaces, considering broader impacts of community gardens on regional, national and global alternative food networks. To move beyond the three pillars of sustainability and extend the political ecology approach, future studies should include the reverberations of a garden’s outcomes to the broader society.

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APPENDICES

Appendix A

One on one and Group Interview Guide

(Local food proponents, producers and growers, Farmers, land owners, Agency representatives)

I. Personal and Social Dimensions of gardening, farming and local food production

“Let’s begin by talking about how and why you became involved in gardening, farming and/or local food production...”

Please talk about your involvement with gardening, farming and/or local food production.

How involved are you? How long? In what capacity? Why are you involved?

What is the history of your involvement?

Who introduced you? Have you introduced others?

What does local food production mean to you?

What encourages you to continue involvement with local food?

II. Community and organizational impacts of gardening, farming and local food production

“I want to take a break now from personal perspectives and talk a little bit about community impacts of gardening, farming and local food production

Can you briefly describe the social environment of the garden, farm or local food production site you are a part of?

Nature of community/area in which it is located?

Who is involved? (Community members, Particular demographics)

Youth? Elderly? Various social class and race representation?

Does everyone have access if they wish to be involved?

If it has occurred, how has this experience with diverse populations affected your impressions of people that are different than you?

Impacted your commitment to community?

What do you think it means to others in the community to have access to gardens, farms or local food?

Do others know about this resource?

How do they know about it – through what mechanisms?

Is it seen as a benefit, a cost?

What do you believe are benefits of gardens, farms or local food options to the broader community, if any?

Food insecurity and deserts?

Health? Health efficacy?

Nutrition?

Community cohesion and relationships? Social Benefits/costs?

Economic benefits/costs?

Social Justice?

Environmental Justice?

Relationships with the Earth?

Do you do any fundraising? If so, what does this include?

Do you utilize community volunteers or donations? If so, what are they?

Are you involved in outreach efforts related to gardens, farms or local food?

Talk with community members? Members of other farms and/or gardens? Members of garden organizations?

Youth and other service organizations?

Food banks?

Other networks (CSA, farmers markets etc.)

In what ways are other organizations involved with your work?

Are you involved in the local food movement? (farmer's market, CSA etc.)

What motivates your involvement in the local food movement?

What is your level of involvement?

Impact on food expenditures?

Sense of community?

Desire to mitigate inequality – assist others in need?

Do community gardens have a role in this movement? Do you interact with such gardens?

Does local policy support gardens, farms and local food? How?

What are you most proud of in terms your garden, farm or local food work?

III. Gardening, farming, local food production and the social, environmental and economic dimensions of sustainability

“Let's turn now to talk about social, environmental and economic aspects of sustainability ...”

Are you familiar with the term sustainability?

If yes, how do you define it? What does the term mean to you?

If no, a common definition is that “our current practices meet the needs of the present without compromising the ability of future generations to meet their own needs.”

What do you think of this idea?

Do you use sustainable practices in your everyday life?

Have your ideas on sustainability changed since becoming involved with gardening farming and/or local food production?

Have your practices changed?

How does your involvement with gardening, farming or local food production impact sustainability?

Social impacts?

Economic impacts?

Environmental impacts?

Have sustainable practices and food procurement been carried over to your home and daily decisions?

Have you educated others about sustainable practices? How?

What local policies are needed to develop community sustainability?

IV. General background information

“May I please request some demographic information about you?”

Age (year of birth)

Sex

Race

Education level

Occupation

Marital Status

Income Bracket (please select the letter of the category applying to you)

a. Less than \$15,000

b. \$15,000-\$30,000

c. \$30,000-\$45,000

d. \$45,000-\$60,000

e. \$60,000-\$75,000

f. \$75,000-\$90,000

g. \$90,000-\$100,000

h. More than \$100,000

Are there any other concerns related to gardens, farming or local food production that you want to discuss that I did not address?

Appendix B

Community of Hope Neighborhood Garden Guidelines 2012

The following guidelines have been established for Community of Hope Neighborhood Garden. Please read the guidelines and direct any questions or comments to the garden leaders.

1. All gardeners must use organic gardening methods. Specific methods will be addressed in garden meetings and work parties scheduled throughout the season. Please plan to attend to get to know the other gardeners and assist with garden upkeep and special projects. This is a community garden so you'll get a chance to make some of the decisions for the garden.
2. All gardeners are required to complete an application form. Each gardener must pay \$5.00 a month to their assigned garden leader for each raised bed assigned to them. Ex. If you have 4 plots your cost will be \$20 month.
3. Keep your plot and the adjoining pathways tended. If your plot appears to be untended for a period of time and you haven't contacted the garden leaders, you will be contacted and your plot may be assigned to another gardener. Call your garden leader if you need help or if you will be out of town for an extended period of time. If you plan to discontinue use of your space, please let the garden leaders know as soon as possible so that your plot can be assigned to another gardener.
4. Plant tall plants and vines in places where they will not interfere with your neighbor's plot. Planting illegal plants is prohibited.
5. At the end of the garden season, all dead plants and non-plant materials (string, wire, wood, metal, plastic, etc.) must be removed and disposed of properly and all gardens left neat and tidy. If you do not plan on a winter garden, your plots must be cleaned up by the end of the year to avoid losing gardening privileges for the next season or be reassigned to another plot.
6. Pick up litter when you see it.
7. Please put weeds and dead plants into the compost bin provided. Do not leave them in the pathway. Any diseased plants or seedy or invasive weeds are to be bagged and put in the

trash so as not to contaminate the garden. Old woody plants are to be placed in the brush pile to be carted to the recycling center.

8. Do not apply anything to or pick anything from another person's plot without their express approval. If another gardener's plants are diseased and compromising the health of the other plots please discuss with that gardener or the garden monitor.

9. Please do not leave the water on unattended. You must periodically fill the rain barrel with water June-Oct when it needs water. It's part of sharing the work.

10. Smoking is not allowed. Tobacco can transmit a lethal virus to tomatoes and cigarette butts are loaded with toxins.

11. Illegal drugs, alcohol and fires are not allowed.

12. Please supervise children in the garden.

13. For your safety, only garden during daylight hours. Consider gardening in pairs or keeping a cell phone nearby if it makes you more comfortable.

14. Report theft, vandalism and unusual activities to the garden leaders and police.

15. Use common courtesy, be considerate of your gardening neighbors and ENJOY!

16. Violation of gardener guidelines: If any of the guidelines are violated you will be contacted by phone or email and have one week to address the violation. After one week, if the violation has not been remedied, you may lose your gardening privileges.

Appendix C

Community of Hope Neighborhood Garden Application-2010

1. Gardener: _____

2. Gardener Address _____

3. Gardener Phone: _____ Alternate Phone: _____

4. Gardener Email: _____

5. Number of 8 ft. by 4 ft. plots requested this year: _____

6. If you are a new gardener, would you like an experienced gardener to help you? _____

7. If you are an experienced gardener, would you like to help a new gardener? _____

8. Would you like to be on the leadership team? _____

9. Photo permission: From time to time, gardeners, garden leaders and the media will take photos of the garden. Please check here { } if you do not give your permission for your photo to be published. If you do not give your permission, please let photographers know when you encounter them at the garden.

10. Phone and email: All Gardeners are required to share their phone number and email address with garden leaders. In addition, a gardener phone and email list is shared with all gardeners. Please check here { } if you do not give your permission to share your phone number and email with all gardeners.

11. By signing below, I agree that I have read and understand the Gardener Guidelines and plan to abide by all of the garden rules. I agree to abide by organic gardening methods set by the Community of Hope Neighborhood Garden Leadership Team. I agree to pay \$5 monthly for each raised bed I hold to the Garden Leader assigned to me beginning March 1, 2011. I understand if I miss my payment two months in a row my plot will be reassigned. I understand that neither the garden group nor owners of the land are responsible for my actions. I therefore agree to hold harmless the garden group and owners of the land for any liability, damage, loss or claim that occurs in connection with use of the garden by me or my guests.

Signature Date

VITA

Teresa K. Tucker-Trainum

Candidate for the Degree of

Master of Science

Thesis: EVERY GARDEN TELLS A STORY: SUSTAINABLE DEVELOPMENT IN
A NEWLY EMERGENT COMMUNITY GARDEN

Major Field: Environmental Science

Area of Specialization: Sustainability

Education:

Completed the requirements for the Master of Science in Environmental
Science at Oklahoma State University, Stillwater, Oklahoma in December, 2012

Completed the requirements for the Bachelor of Science in Sociology at
Oklahoma State University, Stillwater, Oklahoma/USA in 1985

Volunteer Experience:

Coordinated the building of Community of Hope Neighborhood Garden, a
40 plot sustainable community garden during 2010

Garden Leader, Community of Hope Neighborhood Garden (2010-2012)

Coordinator of "Tables to Go" Monthly Food Outreach (2010-2012) for
people with HIV/AIDS

Tulsa Food Security Council (2011-Present)

Youth Services of Tulsa Safe Place Volunteer (2006-2011)

Professional Memberships:

Association of American Geographers

Association for Environmental Studies and Sciences

Society for the Study of Social Problems

Awards:

Graduate Student Environmental Service Award, Oklahoma State
University, 2011

Evergreen Spirit Award, Tulsa Community Service Council, 2011

Conferences:

"Building a Garden, Shaping Space and Place: Narratives and Meanings in
a Newly Emergent Garden Community," Teresa Tucker-Trainum and
Tamara L. Mix, Oklahoma State University, SSSP Conference August
2012.