ORGANIZED GARDEN PROJECTS AS MULTIFUNCTIONAL SITES: A CASE STUDY OF
CARBONDALE, IL

By

Karen Schauwecker

B.A., Beloit College, 2004
M.S., Southern Illinois University, 2015

A Thesis
Submitted in Partial Fulfillment of the Requirements for the
Master of Science Degree

Department of Geography and Environmental Resources
In the Graduate School
Southern Illinois University Carbondale
August 2015

THESIS APPROVAL

ORGANIZED GARDEN PROJECTS AS MUTLIFUNCTIONAL SITES: A CASE
STUDY OF CARBONDALE, IL

By

Karen Schauwecker

A Thesis Submitted in Partial

Fulfillment of the Requirements

For the Degree of

Master of Science

In the field of Geography

Approved by:

Leslie Duram, Chair

Jessica Crowe

Julie Weinert

Graduate School
Southern Illinois University Carbondale
June 9, 2015

AN ABSTRACT OF THE THESIS OF

KAREN SCHAUWECKER, for the Master of Science degree in GEOGRAPHY, presented on June 9, 2015, at Southern Illinois University Carbondale.

TITLE: ORGANIZED GARDEN PROJECTS AS MULTIFUNCTIONAL SITES: A CASE STUDY OF CARBONDALE, IL

MAJOR PROFESSOR: Dr. Leslie Duram

Using qualitative methods, interviews with garden leaders were conducted in order to better understand the motivations, challenges, and benefits of organizations and leaders of organized garden projects. This research expands the geographical diversity of community garden literature, examining a case study site in a small city surrounded by a more rural region. Eleven projects were identified as currently active sites. All gardens sought to achieve a variety of goals, making each project a multifunctional site. Characteristics of each site were collected along with organizational structure to establish typologies and leadership style. In addition, the motivations, benefits, and challenges were compared to previous literature in an effort to account for geographic variability.

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 Introduction

Community gardens have been employed in various historical contexts as place-based strategies responding to specific socio-economic and demographic crises (Lawson, 2005). These projects are entrenched in both place and action. Community gardening has taken on a myriad of meanings subjective to those who participate, and that multiplicity of identity and purpose continues in projects to this day. Writers have documented distinct eras describing fluctuations in the aims and reach of community gardens as they respond to current socio-political contexts (Lawson, 2012). Although the current wave of garden projects are rooted in the urban renewal and community development practices of the 1970's, the 19% spike in community gardens since 2009 has suggested a new generation of gardens known as recession gardens (Draper and Freedman, 2010). Even before 2008 economic recession, community gardens were growing in popularity (Pudup, 2008; Teig et. al 2009; Guitart et al., 2012). A survey conducted in 1996 by the American Community Gardening Association (ACGA), estimated 6,000 total community gardens in the United States and 60% had been created in the previous decade. Other studies have estimated that by the mid 1990's, over 1,000,000 individuals were involved in more than 15,000 organized community garden programs in the United States (Malakoff, 1995; Bicho, 1996 as cited in Saldivar-Tanaka & Krasny, 2014). The most recent national survey conducted by the ACGA shows growth continuing not only in the number of gardens, but also in the number of organizations participating in gardening projects (Lawson and Drake, 2012). Cities have responded to the growing interest with

changes in local policy that allow for more agricultural activities, such as community gardens, in urban areas (Goldstein, 2012). The amount and breadth of academic literature on community gardening has also kept pace with interest and growth of gardening projects (Draper and Freedman, 2010; Guitart et al., 2012). Despite a plethora and diversity of literature on community gardens, there are still some gaps that exist. There is a need for researchers and practitioners alike to further develop and expand on ways to measure motivations, benefits, and challenges in geographically diverse settings (Draper and Freedman, 2010).

Building off of current themes and geographies, this research examined organized gardening projects in one small city in the rural region of Southern Illinois. Using qualitative methodology and data generated through open-ended interviews, materials, and observation, this study identified current community garden projects taking place during the research parameters. The goal of collecting physical and organizational characteristics was to enable classification and to document similarities and distinctive components of each initiative (Ferris, Norman and Sempik, 2001). Then, to compare motivations, challenges and benefits to those found in academic literature. However, what became most apparent throughout this study was the multi-functionality of these projects and the difficult nature of classifying gardening projects. It is important to articulate the potential and accomplishments of these projects, as they are often competing with other land uses and social services vying for limited resources (Schmelzkopf, 2002; Staeheli et al., 2003; Campbell and Salus, 2003). However, the true value lies precisely in this ability to serve multiple functions, both ecologically and culturally (Lovell, 2010).

1.2 Purpose of Study and Justification

The purpose of this study was to systematically collect and document pertinent characteristics of gardening projects that exist in Carbondale, IL as suggested through previous literature. Through an examination of the motivations and perspectives of garden leaders, a better understanding emerged as to what these projects seek to achieve. Although increasing food access and a decrease in food insecurity has been proven as a primary benefit (Blair et al., 1991), community gardens work as mechanisms for achieving other goals as well (See Literature Review). Once these goals are established, there is an opportunity to then move toward a more systematic outcomes-based measurement in which success can be estimated and defined (www.farmingconcrete.org). Not only useful to practitioners, these measurements may also prove useful in catalyzing support from governments, financial institutions, recruiting participants, and establishing collaboration among other organizations working toward similar goals; All of which have been shown as integral aspects required for long-term success and sustainability (Millburn and Vail, 2010). The benefits of these grassroots efforts have been well established and documented in academic research. It is now time to incorporate these projects into planning and policies in a coordinated effort to maximize these multi-functional benefits (Lovell, 2010; Lawson, 2005).

The study sought to understand the processes that compel leaders to get involved or spearhead a community garden project. These are the *motivations*. This study aimed for an understanding of the lived benefits that leaders have felt from their involvement, referred to as *benefits* of the project. And lastly, this study revealed the challenges that *inhibit* garden projects in this particular context. Because of the place-based, site-specific

nature of community gardens, the question of geography's role in these aforementioned areas holds merit.

1.3 Background and Problem Statement

Community garden research is plentiful in quantity and vast in subject matter, mirroring the many types of projects in practice (Draper, 2010; Guitart, 2012). Community gardens are suggested as participatory actions relevant to a number of social movements; These include food system localization (Feenstra, 1997; Feagan, 2007; Delind, 2006), Alternative Food Networks (Allen et al., 2003; Baker, 2004), and food security. Language describes community gardening as a form of bottom-up, alternative resistance to the conventional food system. However, for long-term success a support system involving city leaders, community leaders, and other collaborative networks is crucial (Lawson, 2005; Hess and Winner, 2007; Milburn and Vail, 2010). The interdisciplinary nature of gardens and the definitional ambiguity creates the need to be more explicit for a more thorough understanding of these projects. What exactly counts as a community garden? This is a practical need in terms of quantifying the benefits of community gardens and gaining support. To assume the term community garden adequately describes a blanketed similarity among projects would be a fallacy. This research attempted to account for a geographical variable and the ways in which projects organize in smaller city settings. In a recent synthesis of literature written in 2010, Draper found that out of 55 studies that qualified, only three studies included community gardens in rural locations, including one comparative study of urban and rural and urban settings (Draper and Freedman, 2010). There are still areas ripe for data collection and analysis of community gardens. This study sought to provide rich depth of detail for projects outside

the most geographically common sites of study, while providing support for why these

projects should be valued and sustained (Draper and Freedman, 2010).

1.4 Research Questions

Guided by broad thematic patterns of past research, this exploratory study asked

the following questions about the community garden characteristics of projects in one

small city operating in a rural region.

1. Using Carbondale, IL as a case study, what types of organized garden projects are currently active?

2. How do these gardens compare by site, organizational structure, and purpose?

3. What are the motivations, benefits, and challenges for these organizations according to garden leaders?

4. How do these projects compare to findings in previous community garden literature?

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

Community gardens grow more than produce. They cultivate communities (Saldivar-Tanaka & Krasny, 2004). Producing safe, healthy food is one benefit, but these sites are much more complex. Community gardens have shown to be place-based, local action that remains relevant as a strategy for addressing obstacles in the current, social, economic, and environmental context. They are sites of community development, environmental justice and political resistance (Ferris, Norman, & Sempik, 2001). They can be located in the framework of broader social movements of food insecurity and environmental sustainability. They are illustrative of land use issues and rights to the city, questioning what land could and should be used for. They are productive sites cultivating not only produce, but community, cultural cohesion, and social capital. Community gardens are both a social movement and a rich resource. They are site and action. But what are they? They are ambiguous to say the least, but it is important for the sake of validity, effectiveness, and long-term sustainability to at least articulate this murkiness.

2.2 Definitions of Community Gardening

Multiple definitions have been proposed, but many authors opt for the most inclusive and perhaps vague definition provided by the American Community Garden Association. They simply define a community garden as "any group of space gardened by a group of people" (www.communitygarden.org). They can be found in both urban and rural settings, and from a schoolyard to a prison yard. Ferris, Norman and Sempik (2001)

propose that it "is not very useful to offer a precise definition of community gardens as this would impose arbitrary limits on creative communal responses to local need" (p.560). While a broad definition accounts for the variety of site and structure that exists, it does not explain necessary components, organization, structure, function, or vision.

Albeit inclusive, a vague definition does not account for the ways in which different populations may benefit, experience or actively participate in the formation of the community in community gardening. Nor does it show the extent of community development that is occurring or who is invited to participate in the benefits of this social capital (Glover, 2005; Kurtz, 2001; Pudup, 2008). Pudup (2008) proposes an alternative concept of the "organized garden project" as

> A better way of understanding the geographical spaces not typically under cultivation that are brought under third party agricultural or horticultural cultivation by organized groups of people for the purposes defined and expressed by the organizers (and some but not all the time by the gardeners) (p.1231)

Pudup's definition has three main components: 1.) An organized group of people is involved in cultivation, even if gardening is individualized in its spatial arrangement 2.) The group involved in cultivation has espoused a set of goals for its gardening practice 3.) The cultivated space is not typically devoted to third party gardening. In short, Pudup argues that this definition avoids the pitfalls of the term community. It allows for community to be created, but does not assume its existence. Second, this definition focuses on the building and active creation of these sites and the organizations behind the work (Pudup, 2008). This definition of "organized gardening projects" was used as a working term to describe gardens throughout this research. The interviews

highlight the active role of leaders and organizations, instead of assuming community gardens as a benign space that simply occurs.

While literature with a wider scope may mention community gardens, the focus here is on literature that specifically narrows the focus to garden projects themselves.

2.3 Typologies of Community Gardens

In an effort to typify projects in accord with other scholars, categories were pulled from the 2012 ACGA survey, along with a commonly sited article by Ferris, Norman and Sempik (2001). It became clear that categories were not static, but changing, and that the boundaries were not solid, but fluid. The ACGA survey expands each year adding new Garden Types or ways that garden projects manifest. In 1998, mental health/rehab, large farm, and economic development/CSA gardens were introduced. In 2012, church gardens were added as a possible category along with the ability for gardens to identify as addressing more than one type (Lawson and Duke, 2012).

Table 2.3: Garden Types found in Literature

ACGA Survey (2012)	Ferris, Norman, and Sempik (2001)
Neighborhood	Leisure
School	Child and School
Public Housing	Entrepreneurial
Church	Crime Diversion/Work and Training
More than one type	Healing and Therapy
Large "farm site with plots"	Neighborhood Pocket Parks
Senior Center/Senior Housing	
Job Training/ Youth Economic Development	
Therapeutic/ Mental Health	
Other	

It is also worth discussing here the seemingly convoluted difference between community gardens and urban agriculture. According to Taylor and Lovell (2012), an urban farm is defined as " a large garden comprising more than one vacant lot, with no apparent internal divisions except those created by crops, suggesting unified management by a single gardener/farmer or a group" (Taylor and Lovell, 2012, p. 60). They then define a community garden as "a garden apparently divided into individual plots" (Taylor and Lovell, 2012, p.60). While their spatial analysis of sites of food production in Chicago was truly impressive, there are many examples of sites that prove exceptional or unfitting to this particular categorization.

In a recent survey documenting the varying approaches 16 cities in the United States have taken to incorporate urban agriculture into city planning and ordinance, the authors describe ways in which cities are writing legislation to make urban agriculture legitimate yet regulated (Goldstein et al., 366). These ordinances cover everything from size of gardens, compost, sales, livestock, building permits, codes and zoning. Community gardening is included as a distinct, though not exhaustive, category of the larger concept of urban agriculture.

> Most broadly, urban agriculture refers to growing and raising food crops and animals in an urban setting for the purpose of feeding local populations. Cities choose to narrow and focus this definition in various ways, often categorizing urban agriculture as one or more of the following: community gardens, commercial gardens, community-supported agriculture (Goldstein et al., 2012).

2.4 Themes in Community Garden Literature

Themes in literature can be classified into three main categories. Motivations and benefits of community gardens are similar, the main difference being whether a benefit is perceived or demonstrated. Guitart describes the difference as "a motivation is the desire

for achieving something while the benefit is actually achieving it" (Guitart, 2012, p. 367). Motivations and perceptions vary among participants within gardening projects, as seen in studies focusing on individual experiences (Glover, 2005) For example, in a 2012 study examining the role of urban agriculture in Detroit, there was a philosophical canyon present in the way residents interpreted the right to space, and role of food production in the urban "imaginary," as well as the role that urban farms can and should play in food provisioning (Colasanti, 2012). A particular heavy theme in community garden literature is on the benefits of youth gardens and school garden programs, holding the focus of over one third of articles included in a recent survey of the literature (Draper and Freedman, 2010). However, the benefits of gardens reach beyond the schoolyard, as exemplified in in this literature summary. Lastly, challenges for projects highlight the main obstacles to long-term viability.

2.4.1 Motivations

Access to fresh and safe food.　　Many articles reviewed mention food production as a primary motivation or benefit for participation (Armstrong, 2000; Carney et al., 2011; Hess & Winner, 2007, Kurtz, 2001; Pudup, 2008; Sadivar-Tanaka & Krasny). Some gardeners mention access to culturally appropriate foods specifically for Latino populations (Carney 2011; Saldivar-Tanaka & Krasny, 2004, Schmelzkopf, 1995). Fewer articles are able to demonstrate the influence of community garden participation on fruit and vegetable intake. One reviewer argued that few well-designed research studies (those incorporating control groups) utilized valid and reliable dietary assessment methods to evaluate the influence of farmers' markets and community gardens on nutrition-related outcomes have been completed (McCormack et. al, 2010). However,

there are a few studies that demonstrate a higher intake. The following articles are often cited.

Motivated by research that associates higher intakes with a reduction in chronic disease and the need for innovative ways to positively influence fruit and vegetable intake, Alaimo et al conducted a survey of residents in Flint, Michigan (Alaimo et al., 2008). Results from this quantitative intervention study showed adults with a household member who participated in a community garden consumed fruits and vegetables 1.4 times per day than those who did not participate, and they were 3.5 times more likely to consume fruits and vegetables at least 5 times daily. (Alaimo et al., 2008) A population-based study of 144 community gardeners in Philadelphia (including non-gardening controls) found that gardeners consumed significantly more fruits and vegetables and far less sweet foods and drinks than non-gardeners. (Blair et al, 1991 as cited in Hynes & Howe.)

A community-based participatory research study consisting of 42 Latino families in the agricultural heavy Columbia River Gorge of Oregon measured food security before and after participation in a community gardening program. Using questionnaires and interviews, results showed that daily vegetable intake for adults rose from 18.2 to 84.8% (Carney et al., 2011). Before the gardening season, 31.2% of families surveyed selected that they "Sometimes" and "Frequently" worried in the past month of running out of food. That percentage dropped to 3.1% after they became involved in the gardening program (Carney et al., 2011).

Jill Litt in Denver Colorado preformed the most recent study on fruit and vegetable consumption. However, Litt addressed fruit and vegetable intake from a

different approach. In her study, the research focused on social and psychological processes that affect consumption and the potential for community gardens to influence those behaviors. According to the author, the reason that community gardeners eat more fruits and vegetables is not necessarily because they simply have more, there are other cognitive processes occurring during garden participation that influence behavior such as consumption. Social processes and social structures that develop in garden participation also serve to buttress positive healthy behaviors. According to Litt et al, community gardens act as both an environmental and social intervention.

Neighborhood Beautification. Several articles mention community gardens as a mechanism to beautify their neighborhoods and their city. Beautification was mentioned both as an intended purpose and also as an added benefit (Kurtz, 2001; Ohmer et al. 2009; Schmelzkoph; 1995; Staeheli et al., 2002) in creating community pride and well being. Beautification was also discussed in terms of environmental aesthetics (Gobster, 2007) and the way in which our visceral experiences affect the psychological and social behavior of individuals and neighborhoods through the monitoring of fruit and vegetable intake (Litt et al., 2011).

Access to Open Space. In a comparison study between rural and urban community gardens in Upstate New York, urban gardeners cited the access to open space more than their rural counterparts (Armstrong, 2000). An important agenda for many support agencies in urban areas is to maintain open space. (Eizenberg, 2012; Schmelzkopf, 1995) They can also be conceptualized as "third places" outside of work and home where people can socialize, network and identify as a neighborhood. (Glover, 2004)

Cultural Expression. In a comparison between urban and rural studies, preservation of cultural heritage was cited as a main motivation for gardeners in rural settings. (Armstrong, 2000) Cultural expression was also experienced in Latino gardens (Carney et. al., 2011; Saldivar-Tanaka & Krasny, 2010; Schmelzkopf 1995). Not only was it a place for them to congregate in traditional 'casita' style gardens, but also they were able to grow culturally specific foods adding to their cultural food security.

Crime Prevention. The presence of community gardens was positively correlated with decreases in crime, trash dumping, juvenile delinquency, fires, violent deaths, and mental illness (Hurley, 2004; Patel 2003; McKay 1998 as cited in Bellows, Brown & Smit, 2003). In qualitative studies, community members perceived a positive difference in their neighborhood and felt safer after the gardens were established. (Alaimo et al, 2008; Ferris et al, 2001; Glover, 2004; Hess & Winner, 2007; Ohmer et al, 2009; Pudup, 2008)

2.4.2 Benefits

Social and Community. Neighborhood community gardens provide benefits for individuals and communities, facilitating social interactions and overall community development. (Ohmer, 2009). The social benefits that occur within the garden can be classified to include several specific processes. These include providing space for developing social connections, establishing reciprocity and mutual trust, practicing collective decision-making, setting appropriate patterns of behavior, and civic engagement. (Teig, 2012)

Research has demonstrated that community gardening, demonstrative of a collective venture with shared goals, enables members within a community to form strong social networks. (Glover, 2004; Saldivar-Tanaka, 2004; Ohmer, 2009) These

networks can foster social norms of reciprocity and trust, forms of social capital. (Fukuyama, 1995; Putnum, 2000 as cited in Glover). The term social capital, developed in part by Putnam, describes a network of voluntary associations of citizens who are bound together by a common interest. (Glover, 2004). Through participation, members earn 'credits' that can later be used. To understand the experiences of community gardeners and their interpretations of the social process that took place in their community garden, Glover (2004) collected personal narratives of participants in neighborhood revitalization effort and a community garden within that same area. Results demonstrated that the community gardening project increased levels of social capital among participants. Glover states, "networking fostered by the garden projects was a resource upon which neighbors drew when facing other issues." (Glover, p. 151) For example, one study on food security in rural environments found that higher rates of social capital contribute to higher rates of food security (Whitley, 2013) in the form of food sharing within social circles.

Community gardens were also shown to have instigated an increase in civic engagement, meaning that the garden facilitated the ability or desire to organize for political ends and created the sense of collective efficacy (Armstrong, 2000). In 33% of the gardens studied, coordinators mentioned other community improvements initiated through the garden, such as further beautification and crime-reduction efforts. Coordinators also cited a rise in the level of political awareness around issues that affected their neighborhood. This organizational capacity grew out of improved social networks and cohesion, along with a sense of pride and ownership, generated through the garden. (Armstrong, 2000) This process of increased organizational potential was four

14

times greater than in lower income neighborhoods prior to garden development (Glover, 2004).

Health. Articles cited the health motivations of community gardening participation as physical (exercise and walking), mental (therapeutic, social) and diet related (fruit and vegetable intake). Holistically, gardens serve as a catalyst for other values such as health. When participants learn to care for the environment, they extend that care to their health. (Hale et. al, 2001)

Economic Development. Saving food dollars is one benefit of participation. Studies show that for every $1 invested in a community garden plot yields $6 worth of vegetables. (Bellows, Brown & Smit, 2004) A 1996 study claims that 1,900 gardens in community lots on 30 acres in Newark produced approximately $915,000 worth of food in one year and almost $4 million in 5 years. (Patel, 1996 as cited in Bellows, Brown, & Smit, 2004) Economic development was also found to be the focus of some gardens through the creation of applicable job skills, or by participants selling what they grew, referred to as market gardening (Baker, 2004).

The value of community gardens can also be found as a mechanism that supports rising property values of land within 1,000 feet of community gardens. However, this effect has been a contentious motivation for these projects (Glover, 2004). One study conducted in New York City found that the value of property rose as much as 9.4% in lower-income areas and increased over time. One study estimated the tax revenue generated from garden proximity to be half a million dollars in a twenty year period (Voicu and Been, 2008).

2.4.3 Challenges

Gardens as "Contested Space." The latest ACGA survey states that one of the main

reasons to garden instability is due to the loss of land to public and private ownership

(Lawson and Duke 2012). For many gardens an ongoing challenge revolves around

highly politicized issues of land use and rights to space within the city. (Staeheli et. al.,

2002) Gardens are recognized for their merits and benefits, but not necessarily

legitimized as permanent structures. The perception that gardens are an interim use of

land presents the most commonly cited challenge. (Guitart et al., 2012)

> On one hand, gardens receive praise as illustrations of local
> action to serve environmental, social, and personal needs. On the
> other hand, support is based on the assumption that gardens are
> temporary opportunities and rarely included in long-range
> planning considerations (Lawson, 2004).

One particular location that several studies examined was the land rights conflict in New

York City during the Giuliani administration (Eizenberg, 2012; Lawson, 2004;

Schmelzkopf 1995; Staeheli et. al., 2003). Many of the gardens were created during New

York's fiscal crisis of the 1970's, when derelict and abandoned properties were taken

over by the city and then temporarily leased to gardeners (Schmelzkopf, 1995). As the

economy stabilized and investors were again interested in development, gardens became

contested spaces. Gardeners from different sites, who under other circumstances would

not interact, as well as people outside the gardening community, mobilized and created

non-for-profit organizations and land trusts to address the issues in a more

institutionalized manner (Schmelzkopf, 1995).

> At issue are important questions about who has the right of access to space and
> nature and what price society is willing to pay to maintain the spaces. However,
> the benefits are difficult to quantify, and until persuasive arguments are made of

the right to open space and nature, these spaces will continue to be treated as expendable (Schmelzkopf, p.380)

The outcome of this highly visible debate over land rights resulted in the purchase of properties being bought by land trusts. However, this changing of leadership brought a new set of challenges surrounding the extent to which the gardeners and communities retained control and how that affected community empowerment (Staeheli et al., 2002: Eizenberg, 2012).

Inclusion/Exclusion. The degree to which community gardens are truly public was a theme developed throughout the literature. "Because of the fences, locks, poster hours, and list of rules and regulations, as well as the often close-knit interaction among some gardeners, confusion can arise in the neighborhood as to whether the gardens are in fact private" (Schmelzkopf, p. 376). In another study focusing on social capital, neighborhood residents felt excluded from participation and decision-making through rules set out by the core organizers. (Glover, 2004) Some articles specifically mentioned racial tensions as a source for feelings of exclusion. (Colasanti, 2012; Glover, 2004; Schmelzkopf, 1995)

2.5 Research Methods in Community Garden Literature

Community garden literature is comprised of three main types: case study, intervention, and review. (Draper and Freedman, 2010). Case studies consist of methods including interviews and firsthand accounts. (Armstrong, 2000; Colasanti, Hamm & Litjens; Eizenberg, 2012; Glover, 2010; Schmelzkopf; 1995; Staeheli, Mitchell and Gibson, 2002; Saldivar-Tanaka & Krasny, 2004; Teig et al., 2009). A literature review conducted in 2010 found that 40% of articles use case study methodology providing an

in-depth analysis of one community garden as a whole or components of a small number of gardens (Draper, 2010). These studies revolve around perceptions and experiences of both gardeners and managers. Studies often documented the characteristics of the gardens, socio-economic make-up of the neighborhood, demographics of those involved, program purpose or agenda, organizational structure, motivations, benefits, and challenges. (Armstrong 2000; Kurtz, 2001) Intervention studies provided the backbone of quantitative data available on community gardens, in which they most commonly measured the effect of garden participation on the fruit and vegetable intake (Alaimo, 2008; Carney, 2011; Litt et. al) and other health statistics. The effect of participation in garden projects on community involvement, social capital and political engagement were also measured in intervention studies as collected through both participant surveys and interviews.

Several articles provided a review on current literature themes and patterns (Draper and Freedman, 2013; Guitart 2012; Hynes & Howe, 2004, McCormack, 2010). Other articles described the relationship of planning and policies and community gardens (Hess & Winner, 2007; Lawson, 2005). Other articles theorize the place and role of community gardens (Walter, 2012).

CHAPTER 3

RESEARCH METHODS

3.1 Introduction and Research Aims

The methods of this study, developed in congruency with the aim of this research, as an "intentional understanding of experience" (Von Wright, 1971). Drawing from both a participatory and constructionist epistemology, the mode of inquiry relied heavily on interviews with garden leaders to best understand their experiences with community garden projects in Carbondale, IL. Pragmatism also informed and shaped the design of this research study, claiming that the resulting knowledge serves as a practical use for both stakeholders and policy guidance. More specifically, Environmental Pragmatism strives for "the articulation of practical strategies for bridging gaps between environmental theorists, policy analysts, activists, and the public" (Light and Katz, 1996, p.5). Through an understanding revealed through the intentions and motivations of the garden leaders, a more clear understanding was possible as to what these projects aimed to accomplish.

When designing a research study, it is important to consider the decisions and assumptions that inform and shape the research process (Creswell, 2003). This study is informed in part by three knowledge claims: Constructivism, Advocacy/participatory, and Pragmatism (Creswell, 2003).

> Constructivism: Recognizes the complexities, multiple meanings, and views that come of individuals developing meaning in their own lives. Seeks to understand the perspective of participant views. Questions remain broad and general so that the participant may construct their own meaning (Creswell, 2003). Constructivism recognizes the role of the researcher and their influence.

Advocacy/participatory: Based on an agenda that advocates for "action." Inquiry needs to be connected to an agenda that could result in a change in the participants or a change for the organization (Creswell, 2003).

Pragmatism: Concerned with the application and solution to problems. Also, research exists in a social, historical, and political context (Creswell, 2003).

3.2 A Case Study Approach

The 'place-based,' site-specific nature of community garden research lends itself to the case study method as a viable and fitting method for in-depth inquiry (Guitart, 2012; Draper and Freedman, 2010). By focusing on one very tightly delineated geographic region, the case study method was useful as a way to depict the way in which many projects may exist in one small city and how these projects compare to each other and also to projects found in the literature.

Using the city of Carbondale, Illinois as a case study site, this research sought to first establish what community-led urban food gardening projects currently exist within the site parameters. The parameters set were simply the city limits of Carbondale, IL. Exploratory in nature, this study adds qualitative detail to existing knowledge (Cox, 2008). In this case, existing knowledge was primitive at best. In 2008, a Community Food Assessment was compiled focusing on the potential of expansion in local food systems through a better understanding of community interests. Community gardens scored strongly on consumer interest of food-related projects along with Farm-to-Chef and Farm-to-School Initiatives (Community Food Assessment for Jackson and Union Counties in Illinois, 2008). Interest potentially exists, but how has it manifested? It is no surprise that research on community gardens in Carbondale has not yet been undertaken, but the real resonance of this research comes in the transferability of what the findings

say about community gardens in similar geographic contexts and how these findings compare to what is known about community gardens in dissimilar situations.

Before being able to make any generalizing or comparative statements, the characteristics and attributes were compiled into easily assessable charts. Projects were categorized using pre-established categories developed by scholars and by the researchers of the American Community Gardening Association (ACGA). Through the examination of particular characteristics of community gardens in Carbondale, one was able to recognize similarities and variations that are dependent on the context of the site and situation. Creating categories also expanded the "range of interpretations" of community gardens. For example, The ACGA has noted that up until a few ago, there were far fewer categories of community gardens. As recent as 2012, the survey was amended to include new types or interpretations of what a community garden is and could be.

The aims of the case study method strive for "a full understanding of the particular, and the ability to recognize the particular in new and foreign contexts" (Gomm, Hammersley, and Foster, p.7). While the degree to which site-specific, place-based studies have the ability to generate generalizations is of debate (Guba and Lincoln, 1982), these methods adhered to the importance of comparability and translatability (Goetz and le Compte, 1984). Of particular interest was the degree of similarity found in the motivations, benefits, and challenges of community garden leaders as compared to elements in pre-existing literature focusing on much more urban areas. The ACGA recognizes the geographic diversity of locations and they also admit to "implications for garden coordination and management [that] have yet to be teased out" (Lawson and Drake, 2012). The ACGA calls for "a more in depth understanding of organizations

21

involved in community gardens and how they engage communities in their efforts"
(Lawson and Drake, 2012). In making comparisons, units of analysis, concepts generated,
population characteristics and settings (Goetz and le Compte, 1984) were used as a basis
for this comparison taken from both literature and the most recent survey conducted by
the American Community Garden Association. Upon elucidation of notable features and
characteristics, the next step was to relate concepts generated to the larger population of
community gardens as taken from both literature and the ACGA.

The research methods employed in this study were consistent with accepted
methods used in past research. Communicating the experience of the participants is often
the main subject of community garden studies. Many disciplines have chosen community
gardens as places of research including geography, planning and policy, health sciences,
environmental education, sociology, and landscape architecture. For example, the field of
dietetics and nutrition study the influence that active participation in community gardens
has on fruit and vegetable intake dictating a certain type of data collection. Sociologists
choose to focus on issues of social capital and political efficacy.

3.3 Study Site

This case study was defined by distinct boundaries delineated by time, space and
components (Merriem, 2003). However, in accounting for both spatial boundaries and a
'sense of place', there are many ways to technically classify a region. One can describe
the spatial make-up of the built environment and the structures. The cultural make-up of
an area is perhaps less difficult to classify into neat categories. Using Carbondale as a
case study, we can see that the city does not neatly fit into either urban or rural
classifications. Better, it describes both a site and situation somewhere along an urban-

rural continuum, or better yet, it is both urban and rural.   It is important to remember that Carbondale is not unlike other small cities and many of its characteristics and challenges are ubiquitous to similar sites. However, articulating these characteristics may lead to valuable correlations of geography, context, and the ways in which community garden projects operate and function.

3.3.1 Socio-Economic Demographics of Carbondale, IL

The most recent 2013 census clocks the population of Carbondale, IL at 26,363 (www.census.gov). However, for the majority of the year this number is coupled by a 2014 university enrollment of 17, 989 of which 13,461 were undergraduate students at Southern Illinois University (www.siu.edu). Although housed in a region historically dependent on an agricultural and mining economy, these jobs now only number in the hundreds. The main conduits for employment are educational, healthcare, and social services compositely providing over 5,000 jobs in the city. The median household income in 2013 was $17,657 with a higher mean income of $37,154. Family incomes were higher with a median of $41,577 and mean of $63,024 (www.census.gov). The difference most likely reflects the skewing of data based on the inclusion of non-family households often comprised of student populations.

An estimated 30% of families in Carbondale, IL and have had incomes that qualified them as below the poverty within the past twelve months. This is far above the state average, as are the following statistics as well. Of those residents with children under 18, 44.8% have fallen below the poverty level. Married couples with children are half as likely to have fallen below poverty levels with 25.9%. However, 55.8% of families with a female household provider, no husband present, and children under the

23

age of 18 are in this economic situation (www.census.gov). Over 25% of the city

population receives SNAP benefits, suggesting a real need to maintain ongoing analysis

of issues relating to food insecurity and access.

Housing is a pertinent characteristic associated with the community garden

history. (Eizenberg, 2012) Currently, there are over 12,000 housing units, yet almost

3,000 are unoccupied or vacant. The city has a total of 6,417 of houses classified as

owner occupied and over 14,000 rentals. Approximately one third are classified as single

units and approximately half of housing stock is comprised of four or less units. The rest

of the housing is comprised of denser, larger complexes (www.census.gov).

The demographic makeup of Carbondale is comprised of 62.4%White/Caucasian,

25.6% African American, 5.7% Asian, and 3.3% of two or more races

(www.census.gov). The University has a 30% Ethnic Minority Enrollment

(www.siu.edu).

3.3.2 Historical Context of Agriculture in Southern Illinois

Commodity crops rule Illinois agriculture, where over 13 million acres are used

to grow corn each year, the second highest state in the country (USDA, 2012). Situated at

the Southern end of the state lies a rural region rich in agricultural history, one in which

alternative food projects are seeking to put the 'food' back in agriculture. There are two

active farmer's markets in a city under 50,000 and an organization that focuses on small

farmer training called Foodworks. Gardening projects were also evident. This study

sought to unwind the thick twine of identity in which these projects are wrapped.

According to a study solicited by Foodworks on the region's local farm and food

economy, Southern Illinois comprises 17% of the state's farms with 13,335 farms in total.

(USDA, 2007). The most commonly occurring size of Jackson County farms is between 50 and 179 acres. The mean farm size is 299 acres. However, soybeans, corn, and wheat still account for the top crop items on a per acre basis (USDA, 2012). Data pertaining to countywide sales of vegetables and other food crops are unavailable to avoid disclosing data on individual operations (USDA, 2012).

The amount of farmland devoted to selling vegetables and other food crops is difficult to find. The Agriculture Census does state a rise in direct sales of food crops either through Farmer's Markets or Community Supported Agriculture ventures, telling of the demand for locally produced food. Direct sales to consumers are rising in Jackson County in which Carbondale resides. Of their 810 farms, there was a 63% increase in the number of farms participating in direct sales between the USDA Agriculture Census of 2002 and 2007. However, direct sales still account for only 1.2% of total farm product sales in Jackson County.

3.3.3 Local Health and Community Gardens as Intervention

Both the state of Illinois and the Southern Illinois region display avoidable health risks. According to the Center for Disease Control, only 22% of Illinois residents reported in 2009 that they eat five or more servings of fruits and vegetables each day and 78% do not. According to The American Diabetes Association, $426 million is spent on treating the disease in the Southern Illinois region every year. Questions arise as to whether this is a systemic issue or an issue of access. Literature has revealed that garden participants have a higher rate of fruit and vegetable intake (Alaimo, 2008; Blair, 2012; Bellows et al., 2003; Carney, 2011; Litt et al., 2011, McCormack, 2010). Therefore,

examination of these organizations and information that furthers their long-term success is worthwhile.

Coupled with health behavior are socio-economic factors as well. Low-income residents in Southern Illinois spend $380 million each year on food, which includes $122 of SNAP benefits. Knowing that gardens can save families food dollars, they are projects of interest to an area where food security is an issue.

3.4 Sample: Defining Community Gardens

Although organized gardening projects have been a recurrent strategy through the past century, the term community gardening is relatively new (Lawson, 2005). Now the accepted phrase throughout academic and non-academic literature, community gardens refer to a wide variety of projects from vacant lot cultivation to collective gardening in a variety of locations including hospitals and schools (Pudup, 2008).

The term community garden is open and inclusive. Because participants garden with different purposes in mind and approach the practice with a wide variety of perspectives, "it is not very useful to offer a precise definition of community gardens as this would impose arbitrary limits on creative communal responses to local need" (Ferris, Norman, & Sempik, p.560). Those who attempt to define the term refer to both the site and action. For example, a geographical study by Kurtz defines them as "tangible arenas in which urban residents can establish and sustain relationships with one another, with elements of nature, and with their neighborhood"(Kurtz, 2001). Publications and handbooks provide more concrete definitions including "a neighborhood-based development with the primary purpose of providing space for members of the community to grow plants for the beautification, education, recreation, community distribution or

personal use" (Jackson and Rehm, 2013). Ferris, Norman, and Sempik (2001) offer an

operational definition, stating, "what distinguishes a community garden from a private

garden is the fact that it is in some sense a public garden in terms of ownership, access,

and degree of democratic control" (p.560). Other organizations have preferred more

precision of meaning, definition and purpose. Most definitions point to aspects or

characteristics of community gardens, but don't necessarily lay out precise requirements.

They say what a community garden *can* or *may* be. However, Pudup breaks the definition

of community garden down, problematizing the way in which *community* can be

constructed and experienced differently depending on one's social position (Glover,

2005). Who actually benefits from the community garden is a valuable question in

Pudup's mind. Also, he argues, the term does not state the parameters or the way in

which community is formed. Community may be composed of people living in

proximity, neighborhood, or people of like interest. Eventually, he rejects the definition

of community garden altogether in favor of the term *organized gardening projects*.

Although much of the literature still uses the term community garden, this research will

rely on Pudup's *organized gardening projects* as a more accurate description.

Many aspects of community gardens may vary including location, what is grown,

methods used, and who consumes the products. However, a common trait within all

literature is the emphasis on the democratic control in terms of ownership, access, and

management (Eizenberg, 2012; Ferris, Norman & Sempik, 2001; Saldivar-Tanaka, 2004).

Community gardening occurs in a wide variety of settings as well. They are used by

individuals of any age, race, ethnicity and socio-economic status (Ferris, Norman, &

Sempik, 2004). The ACGA simply defines them as "any piece of land gardened by a

group of people." Gardens may encapsulate many identities and meanings (Kurtz, 2011) and even question the idea of 'community' itself (Pudup, 2008). Researchers choose to keep the definition open and broad. However, this study seeks a deeper understanding of specific projects in terms of their variability in geography and representative of garden-oriented community action in small cities in rural settings.

3.5 Participant Selection and Requirements

Prior to participant selection and recruitment, the SIUC IRB and Human Subjects Review Board approved this research in March of 2014. All garden projects that met the qualifications of a community garden within the city limits of Carbondale were selected as possible sites for research. Although many studies simply use the definition provided by ACGA, this study qualifies that the gardens must specifically be focused on food gardens or gardens that grow edible produce. This excluded native, ornamental and pollinator gardens from the research. Organized Garden projects within the city limits of Carbondale, Illinois were considered as possible sites in which to draw leaders to serve as interview participants. In order to create comparable data sets, the main leader was delineated from others, if they existed, and selected as possible participants.

For projects to qualify for this study they needed to meet the following requirements:

1. Food production was the primary use of the immediate site, although other activities or open spaces may be present.
2. The projects were within the city limits of Carbondale, IL.
3. Projects were in some sense public, although there could be stipulations such as membership for participation
4. There was either a group of people working or community organizing the site, or a group of people or community actively benefits from the site.

3.6 Following IRB Procedures and Recruitment of Garden Leaders

The Southern Illinois University Human Subjects Board approved all materials for this study prior to the contact of participants, including interview guidelines and surveys. Garden leaders as possible participants were contacted via email or telephone. All subjects were informed of their rights as participants and signed consent forms allowing the interviews to be recorded, quoted, and their names used in publication.

3.7 Data Collection

3.7.1 Time Period of Data Collection

This study provided a case study of the involvement in community gardens in Carbondale IL at a specific point in time. Former projects were identified but because of inactivity, they were not included. This study does not seek a historical account or a projection of future possibilities. Data was collected between April of 2014 until April of 2015. This accounted for one full growing season or one full cycle.

3.7.2 Interviews

This study may be described as a basic interpretative qualitative study (Merriam, 2002). This study sought to understand and the perspectives of community garden leaders. Guided by the themes of past research, this study focused on the motivations, benefits and challenges of garden leaders. The primary means of data collection were through semi-structured interviews consisting of open-ended questions (Rubin and Rubin, 2012) with garden leaders of organized garden projects geographically situated within the city limits of Carbondale, IL. Interviews were recorded and transcribed for accuracy. The data was then inductively analyzed for repeating themes or patterns that occur throughout the interviews.

3.7.3 Interview Questions

Face-to-face interviews took place between April 2014 and April 2015. Interview times and locations were chosen by participants in order to maintain comfort and accessibility. All participants were informed of their rights, including the ability to withdraw from the study at any time. Interviews lasted from twenty minutes to one hour. The questions asked during the interviews were purposefully crafted to remain open for interpretation of the participant. The central purpose of the interviews was to elicit their descriptions and perceptions of their projects in their own words. While semi-structured interviewing asks a series of pre-established questions, this less stringent version of structured interviewing allowed for improvisation during the interview process (Denzin and Lincoln, 2003; Rubin and Rubin, 2012). The interview guideline provided a structure in which specific topics and subjects were explored while also allowing for flexibility. The interviewer asked follow-up questions for further understanding or elucidation on a subject (Rubin and Rubin, 2012). The interviewer also interjected in order to pursue clarification, thus creating a conversational style to the interview. In this way, the interviewer was able to further probe for a better understanding and clear communication and rich data. However, the main focus was predetermined and all efforts were made to focus dialogue within the parameters of these topics. The interview guideline comprised of the following questions:

The interview guide was comprised of the following questions:

1.) Please tell me about your project, including how it started and where you are today.

2.) What are your main motivations for this project?

3.) What are the main benefits that you have experienced?

4.) What are the most significant challenges that you have encountered during this project?

3.7.4 Self-Produced Materials as Data Source

The Chicago School of thought emphasized using creative methods that attempted to understand the lived lives of ordinary people (Jacobson, Drake, and Petersen, 2014). Keeping in line with the Chicago School sociological methodology supplementary materials were included to provide further insight into the organizations behind the community garden projects. Materials, including informational brochures, flyers, orientation documents and garden regulations provided meaning as well as insight into they way organizations perceive themselves and the ways in which they communicate with the public at large. Coding and analysis of these documents helped to gain an understanding into the style of leadership and purpose of each project.

3.7.5 Online Materials as Data Source

Despite the amount of time that many spend online each day, sociological field research has been slow to include digital ethnography as a valid form of inquiry into social lives and social spaces. Online data can reveal epistemological importance in understanding physical space and human interactions (Hallet and Barber, 2013). As everyday social interactions and communication increasingly move online, it is imperative that researchers investigate online space as legitimate human interaction. The contents of official websites were coded and themed in the same manner as the interview transcripts. Facebook pages that contained posts during the study period were also collected and coded for themes. Moving online to study community gardens provided

easily accessible data that clarified mission statements, garden activities, and general organizational structure. Each organization's online presence also assisted in determining the general quantity of activity and structural complexity.

3.7.6 Face Sheets and Observation

Interview participants were asked to fill out a short demographic profile called a 'face sheet' to collect demographic characteristic of leaders. Also, participants were asked to complete a site questionnaire comprised of physical characteristics, referred to as a 'soil sheet.' In addition, all garden sites were visited one time by the researcher in order to fill in missing information on site characteristics and also to verify activity.

3.8 Data Analysis: Transcription and Coding

All data generated for this research was collected and extracted from interviews, materials, and observations. The data analysis consisted of coding the transcribed interviews for themes and patterns. With a grounded theory in mind, the aim of analysis was discovery through categorization, creating typologies and understanding relationships among different garden projects (Merriam, 2002). Through the process of coding, concepts and categories emerged from the collected data (Glaser, 1992). Collected materials were also analyzed in order to establish the philosophies, missions, and goals and to establish which typology each project *fits* into. This *fittingness* seeks to analyze the degree to which the situation studied matches other situations and provides for the ability to generalize and compare garden projects (Guba and Lincoln, 1982). Individual ideas, thoughts, or sentences were separated from the larger body and grouped with other conceptually similar ideas from interview participants. The main objective of

grouping ideas from different participants was to establish connections between similar or dissimilar experiences.

Literature has also sought to create distinct typologies that rely on the setting and focus of garden projects. These typologies were used as a basis of comparison. Characteristics were compiled in table format to formulate units of analysis for comparison. These characteristics described and defined the projects so that they form a basis for comparison (Goetz and le Compte, 1984).

Coding was performed enabling categories and concepts to emerge while comparing these concepts with data collected from other interviews and source material. Developed by Glaser and Strauss in the 1960's, grounded theory sought to develop concepts and models rooted in the data and language found in the interview texts. (Denzin and Lincoln, 2003). Similarities were examined systematically through a process known as analytical induction (Glacer, 1992) where all cases were considered as to their fit of each phenomenon's definition until a universal explanation accounted for each case. (Denzin and Lincoln, 2003). The goal here was to "find the minimal set of logical relationships among the concepts that accounts for a single dependent variable" (Denzin and Lincoln, 2003).

The coding process began with a stage known as open coding, in which initial categories were first created with no preconceived codes. (Glacer, 1992). Out of these initial categories, core categories and subcategories were created in a process known as axial coding (Glacer, 1992). During this phase, relationships and connections were established between categories (Denzin and Lincoln, 2003) through a comparison and contrast. Pulling this information and conceptually organizing findings, patterns and

exceptions enabled the "generat[ion] of complex, theoretically rich understandings of social life" (Glacer, 1992).

CHAPTER FOUR

RESULTS

4.1. Introduction to Results

The type of data generated in this research referred both to the physical space of the garden sites and to the organizational ideas and structures of the people behind the projects. The first part of this results section addresses the question of categorizing projects. Garden focus and activities also show how these sites have multiple aims. Leadership has been described as one of the key features of long-term successful gardening projects (Feenstra, 1997). The style of leadership and the way in which people organize participants was categorized in an effort to highlight the different characterization of projects. Not only were relationships within the garden explored, but collaboration among leaders across groups. The final sections focus on the primary motivations, benefits, and challenges as coded through leader interviews.

4.2 Community Garden Types

Eleven garden projects were identified through word of mouth and leaders were contacted mostly through email. An exhaustive sampling approach sought to interview all community garden project leaders within the official city boundaries. Parameters and selection criteria provided a "purposeful sampling' approach (Patton, 1990 taken from Merriam, 2002) defining what projects could be considered for this study. Upon meeting selection criteria, one leader was interviewed from each garden project. All projects had a clearly defined leader in which to interview except the Carbondale Community Park District. Garden characteristics for the Carbondale Park District were collected from

published materials and observation, but this project proved to be an exception with no job or position associated with the project itself.

Gardens identified in Carbondale, IL did not easily fit into pre-established categories. One issue that proved problematic with types found in the literature was the fact that some are based on location while others are based on purpose. New types were created and used in conjunction with pre-established types. Also, the way in which space was organized and work conducted was a factor of consideration. The "Work" column explores an aspect of the way garden participants relate to the space and possibly interact with each other.

Table 4.2: Gardens and Types in Carbondale, IL

Name of Garden	Organization	Contact	Garden type	Work
Carbondale Park District Garden	Carbondale Park District	None	Allotment	Allotment
Flyover Community Garden	Flyover Infoshop	Sarah Baumgarten	Donation/ Demonstration	Collective
Gaia House Demonstration Gardens	Gaia House	Ross Bauer	Demonstration	Collective
Grace Community Garden	Grace Presbyterian Church	Curran Bishop	Church/Neighborhood	Allotment
Evergreen Terrace Garden	Evergreen Terrace Housing, SIUC	Sylvia Grey	Public Housing	Allotment
Kids Korner After-School Program Garden	Carbondale Park District	Katie Burns	School	Collective
Lewis School Garden	Academically Talented Program (AT)	Betsy Brown	School	Collective
LOGIC	SIUC Student Garden	Sydney Klein	University	Collective
Marion Street Garden	Common Green	Sorrel Kunath	Neighborhood	Allotment
Mustard Seed Sowers Farm	Gift of Love Charity	Orlan Mays	Donation/ Entrepreneurial	Singular
Sufi Community Garden	Deyempur Sufi Community	Frances Ganzekaufer	Neighborhood	Allotment

4.3 Garden Focus

The main focus of each garden was very similar. The primary intention of five projects was to provide space for people to grow their own food. These five projects were

36

also the five gardens separated into allotment style gardening. Four projects focused on education through lessons or through demonstration. The remaining two projects focused on sharing and donation of produce to other members of the Carbondale community.

Table 4.3: Garden Focus

Garden	Focus
Carbondale Park District	Provide space/plots for rent to residents of Carbondale
Flyover Community Garden	Donation of food to low income residents
Gaia House Demonstration Gardens	Demonstration of various garden methods including hugelkulture and bee keeping
Grace Community Garden	Provide space/plots for rent to members of Church and residents of Carbondale
Evergreen Terrace Garden	Provide space/plots for rent to residents of University Family/International Housing
Kids Korner After-School Garden	Introduce kids in the After-School program to food and gardening
Lewis School Garden	Garden as a teaching tool in History and Science lessons
LOGIC	Educational environment for learning Organic Methods, Selling produce at Campus Market
Marion Street Garden	Provide space/plots and education with priority to residents of Northeast Neighborhood in Carbondale
Mustard Seed Sowers Farm	Sharing food and selling food at Local Foods Store and Community Farmer's Market to finance educational non-profit
Sufi Community Garden	Provide space/plots and education to teach Organic and Permaculture methods

4.4 Garden Location

Two of the projects (Marion Street and Mustard Seed Sowers Farm) were located on the Northeast neighborhood in Carbondale. Four projects (Carbondale Park District, Grace, Sufi, Flyover, and Kids Korner) were located on the Northwest section of the city. As discussed later, the Flyover Community Garden actually used vacant garden space at the park district site. Both LOGIC and Evergreen Terrace resided on Southern Illinois

University property and were close in proximity. The Gaia House also was very close to the university campus.

Map of Organized Garden projects in Carbondale, IL
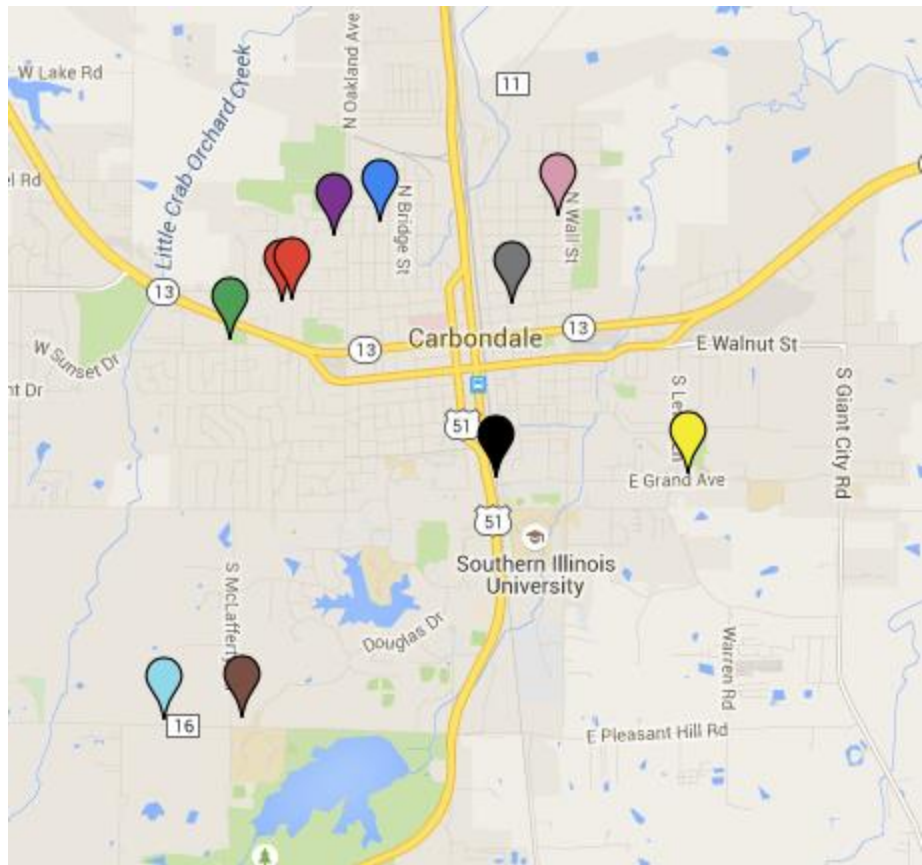
🔴 Carbondale Park District
🟣 Grace Community Garden
🟤 Evergreen Terrace Garden
🔴 Flyover Community Garden
⚫ Gaia House Garden
🟢 Kids Korner Garden
🟡 Lewis School Garden
🔵 LOGIC
⚫ Marion Street Garden
🌸 Mustard Seed Sowers Farm
🔵 Sufi Community Garden

Figure 4.2 Map of Garden Locations

4.5 Gardens as Multifunctional Sites

As sited by other authors, many of these projects aim to their focus on other activities in addition to a focus on production. This strong multi-functionality defines the alternativeness and the potential for garden projects bound within the realm of community gardens and urban agriculture (Lovell, 2010). Projects are described as multi functional in that their aims and benefits are interconnected and interdependent. The multiple aims can be seen in the various activities that these projects organized throughout the time period of the study.

Table 4.5: Activities Sponsored by Gardens and Organizations

Garden	Affiliated Garden Activities
Carbondale Park District	None
Flyover Community Garden	Community Soil Bank and Compost project, "Moonscaping": A backyard garden/ entrepreneurial Project
Gaia House Demonstration Gardens	Meetings, socials, and eco-spiritual gatherings, beekeeping
Grace Community Garden	Group workdays at the garden
Evergreen Terrace Garden	Camp Nutri-green: A youth nutrition camp with garden component
Kids Korner After-School Garden	Informal education with garden themes
Lewis School Garden	Formal History and Science lessons using garden as learning Tool
LOGIC	Group workdays, workshops (vermicomposting), host educational tours, visit other farms, campus markets
Marion Street Garden	Common Greens Meetings (Open to Public), Educational Workshops (mushroom growing), scholarship for 'added-value' product permit
Mustard Seed Sowers Farm	Youth education and donation projects via Gift of Love, "Locally Important" Food Store
Sufi Community Garden	Educational workshops (organic soil fertility), community and Inter-faith gatherings,

The multiplicity is also found in the aims and purposes of Garden projects. The leaders are self-aware that these projects may foster a number of benefits and they aim to promote all of these goals. The following is a statement given by Common Greens after winning the Carbondale Bright Spot for Neighborhood Beautification:

> Common Greens was formed to create and maintain public green spaces such as community gardens and food forests and to provide residents the opportunity to experience nature's benefits such as spiritual healing, neighborhood beautification, economic opportunities, and personal health in their own neighborhoods (www.explorecarbondale.com, 2014).

4.6 Age of Garden Projects

Table 4.6: Age of Garden Project as of April, 2015.

Length of Activity	Garden
Less than one year	Flyover Community Garden, Gaia House Garden, Grace Community Garden
1-4.9 years	Kids Korner Garden, Marion Street Garden
5-10 years	LOGIC Student Garden, Lewis School Garden, Mustard Seed Sower's Farm
Over 10 years	Carbondale Park District Garden, Evergreen Terrace Garden, Sufi Garden

4.7 Leader Demographics

Of the ten leaders interviewed, six were female and four were male. Two leaders were African American, while the other eight leaders identified as White/Caucasian. Four leaders have lived in Carbondale for over ten years, while six have lived in the area for ten or less years.

4.8 Leadership Style

All of these projects had specific and distinct leadership. However, the type of leadership and the amount of organizational infrastructure varied. This study identified five types of leadership styles among community garden projects: Teacher/Student Relationship, Leader/Manager/Allotment, Leader/Manager/Collective, Rules and Regulations/Allotment, and Leader as Sole Participant. These leadership styles best describe the delegation of space, the structure of the site, and the way in which behavior and interaction is supported through leadership.

4.8.1 Teacher/Student Relationship: Lewis School and Kids Korner After-School Program

Because of the adult/child dynamic, both of the youth-oriented gardens had a defined leadership and authority structure. However, the two projects differed in their educational practice.

Instruction and Curriculum: The Lewis School gardens are a teacher-initiated curriculum tool for the 'Academically Talented' accelerated learning program. Recommended students can test in to the program and participate in specialized instruction. The garden was specifically used to supplement history lessons, and to give students a deeper, experience-based understanding of what life was like during the Civil War Era. Brown (Lewis School) organized an overnight camping and cooking excursion where students cooked and ate turnips directly from the garden. The garden was also used in other educational activities, including an introduction to field notes and scientific comparisons. Students recorded weights and harvests of vegetables. They also recorded comparison of growth between modern conventional fertilizers and non-use of fertilizers.

During instruction, the teacher/leader was very specific about how the kids participated. She stated that the students needed to be given instruction, especially in a group setting. They were given very detailed instructions on how to plant. They were also given a lot of responsibility. They planted, weeded, and watered the garden and were very much responsible for daily maintenance.

Fun and free play: In contrast to the Academically Talented Curriculum, the After-school program was more about providing kids the opportunity to freely play and interact with the plants in the garden. Although there were themes and informal lessons, the educational foundations were based on uninhibited, self-guided interaction. Katie Burns (Kids Korner) says, "we did discuss parts of the flowers and types of flowers, but what they mostly get is hands-on experience…. Just going out there and digging…. That kind of stuff is really powerful." In this way, the children were allowed to form their own relationships to the natural world and use their creativity. As far as leading the kids, Katie Burns says that she seeks input as to what they would like to grow each year.

4.8.2 Leader/Manager/Allotment: Sufi Garden, Grace Community Garden, and Marion Street Garden

These gardens all had distinct leadership, yet the garden plots were assigned to individuals or households. Managers organized events, recruited participants, advertised, encouraged gardeners to maintain their plots, and were also responsible for general site maintenance. Events were designed to facilitate gardener interaction and relationships. Workshops revolved around educational information in the creation of soil fertility and growing methods. Garden leaders were also responsible for communicating to their partner projects, as we will further discuss in the section on organizational structure.

In addition to the allotment area of the garden, both Marion Street and Sufi Garden leaders developed communal areas for both ecological and social purposes. These included areas set aside for permaculture, composting, recreation, leisure, and a meditation area in the Sufi Garden. Common Greens developed compost and seating area.

4.8.3 Leader/Manager/Collective: LOGIC, Gaia House Garden

The LOGIC student garden was the only garden where the participants gardened collectively on a specific schedule with the supervision and management of one or two distinct leaders. The participants met for 'Fun in the Field' Fridays or Volunteer Workdays and gardened and maintained the plots as a group, mostly following the manager's direction yet allowing for some input. However, the leader of LOGIC also noted that they made most of the decisions, and the leadership was difficult to cultivate in other participants. The Gaia House attempted to organize collective workdays with a varying degree of success, according to the leader. Most of the work fell on the leader.

4.8.4 Allotment with Rules/Regulations: Carbondale Park District and Evergreen

The Carbondale Park District runs children's and adult recreational activities, but more active sports seem to be the focus of their programs. The location of the garden itself is behind a historic building housing The Carbondale Community Arts and Keep Carbondale Beautiful offices. However, there is no one specifically associated with the community gardens on duty in the office. If you want to sign up for a plot, you do so at a different building across town. There was little information to be gained in terms of leadership at the place one signs up. You are assigned your plot, or choose your old site, and are given a list of rules and regulations.

The Evergreen Terrace Housing Garden is set up similarly. Oversight and sign-up for the garden is a duty that the Manager of Graduate and Family Services Housing complex is responsible for. Sylvia Grey, the current SIU housing manager, was much more accessible than the Park District in terms of gaining information and making gardeners feel welcome and comfortable. She offered a tour, discussed what she knew and also planted some things at the garden herself. However, the organizational structure was still based around guidelines in which to follow. There was a Garden Orientation meeting, which was slightly more inclusive and supportive to gardeners. An orientation packet was also compiled that included 'tips and tricks' collected from an HGTV website as well as a growing guide for when and how to plant specific vegetables. Every gardener was required to sign an agreement, which stated that they were responsible for their plot and that they would maintain the weeds and boundaries. Also the form doubled as a liability waiver for University Housing Services.

4.8.5 Leader as Participant: Flyover Community Garden, Gaia House, Mustard Seed Sower's Farm

Several of the projects started out with the idea that there would be community participation or involvement, but one person performed most of the garden work. This again illustrates the problematic definition of "community garden." Often times, these garden leaders were active in other community initiatives that were environment or food focused. For example, the Flyover Community Garden was in the process of simultaneously organizing two auxiliary projects; one project was a youth compost project and the other was an entrepreneurial backyard food project. Community members benefitted with food donations from both the Flyover Community Gardens and Mustard Seed Sower's Farm, despite most of the work fulfilled by the Garden leader. All leaders

in this category were open to community engagement and participation. Members of the host organization aided Flyover and Gaia House Gardens. However, for a variety of reasons, participation was not occurring at the time of the study. The vast majority of the work was the garden leader's responsibility.

4.9 Organizational Structure

All of these projects sprung from a host organization, also responsible for other auxiliary projects. The youth projects were both a tool employed by two different programs. One program was an accelerated academic program available to a segment of the Lewis School population. Students had to qualify for participation, and the gardens were one of many teacher-initiated learning mechanisms. The other was an after-school program facilitated by the Carbondale Park District. Again, both youth-focused gardens grew out of the interest of one specific leader.

The Gaia House, Grace Community Garden, and the Sufi Community Garden were all developed as part of faith-based host organizations. Curran Bishop, the pastor of Grace Presbyterian Church explains the role of the Church in society and the relationship to sustainable agriculture:

> We see living in a world that doesn't seem to work well, humans make bad choices- there's wars, there's environmental problems- we see that as originating in people's decision to turn their back on God…….
>
> And so part of why Christ entered the world is to fix what was wrong with creation. Part of how he does that is ingenuity…say we've come up with a way to feed the world's population- that was a great thing, but we're doing it in ways that are not all that responsible. So now we need to start thinking through if this can be done in a sustainable way, so that we are not just feeding the current population at the expense of the future. So we see the work of science, the work of people, doing [community gardens], as a vital part of how God is fixing that. And the work of the Church is supposed to supplement that.

The Sufi Garden is one of many projects hosted by the Sufi Community. Their projects include an organic farm and a school. The following describes the spiritual roots of the community, taken from a farm profile on the Rodale Institute website.

> Dayempur Farm is the spiritually-centered, land-based project of Dayemi Tariqat (in Arabic, "spiritual path"). This community is part of the Sufi tradition, which reflects the mystical side of Islam. Dayempur arises from two words: the word Dayem, from Arabic, means ancient of ancients, and pur, from Sanskrit, means place. We draw from a 1,400 year-old lineage that passes through Bangladesh and the late Sufi Master Sheikh Sufi Sayyed Dayemullah. The lineage was brought to the West in 1990 by Sheikh Din Muhammed Abdullah. Our community settled in southern Illinois in 1995, where we now operate the farm and several businesses and service projects. Our foremost intention is for Dayempur to become a working educational model in which spiritual, environmental, social, economic and political realms are addressed in order to awaken spiritual consciousness in all areas of our lives. The vision of Dayempur is to develop self-reliance, build community and teach of sustainability (www.newfarm.org).

The Gaia House also operates as a "Center provides regularly scheduled programs and special events in support of spiritual development, social justice, and ecological sustainability" (Gaia House website). The Gaia House describes their main objectives, while also emphasizing the ever-changing nature of any organization.

> Since its inception in 1943, the ecumenical partnership has been recognized as a progressive and inclusive interfaith ministry with two goals: to help SIUC students grow in spirit and understanding, and to help them change the world. Our devotion to creating a better world through commitment to spiritual awareness hasn't changed, but the times have. The recent addition of "Gaia" (pronounced "guy-uh"—the Greek word for "earth") to our title reflects the global imperatives of our spiritual journey, interfaith dialog, peace, social justice, and ecologically sound living.

The Flyover Community Garden was hosted by a larger educational project called the Flyover Infoshop, which has a brick and mortar location in the downtown area of Carbondale. Their objective was to create "an open and community-driven space for

radical thinking, counterculture movements, and creative collaboration" (Flyover Infoshop Facebook page). The Mustard Seed Sower's Farm is hosted by a charity group called Gifts of Love Charity. With a 170(b)(1)(a) status, the group focuses on community engagement around issues such as poverty, violence, and education. The Farm, with its downtown "Locally Sustainable Foods" store is one project of the charity that facilitates the goals of education, sharing, and charity.

The Marion Street garden was one of two unorganized groups that became organized with the *specific* interest of creating a garden. Even then, the leaders of Marion Street Garden created a larger structure, the 501(c)(3) called Common Greens, for leadership, financial, and land ownership issues. Upon purchasing a house in the Northeast neighborhood, Sorrel Kunath (Marion Street) and his wife came up with the idea of turning the vacant lot next door into a community garden. They researched other projects and assembled a group of board members, knowing that community support would be crucial. The board members were not necessarily from the Northeast neighborhood, but they were all interested in local food systems and/or community development. Common Greens was established as the non-profit host organization with open meetings and an emphasis on nurturing garden leaders within the garden.

The other group that *became* organized out of the desire to create a garden was the Student Organic Garden, referred to as LOGIC (Local Organic Gardening Initiative of Carbondale). Upon taking a seminar/capstone course in the Geography Department of SIU, a small group of students started the garden as their final project. They were able to obtain a site through the Agriculture Department and financial assistance from the SIU Greenfund (pooled via student fees). The group continues to run as an RSO with

appointed positions, but the majority of recruiting, planning, and maintenance is the responsibility of the garden leader. The Garden leader position is currently a paid position with a Graduate Assistantship funded by the SIU Greenfund.

The Carbondale Park District sponsors projects that support similar missions. For example, a partnered project known as Keep Carbondale Beautiful is a non-profit 501c3 whose mission is to "initiate, plan, and direct cooperative efforts in litter control, recycling, community beautification, and environmental education" (Keep Carbondale Beautiful website). This organization is in an alliance with the Carbondale Park District. We know that the Park District is aligned with the idea of a community space for gardening, but it seems as if organization or leadership has simply been neglected.

The Evergreen Terrace Garden is also just one project in the larger housing complex management. Housing complex staff also sponsors a summer nutrition camp for parents and children called "Camp Nutri-Green." Activities include cooking classes, gardening, health and nutrition activities. Participants are guided through the growing, weeding, and watering process and have an opportunity to plant something in a communal plot at the Evergreen Terrace Garden. The camp is free and families receive a free bag of food for attending. Food and nutrition is the main focus of the camp. The purpose was to unite community and build friendships at the camp as well. This facilitation among community members furthers the benefits of creating community cohesion.

4.10 Phases

Projects ranged in age and stage of progression. Some projects had arrived at a static phase. Although Ganzekaufer (Sufi) described her leadership style as relaxed and

experimental, there is a very obvious identity and presence to the space. The general motivation and concepts have not changed over time. The Carbondale Park District has remained in its simplicity. And although Brown's (Lewis School) lessons have evolved and she has experimented with gardening techniques, there has been an overall consistency of leadership and concept.

Leaders of younger projects were still trying to figure out what worked for their target audience and what their role was in the community as well as who comprised of the community. For example, Grace Community, Gaia House and Flyover Gardens were barely finished constructing their garden beds at the time of this research. When interviewed, all three leaders showed a clear vision and organizational strategy. However, it is yet to be determined if they will indeed stay with their initial plans. Other projects in intermediate stages have shown that they have had to alter original plans. Specifically, the impetus of these phase changes has come from a reaction to the site itself or participation. For example, the LOGIC garden has changed from production focus to educational. In contrast, the Mustard Seed Sowers Farm has transitioned from a community garden model to a production-focused, money-generating project.

Interestingly, the Carbondale Park District has served as temporary space for garden projects. The beds are already constructed and the plots are affordable. Even though they do not provide much support for new gardeners, they act as an accessible space for other projects to use. Orlan Mays (Mustard Seed Sower's Farm), Flyover Community Soil Bank, and Kids Korner have all used or plan to use the Carbondale Park District space for their own projects. In some ways, this may be viewed as a type of collaboration. There is a relationship between the looseness of their organizational

structure that effectively provides room for other projects to develop their own agenda within that space.

Orlan Mays (Mustard Seed Sower's Farm) discussed the direct correlation between participation, the way in which benefits are framed to community members, and the phases of his project. He stated that people in the community simply do not understand the motivations to get involved in a community garden. However, they can understand more market-based motivations, viewing the ability to grow food as a way to earn an income.

> So the switch is to answer questions [about gardening] with a solid reasonable answer that folks from underserved communities can fully grasp, easily. I don't have to do much talking. Come watch me at the farmer's market and see where this food is going, why I am doing this. Once I have them I can talk about the other benefits, I can talk about how it affects your feelings, your mind, your body. And lack diseases…. But I can't even get into that conversation even without answering certain questions that holds attentions from underserved communities."

Sydney Klein (LOGIC) also discussed the ways in which the Student garden evolved based on the primary focus of increasing participation.

> Students are open to come out and help us with whatever needs to be done at the garden. We've also done some workshops in the past and we also do farm tours around Southern Illinois…we try to get a diverse group of people out there and we work together.

Sorrel Kunath (Marion Street) displayed an ambitious, articulated, and broad long-term set of goals. Their self-produced literature described an extensive list of projects that they hoped to initiate in the future including creating more gardens in several neighborhoods, mentoring backyard garden projects, youth programs and school visits, internships, an urban greenhouse production site, and a growers market for gardeners wanting to sell their products. During the time period of this study, Common

Greens began negotiations for a second site of gardens. The next phase involves expanding to include more sites.

4.11 Community Support

Although participation may be an issue, leaders felt like they had a support from the community. Burns (Kids Korner) said that they have received a lot of positive feedback and that they have received donations from several area businesses. Ross Bauer also stated that he received donations in the form of trees for their food forest project.

The City of Carbondale was an entity in which garden leaders had to negotiate. Because compost regulations did not exist, Sarah Baumgarten (Flyover) said that she had to convince the City of Carbondale and the Carbondale Park District to approve her large-scale composting project. Sorrel Kunath (Marion Street) also negotiated for lease rights to the property on Marion Street. The City agreed to a temporary lease option for Common Greens at a minimal cost. If the organization gained support and recruit gardeners, the city would grant ownership to Common Greens.

4.12 Collaboration

4.12.1 Within the Garden

The amount of collaboration among gardeners varied, but creating ties among gardeners was a focus for the Grace Community Garden, the Marion Street Garden, LOGIC garden, and the Sufi Community Garden. Collaboration and relationships were encouraged through workshops and collective workdays. However, leaders pointed to the difficulty of gathering people at the same time. Grace Community, Marion Street, and the Sufi Garden also had individual and allotment-type aspects to their programs. The

individualized efforts of these allotment style gardens were the focus, despite collaboration being a goal.

Before Corran Bishop (Grace Community) started the garden at the church, he discussed their presence with the Sufi Garden Leader to make sure that there was a need and that they would not be 'stepping on their toes.' For him, this garden is a tool in which they hope to engage the larger Carbondale community. This interaction is part of the spiritual premise of their Church and their beliefs. They believe that God as a trinity is relational, and humans should strive for interpersonal relationships as well. Bishop (Grace Community) says, "If we understand God to be trinity, one god three persons, and God is the building block of reality… then humans were created to be interpersonal and relational." He further explains that "disagreement is not intolerance and disagreement does not mean that there can't be relationships." They sought interaction beyond only those involved in the Church. After discussing their plans with the Sufis, they ultimately modeled their garden after the Sufis, taking tips on garden bed size and rent prices for each bed. Sarah Baumgarten (Flyover) also spoke of the importance of interaction in the community over important social issues. They plan on picking up yard waste and compost from subscribers' households and using bicycles as a form of political theatre to gain extra attention and to "reinvigorate the dialogue of the Urbanscape as habitat." They spoke of both networking and broadcasting, yet they need to find people who are willing to participate in their scheme for the project to work.

 Kunath (Marion Street) also understood the importance of reaching out and developing partners. They first had the space next to their home. After the idea to create a community garden, they were told this process would be much easier with a non-profit.

Unlike many of the other organizations, the non-profit grew out of the idea rather than the idea growing out of the non-profit. Kunath (Marion Street) says that they began canvassing for people who may want to be involved. A diverse group of people assembled as the board members of the non-profit. Although their skills and backgrounds varied, they were all long-time members of Carbondale. Some had agricultural experience and others had accounting experience in order to assist the organization with lease agreements and other administrative responsibilities.

The Gaia House also had a diverse group of participants, as their mission is to create a meeting place for people of many faiths, traditions, and cultures. They see themselves as a community resource for members to meet with one another and exchange ideas. Similar to the Bishop's (Grace Community) ideas, the Gaia House is a "community center dedicated to social justice, ecological sustainability and peaceful coexistence and understanding among people of all faiths and beliefs." (Gaia House website). The Sufi Garden also views the area as a congregation space, and they have hosted inter-faith gatherings. However, the space tends to mostly be used by other Sufis. The LOGIC garden was a student-focused group that sought to bring a diverse set of students from a variety of majors and disciplines to the educational site.

As mentioned earlier, the role of the Carbondale Park District was an interesting in that other leaders were able to use the space for their own purposes. This can itself be seen as a type of collaboration.

4.13 Growing Methods

Although many gardens had a specific plan to address soil fertility, garden leaders expressed openness toward experimental techniques and establishing a relationship with

the land. In contrast to projects that are focused and reliant on production, the leaders

tried new methods and were more focused on creative act and the benefits that came from

interacting with the natural environment. Burns (Kids Korner) provided anecdotes of

throwing pumpkins into the compost pile and watching as the seeds eventually

germinated and volunteers grew the following year. She also told another story of when

the kids discovered their own project.

> The sunflowers were huge! And that ended up being a huge surprise. They were
> so big! I was going to take them out, and I was like nope! I'm just leaving you
> there to decompose! And that was just like, well, I like sunflowers, and that just
> turned out to be this magnificent field of sunflowers that the kids just wanted to
> go and play in…And then when they started to die, the kids started collecting the
> sunflowers, and smashing the seeds and making this beautiful little collages on
> the sidewalk….it's just always surprising what the kids will come up with…
> because my first reaction was… 'No! Don't smash the seeds!' but then all of the
> sudden they made this gorgeous collage outside, and it was beautiful.

The Sufi Garden, although devoutly organic, was also experimental and used trial and

error methods. Each year, she watched what worked and what did not, attempting to

create a space but knowing that there was a certain type of control in which she was not

trying achieve. Both the Sufi's and the Mustard Seed Sower's Farm relied on new ideas,

learning, and trying new strategies. These included techniques such as cover crops,

permaculture, and bio-intensive methods of planting. Klein (LOGIC), also tried new

things each year and valued the experience of learning through trial and error methods.

Through these experimental methods, leaders not only learned from experience, they also

started to understand their site and the space that their gardens inhabited.

4.14 A Sense of Place

When asked about a sense of place, several garden leaders felt that the area was

home to like-minded individuals who came to the area with an appreciation for the

natural world. Ross Bauer (Gaia House) felt fewer struggles discussing his garden plans in Carbondale than in other places. Burns (Kids Korner) said that she was motivated to start the Kids Korner After-school gardening program in part through the relationships she has made with local small farmers at farmer's markets whom she now calls friends. Mays (Mustard Seed Sower's Farm) also felt that there is a willingness of people and sustainable farmers to organize here. Klein (LOGIC) mentioned that the farmer's market and the local movement have provided an outlet for the LOGIC student garden to be a part of something larger. That is one of their goals, and she feels like they are forming relationships and becoming a part of the 'outside' community through farm tours and farmer's markets. Bishop (Grace Community) saw Carbondale as a unique place comprised of people with a rural mindset interested in agriculture and "socially hip" people who are new to the food movement. According to Bishop (Grace Community), there is a mix of people involved in growing vegetables and this mix comes from a movement that is gaining traction.

Both Bishop (Grace Community) and Brown (Lewis School) said that although a rural region surrounds Carbondale, many of the people they encounter could be considered "urbanites." Brown (Lewis School) says that most of her students are "city kids" and that they do not have a lot of experience working outside, playing in the dirt, and getting dirty. Ganzekaufer (Sufi) also mentioned that Carbondale was unique in that there was an ethnic diversity and a lot of people with 'urban' backgrounds in this area. She pointed out that one of her current gardeners is a doctor from Pakistan who did not have experience gardening. She felt that this sort of influence was unusual and special for an area like this.

Kunath (Marion Street) pointed out that they were modeling their organization after more urban spaces. According to Kunath, these spaces were the 'lungs' of a city. These Green Spaces were a necessity in that they were functional areas for people to actively enjoy and participate in outdoor activities. He said that he viewed the city through a Green Space "lens" and that there were many areas within Carbondale that could be developed as Green Space. Because there were a many homes for sale and also unused space with low price tags, their organization has been able to expand in a relatively short period of time.

4.15 Motivations

4.15.1 Gaining Skills: LOGIC, Marion Street Garden, Sufi Garden, Grace Community Garden, Flyover Community Garden, Lewis School Garden, Mustard Seed Sower's Farm

Leaders from seven garden projects shared in their valuation of these garden projects as mechanisms for people to gain skills. These skills were all gained through a process of knowledge sharing. There was definite divergence in whether the leaders felt that they themselves had skills or not. Despite the degree of knowledge leaders possessed, they all felt like the gardening space was a place for learning and cultivating further knowledge. For LOGIC, Flyover, Sufi Gardens, and the Marion Street Garden these skills were transmitted and taught in the form of hands-on workshops. Topics covered include composting, sheet mulching, mycology, and cover crops. Almost all of them address issues of soil fertility and ways that the gardens increase soil health using organic methods. Mays (Mustard Seed Sower's Farm), Bishop (Grace Community) and Brown (Lewis School) specifically mentioned that these are skills that people had at one point and then *lost*. They both specifically connect these lost skills to lifestyle changes

that have occurred in our society. Bishop (Grace Community) tied these lifestyle changes specifically to the morphology of the communities in which we live and the food systems that feed those new types of communities. He was specifically referring to people who once lived in more rural settings moving to more urbanized settings such as suburbs. And out of that disconnect to our environment the need for supermarkets developed, creating a food system based on dependency. Kunath (Marion Street) also referred to the high population of renters and the lack of grocery stores on the Northeast side of town that created a need for community gardens and the skills in which participants develop.

Klein hoped that the LOGIC garden provided a place where students can see how easy it is to grow your own food. Kunath (Marion Street) echoed that sentiment saying that people may be intimidated to try to garden by themselves or have tried and failed. He believes that gardens help initiate the process of learning and provide a supportive environment where that is possible. Kunath (Marion Street) also saw the value of these food skills on an economic level, siting one garden participant who has incorporated market gardening and wants to sell his produce locally in the future. Kunath noted that having their own market could potentially provide food for the immediate neighborhood. Common Greens also began a scholarship in which they paid for the recipient to receive training on the new cottage food laws in which someone could eventually create an income-generating project out of their new food-growing skills. Mays (Mustard Seed Sower's Farm) said that these skills are important for a number of reasons, but he found that when economic benefit was attached, people in his community could understand the value of these skills more. Curran Bishop relates related these individual skills to a sustainable social movement.

A community garden is a way for us to participate in a small way, with our people, with our community, our neighborhood, in affirming those things and teaching people to think about those things. It's a change the world one person at a time approach

4.15.2 Self Sufficiency and Sharing

The language in which leaders discussed the need for agricultural skills was often about having the skills to take care of oneself rather than being self-reliant on a system. Leaders stated that growing your own food is a type of self-sufficiency. Rather than addressing the larger food system, they addressed the issue from the bottom up. Gardens acted as avenues in which people may gain more control over the food they have access to. Leaders felt that being able to provide for yourself and having the ability to create that which you need is an important skill to have. The Sufi's taught homesteading and food processing skills in addition to workshops on gardening and soil fertility in an effort to create " a complete model for self-reliant living." Brown (Lewis School) wanted her students to be aware of the ways in which our food provisioning has changed throughout history, and that self-sufficiency through gardening has been employed in the past such as during WWII.

At the same time that leaders felt the importance of being self-sufficient, they also felt the need to provide for their community. Gift of Love Charity operates as a non-profit in which to donate food from the Mustard Seed Sower's Farm.

> The whole mentality of the charity is to give. Period. Practically… in theory…in Philosophy and in lifestyle… and if you want to look at it as returns, it is not about returns so much as it is the art or the movement to give. So we started this whole concept with all of the programs…   Music, dance, literacy, coats for kids, all of these are with the aim to give. Period.

The Flyover Community Garden also intended on donating the food to those in need. The way in which this self-sufficiency is envisioned is on the community-wide scale and not necessarily individualistic.

4.15.3 Service to Community

Many of the leaders viewed their projects as providing for the community. They envisioned the gardens to directly support community members by making available the products they create. These came in the form of food, soil, education, and space. Gift of Charity, the host organization of Mustard Seed Sowers Farm, viewed this giving as part of a mentality, philosophy, and lifestyle. Bishop, as leader of the Grace Presbyterian Church, also held a deep commitment to their role as a community resource and to the personal responsibility that the church has to the community. The Flyover Community Garden also planned to donate all of their food generated to low-income families.

4.15.4 The Role of Mentors and Guidance for Garden Leaders

Role models, mentors, and leaders in the sustainable agriculture and food systems proved to be very influential for the garden leaders. For Bishop (Grace Community) and Klein (LOGIC), their mentors were activists and writers whom they have connected to and want to work toward a shared larger vision. Both leaders said that they first encountered these role models during their college years. Klein (LOGIC) attended a lecture given by Vandana Shiva at Appalachian State, where she attended as an undergraduate. Bishop (Grace Community) spoke of reading Wendell Berry and Joel Sallatin during Seminary School in which his professors addressed current issues, specifically sustainability. Ganzekaufer (Sufi) also spoke of an influential time in her life, during the 'back to the land' movement during the 1970's in which she had read

influential books and learned about intentional communities working toward more sustainable lifestyles.

On an organizational level, Kunath (Marion Street) looked into other community gardening initiatives in larger cities before they created the structure for Common Greens. Much of what they are doing was taken from literature that Kunath (Marion Street) has read on what is needed to create a successful garden.

4.15.5 Human/Environment Connection: Gaia House, Grace Community Garden, Flyover Community Garden, Mustard Seed Sower's Farm, Sufi Community Garden

Bauer (Gaia House), Bishop (Grace Community), Mays (Mustard Seed Sowers Farm), and Ganzekaufer (Sufi) all approached sustainability from a place of faith-based perspective. They all believed that ecological sustainability is part of their faith and they take the practices seriously. Bishop (Grace Community) says that God wanted humans and nature to have a sustainable relationship.

> Our understanding is that God created the world as a good place- that it's a suitable place for humans- that he wanted this sustainable relationship between humans and nature- and that was all part the process of having a relationship.

For the Sufi's, their "spiritually-centered, land-based project" is part of their spiritual path. For Gaia house, ecologically sound living is also part of a spiritual journey. For Sarah Baumgarten (Flyover), her interactions with nature are part of her life's role and consciousness. These leaders and organizations are called to action by their spiritual tenants and are motivated by a human/environment relationship that is more than the sum total of daily actions; It is the base of how one lives.

60

4.16 Benefits

4.16.1 Creating Efficacy and Empowerment

Empowerment was a consistent theme brought up during the interviews. This empowerment came from the ability to grow your own food and also the ability to be self-sufficient. The empowerment also comes from creating connections to the Earth, one's body, and the mind according to Baumgarten (Flyover). She says that she has personally experienced the transformation in children in Chicago urban neighborhoods. She wants to facilitate this recognition within the children of Carbondale as well. The Empowerment comes from the process of self-awareness. According to Mays (Mustard Seed Sower's Farm), the empowerment is intrinsically connected to having skills. These skills lead to self-identity and the ability to create something that is physical that you can look at, use, trade or sell. These skills provide a "platform, a base, a foundation to teach you almost everything in life." He describes this power in further detail:

> The power to feed ourselves, the power to know where our food is coming from, and to know what we're eating, to know how it is raised, and the benefit of knowing that it is so close to us, as well as just a skill. We go through a lot of things in life, you know, and we never really gain skills, a lot of skills have been subtracted from our lifestyles, and to regain that is to regain not just a skill, but also a power over your own life.

Baumgarten (Flyover) stated that she has seen empowerment develop in children when they learn something from experience. Rather than being told exactly what to do, empowerment comes from the ability to recognize a solution and problem-solve. In this way, learning is internalized and feels more like an accomplishment leading to empowerment.

4.16.2 Identity and Empowerment

Mays (Mustard Seed Sower's Farm) believed that this empowerment is tied to the ways in which people see and view themselves. The more skills a person has, the more that they are able to tie their identity to something tangible and real. Ultimately, this empowers them to see themselves in other useful positions or jobs, and they don't seek out other negative behavior to reinforce their sense of identity.

```
Sharing knowledge  ──────────▶  Skills
                                   │
                 ┌─────────────────┤
                 ▼                 ▼
         Self-sufficiency       Identity
                 │                 │
                 ▼                 ▼
          Food Security       Empowerment
```
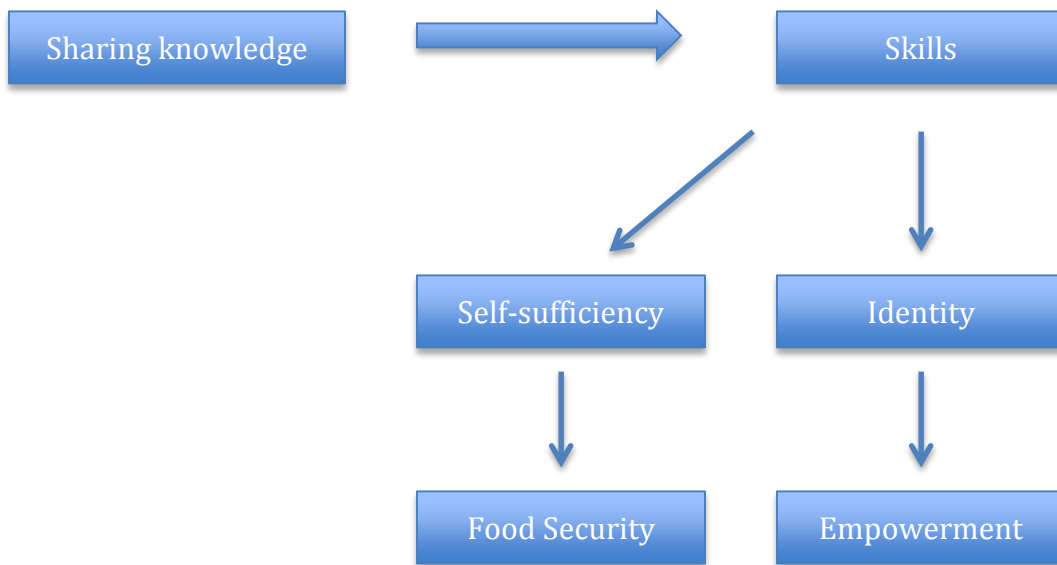
Figure 4.16.2 Sharing Knowledge Leads to Security and Empowerment

4.16.3 Introduction to New Vegetables/Access to Healthy Foods

Although this research found that leaders focus discussion on social cohesion and community connections, they also spoke of gardens in terms of creating access to healthy foods. For leaders, this often manifested itself in very descriptive, visceral accounts of

people eating food and developing new experiences around food. For the teachers, both indicated excitement over the flexibility and adventurous spirit of kids when it came to trying food directly off of the vine. Brown (Lewis School) saw that kids actually enjoyed the food more in its raw state as opposed to being cooked. Burns (Kids Korner) echoed that sentiment, saying that the kids would bravely eat kale straight from the plant. Mays (Mustard Seed Sower's Farm) recounted an experience in which an older gentleman, an urban individual, developed an interest in what Mays was growing. He would show him what was growing and suggest a way to cook it. They eventually developed a relationship and the man learned how to prepare kales and greens, something he had never done before.

Both the LOGIC garden and the Mustard Seed Sowers Farm sold their produce at an affordable price. For LOGIC, the students were their main demographic of which they focused their attention. The Mustard Seed Sower's Farm opened a small storefront in Downtown Carbondale to sell their produce when they transitioned from a community garden to an entrepreneurial, income-generating project.

4.16.4 Getting Outdoors for Therapy and Recreation

Both the Burns (Kids Korner) and Klein (LOGIC) leaders saw the gardens as a valuable source for recreation. Klein (LOGIC) viewed it as a form of therapy. Ganzekaufer (Sufi) said that kids in the neighborhood use the space for general playing. Burns (Kids Korner) felt that after being inside all day, the kids use the garden as a directed activity in which they could exercise their energy. Bishop (Grace Community) said that their church group for children is modeled after Charlotte Mason, an educator,

whose theories were based in the value of being outside, experiencing gardens and kinetic, hands-on activities.

4.16.5 Soil Fertility

Seven of the eleven gardens restricted soil fertility to organic or sustainable practices. These seven gardens did not use synthetic pesticides, fertilizers, or chemicals. Brown (Lewis School) used 'modern' conventional fertilizer and compared growth rate to areas without synthetic fertilizers as part of a class exercise. Excluding this exercise, Brown (Lewis School) relied on compost she made at home and horse manure for soil fertility. Both the Carbondale Park District and Evergreen Terrace did not specify what kind of fertilizing methods were restricted, if any.

Table 4.16.5: Methods of Soil Fertility

Organic/Sustainable	Comparison Methods	Non-specified
Gaia House Garden	Lewis School	Carbondale Park District
Grace Community Garden		Evergreen Terrace Garden
Flyover Community Garden		
Kids Korner After-School Garden		
LOGIC		
Marion Street		
Mustard Seed Sower's Farm		
Sufi Community Garden		

For the seven out of the eleven, organic/sustainable techniques were a defining characteristic of their gardens. Specific workshops were held to teach gardeners about organic fertility methods at the Sufi gardens, Marion Street, and LOGIC Student garden.

Composting was by far the most common method. Other methods included cover crops, lasagna or sheet mulching, and growing mushrooms.

Soil Fertility was spoken about in terms of spirituality for three of the garden leaders. Bishop (Grace Community), Mays (Mustard Seed Sower's Farm), and Ganzekaufer (Sufi) also discussed the idea that they were stewards who took care of the land. Bishop says the following:

> We see in the scripture the idea that the world is not given to us as a resource to use up, but as something that we are supposed to care for and become involved in a process that is going to be bettering and improving and shaped by the relationship between humans and nature.

Ultimately, soil fertility was informed by the connection that the leaders felt between humans and their environment.

| Human/Environment Connection | ⟷ | Soil Fertility |

Figure 4.16.5 Soil Fertility and Human/Environment Connection

4.17 Challenges

4.17.1 Participation

Although many of the community garden leaders set out with the intention of the project as a shared effort, often times the majority of the work fell onto the garden leader. Ganzekaufer (Sufi Garden), Bauer (Gaia House), and Bishop (Grace Community) shared the same sentiments. Bishop (Grace Community) stated that because he held a paid position for the larger organization, he tended to do the work if no one attended set

events. Bauer (Gaia House), believed that his lack of participation derived from communication and networking issues, and that labor was his biggest hurdle.

Because of a different dynamic, Brown (Lewis School) expressed no problem instructing her students to participate and maintain the garden. Her instructions were always specific, guiding the kids in step-by-step accounts of what and how to care for the space. She also discussed the importance of involving everyone in the process, stating that "everyone has to be involved, so it's a real science… Line up here, draw a line in the soil, when you're done, step back a pace."

Nearly all of the garden projects had issues of participation, but a subset of that issue was the lack of *on-going* participation and maintaining active participation once gardeners started. The manager of the Sufi gardens explained that often gardeners are enthusiastic in the beginning of the season, but once it gets hot people do not want to go out and work on their plot. Tied to this is each particular manager's style of leadership. For example, Frances was more than willing to help gardeners weed, one of the most mundane tasks. When someone moves out of town, they simply shift around and someone will take over the plot that has been abandoned. This is also tied to her sense ability to improvise, experiment and her overall general attitude and leadership style.

Both Bauer (Gaia House) and Bishop (Grace Community) dealt with nurturing relationships between participants who showed interest, only to later lose communication and lose their attention. Klein (LOGIC) expressed similar issues. She said that often times students would come out for several weeks, and then they would not see them again. Klein (LOGIC) suggested that their issue of consistency was maybe rooted in a

leadership issue. If the students had more leadership or responsibility, maybe they would be inclined to continue to participate throughout the season.

Klein (LOGIC) and Mays (Mustard Seed Sower's Farm) discuss that participation might be related to a lack of interest. Klein (LOGIC) believes that there are students who are interested, but they just have not reached "the right demographics." However, Mays (Mustard Seed Sower's Farm) believes there is a deeper-seeded issue behind why people in his neighborhood are not interested. He also refers to participation as 'community support.' Mays (Mustard Seed Sower's Farm) alluded to the fact that he used to do concentrate on a wider variety of activities, but finally decided to focus on his plots, not stretching himself thin, and honing his craft. He said that he was the first one in his community with a food garden project. He spoke of it as a 'breaking of ground' and says that you have to already have "the seed established" if you're idea is going to gain support. The reason there was not participation was because of the disparities in underserved communities. Because of these disparities, there is a lack of, which results in these projects not being relevant to peoples' lives.

Baumgarten (Flyover) also claimed that their biggest challenge was Carbondale residents' lack of interest in saving organic waste. A constant tension exists within these projects between participation, recruitment, and interest.

4.17.2 Funding

Kunath (Marion Street), Baumgarten (Flyover), Klein (LOGIC), and Mays (Mustard Seed Sower's Farm) all mentioned fundraising as a challenge in which they were constantly seeking monetary support from outside funders. All were able to secure grants during their start up, but noted that this would be an on-going ordeal in which they

would need to justify their projects. Mustard Seed Sower's Farm opened a store to provide access of local produce and to support their non-profit, Gift of Love Charity. However, within the time delineation of this study, they closed down. Marion Street was also told that if they did not generate a level of desired involvement in which the city deemed appropriate, they too would lose their affordable land lease and lease to own agreement. This reiterates the complexity of challenges, showing how participation, land loss and/or garden loss, and fundraising are dependent upon each other.
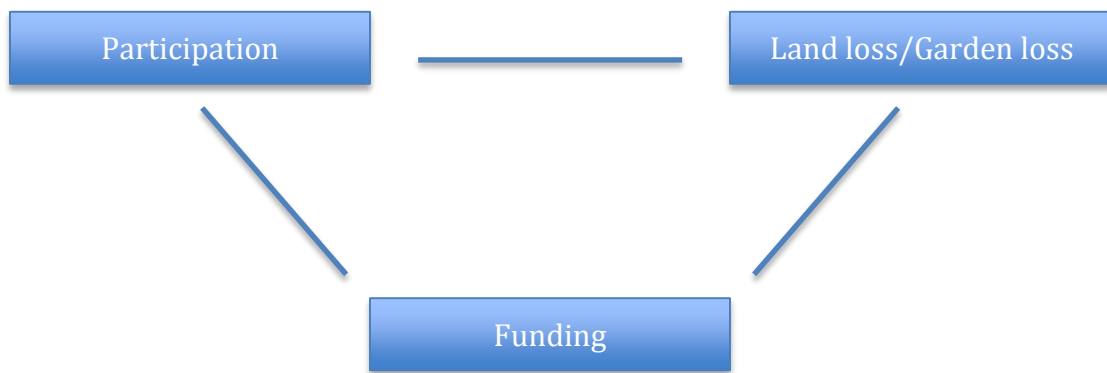
Figure 4.17.2 Interdependent Relationship Between Participation, Fundraising, and Land Loss/ Garden Loss

4.18 Comparisons to Community Garden Literature

4.18.1 Motivations

The motivations coded through interviews were similar to concepts found in literature. The human/environment connection has been discussed in community garden literature that focuses on environmental education, health, and civic ecology (Krasny and Tidball, 2009). Service to the community can be linked to ideas of social capital and community engagement literature. Creating relationships around food is one of the main

tenants of the local food movement that "focuses on reconnecting people to their food supply and reinvigorating the values (and relationships) inherent in community through the production, purchase, and consumption of local food" (Delind p.3), emphasizing the mutual goals community garden and local food system organizers share. There was not, however, any literature that directly linked the role of mentors, popular culture, and movement role models to activity of community garden leaders.

4.18.2 Benefits

Creating efficacy and Empowerment, introduction to new vegetables, getting outdoors for therapy and recreation were all discussed as positive benefits resulting from garden participation. Again, local food literature also shared these individualistic benefits that "represents a vehicle for personal improvement" (Delind p.124). Interestingly, Delind argues that activities and "campaigns to promote and secure local food…tend to give priority to relationships and activities that are embedded in the language and assumptions of the marketplace" (p.124). Although Mays (Mustard Seed Sower's Farm) was thoroughly invested in creating bonds within the neighborhood his garden resided, he expressed that a more market-based approach held more resonance in relating the benefits of his garden to people. However, the local movement needs to prioritize the non-rational spiritual connection to place according to Delind, which many of the garden leaders in Carbondale clearly articulated. The author also discusses the relationship between soil, culture, people, food and place.

> To know it (and them) requires first hand experience and takes as much artful intuition as it does exacting science. It requires physical engagement, sensual interpretation, and a holistic way of knowing and understanding. Such work and such knowledge is ''grounded,'' tightly connected to an actual place on earth. To know soil is also to know place (p.136).

69

The environmental benefits of biodiversity, ecosystem services, and the diversion of waste via composting have been mentioned as benefits, yet there are no studies that quantitatively assessed the benefits of creating soil fertility via community gardening. This is exactly the type of outcomes-based measuring that Farming Concrete is pushing for via garden leaders (www.farmingconcrete.org). However, Delind also discusses the way soils and cultures are created in a similar vein. Soil toxicity has been a concern for urban gardeners and has documented in literature (De Kimp, 2000)), yet no one mentioned this as a concern despite the proximity of a potentially hazardous site near one of the gardens.

4.18.3 Challenges

The challenges of land access and long-term stability have been documented in the literature (Schmelzkopf 1995; Armstrong 2000; Ferris et al., 2001; Twiss et al., 2003). However, this was not the case for garden projects in this geographical context. Projects did experience lack of participation, yet for other projects this was an asset. For example, Flyover was able to capitalize on the Park District's open plots. Similarly, a former leader (whose project was not included in this study due to inactivity) was also invited to use several spaces at the Marion Street Garden for a youth program organized through the Attucks Community Center. Having land availability is also what eventually lead to the relationship of the Sufi Garden and Grace Community Garden as well. These two examples illustrate the didactic and codependent nature of participation and land access. This also illustrates how the flow between participation and land access inadvertently creates evidence of bridging social capital. Bridging of social capital has

been discussed in community garden literature prior to this study and describes "more distant ties of like persons" such as workmates and "tends to be outward looking and brings together people from across diverse socio-demographic situations" (Firth et al., p. 558).

Participation

Land Access

Bridging Social Capital
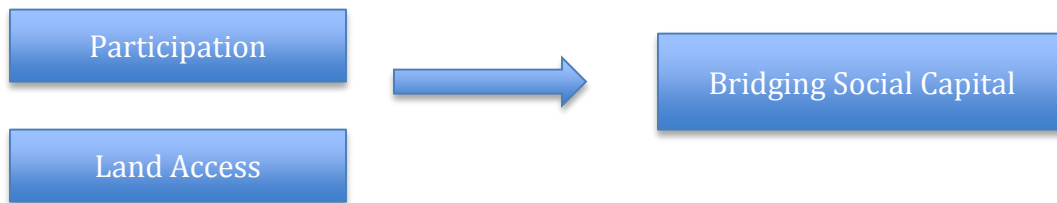
Figure 4.18.3 Participation and Land Access Lead to Bridging Social Capital

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Summary of Findings

Through the participation in garden projects, leaders sought to teach skills to increase self-sufficiency on an individual and community scale. From this perspective, self-sufficiency is not about dislocating from the social network or isolating oneself; Food skills were a mechanism to serve the community, bridge social ties and increase food access in the Carbondale community through strong connections between Humans and the Environment. Skills translated to the development of identity and personal empowerment, as well as the community empowerment resulting from the generation of an increased social bridging and social capital. Garden leaders displayed a sense of efficacy, responding to local circumstance and opportunities to organize within the Carbondale community. Developing local leadership, members of Common Greens felt empowered to continue organizing and develop additional sites through collaboration with board members, other gardeners, and the City of Carbondale. Garden leaders identified participation and fundraising as the primary challenges.

Table 5.1 Summaries of Motivations, Benefits, and Challenges

Motivations	Benefits	Challenges
Gaining Skills	Efficacy and Empowerment	Participation
Self-Sufficiency and Sharing	Identity and Empowerment	Fundraising
Service to Community	Introduction to New Vegetables/Access to Healthy Foods	
Mentors/Guidance	Recreation and Therapy	
Human/Environment Connection	Soil Fertility	

72

5.2 Typology, Leadership and Organizational Structure

During the coding process, the goal was to create the fewest number of categories while accounting for all of the situations within that theme. Similarly, when establishing garden type, each project was compared to pre-established categories to compare fittingness. However, not all projects fit into categories set out by literature and the ACGA. Two new categories were created, as well as a specification of a type. 'Demonstration' and 'Donation' gardens are the new types. They may exist on their own or in conjunction with one another. 'Demonstration' gardens are educational in focus, and are meant to showcase new techniques. They are meant to educate people techniques that they can then apply to their own backyard gardens or private spaces. 'Donation' gardens are focused on giving the production to other members of the Carbondale Community. The relationships within the garden are not necessarily as strong, as these gardens (Flyover and Mustard Seed Sower's Farm) are lead by the sole participant or person working the site. However, the relationships between the leaders and the larger community are formed through this sharing process.

The specifying category was the 'University' category. These projects most likely get placed in the school category, but because of the independent student leadership, LOGIC did not fit into a teacher/student dynamic. Therefore, the 'School' category did not quite match and warranted a new specifying category.

Table 5.2 Garden Type and Leadership

Garden	Garden Type	Garden Leadership
Carbondale Park District	Allotment	Allotment/Rules and Regulations
Flyover Community Garden	Donation/Demonstration	Leader as Participant
Gaia House Garden	Demonstration	Leader/Manager/Collective
Grace Community Garden	Church/Neighborhood	Leader/Manager/Allotment
Evergreen Terrace Garden	Public Housing	Allotment/Rules and Regulations
Kids Korner Garden	School	Teacher/Student
Lewis School Garden	School	Teacher/Student
LOGIC	University	Leader/Manager/Collective
Marion Street Garden	Neighborhood	Leader/Manager/Allotment
Mustard Seed Sowers Farm	Donation/Entrepreneurial	Leader as Participant
Sufi Community Garden	Neighborhood	Leader/Manager/Allotment

The Leader/Manager/Allotment type (Grace Community, Marion Street, Sufi) were all nested within larger organizations. However, of the three, Marion Street was the only one nested within a larger organization that *became* organized with the specific interest of creating gardens and green space. Although Common Greens organized these gardens with multiple aims, from beautification to small business objectives, the garden site and community was the sole focus of the *larger organization*. Despite the garden's age (2 ½ yrs.), they have been able to recruit enough participants to maintain their agreement with the city. Beyond that, they have also recruited garden leaders of former sites to maintain beds as a project of the Attucks Park Youth Program. Further, they have already begun the process to purchase another site and expand. They have not experienced participation as a challenge, and the variable here could be the organizational structure. Their structure was first formed with the creation of a board with a variety of skills but all invested in the idea of creating a garden in a specific, pre-established space.

74

The board creates a backbone. Kunath (Marion Street) is not the only person with vested interest, although he is the manager of the site itself. Also, they continually have meetings open to the public and seek other input and leadership. This method has so far shown favorably in combating participation as a challenge.

In contrast, the 'Rules and Regulations' style of leadership does not support gardeners or participants. On-going participation has been an issue, suggesting that if more internal leadership or education was available, gardeners might continue through the season. Also, collaboration *within the garden* is entirely left up to the participants, while other leadership styles attempted to help facilitate those relationships.

Both of the leaders involved in 'Teacher/Student Relationship' projects felt that their larger organizations were in favor of their projects. However, the main drive to organize came from the personal interests of the leaders. This brings up the question of longevity and sustainability. Without a board to create stability, these projects may not necessarily continue after the leader is no longer with the school or program.

5.3 Urban and Rural Comparisons

As found in the literature review process, there are very few studies on community gardens in areas outside larger Metropolitan regions. A comparison to motivations, benefits, and challenges found in literature taking place in large urban areas provides incite into the way geography and population act as a variable.

Leaders in Carbondale discussed their project as something that provides service to the Carbondale community. They also discussed Mentors that lead them to active involvement in sustainability and local food systems. In this research, almost all of the leaders interviewed were the first ones to organize their projects. In community garden

75

years, these projects are very young. Interestingly, two of the oldest projects (Carbondale Park District and Evergreen), have the least organizational structure. The Sufi Garden was the oldest project that facilitated support for gardeners and organized as a political act in order to change the way people interact with the environment and the food system. The only project that had passed or changed leadership for the garden project was the LOGIC garden, in which Klein was once removed from the original leadership. These leaders had read or learned about sustainability and food system issues, and then motivated to *start* or get involved in projects of their own. These leaders were responding to a specific need they saw in their community as political and spiritual acts. These were their personal projects in which they had translated ideas from mentors into direct service to the Carbondale community.

Leaders wanted to provide a service to their community by providing education and space. However, full participation was not always reciprocated with the same effort. The question is what prevents people from participation. Is it a question of organizational structure, leadership, interest, or the way in which people relate to one another. Currently, there are eleven projects available for people to participate within a variety of larger structures. Reading this synopsis, participants may better choose the style of leadership or organization in which they would like to get involved.

Leaders in urban literature did discuss issues of soil fertility. This could be because garden location is often tenuous. Gardens can be taken away due to development and land price fluctuations in urban areas. Maybe gardeners in city environments do not feel like the connection is permanent and do not focus on fertility or it is that there are more pressing challenges such as land access. Urban literature does, however, discuss

issues of soil toxicity of dangerous heavy metals and post-industrial remnants in urban areas. This too, could be a more pressing focus than soil fertility.

The challenge of land access was not an issue for the leaders in Carbondale, IL. Instead, it was the affordability and accessibility of land that was the impetus for many of these projects. In comparison, this is what led many of the community garden projects to organize in urban areas in the 1970's as a result of urban flight and abundant vacant lots. However, due to rising land prices, urban gardens are now in a much more defensive position. Other smaller cities in rural areas might share this land availability. Gardening could possibly be an intervention strategy for pre-existing organizations. Because community garden history and literature focuses on land access for food production in urban areas, if there are community gardens, they are probably relatively new. According to this study they could be connected to schools, churches, charity organizations, or faith-based organizations. However, knowing the multiple benefits of community gardens, they are still valuable tools for social intervention in smaller cities as well. They are more valuable than the space in which they create.

Issues of Inclusion and exclusion could not be discussed in this research as only one interview was conducted with the site leader. Future studies could address the formation of community through the perception of participants and non-participants.

Table: 5.3 Differences in Urban and Rural Study Sites

Motivations	Benefits	Challenges
Gaining Skills	Efficacy/Empowerment	Participation
Self Sufficiency/Sharing	Identity/Empowerment	Fundraising
Service to Community	Healthy food	**Access to land**
Mentors/Guidance	Recreation and Therapy	**Issues of Inclusion/Exclusion**
Human/Environment Connection	**Soil Fertility**	
---------------- Not found in literature		---------------- Not found in Carbondale, IL

5.4 Themes

Table 5.4: Themes Found in Carbondale, IL

Motivations	Benefits	Challenges
Role of Spirituality	Social Capital and Food Insecurity	Long Term Sustainability and Elements of Success
Self-Sufficiency (Economic and Skills) and Sharing	Bridging Social Capital through Collaboration	Inclusion/Exclusion
Self-Sufficiency vs. Institutional Support		

5.4.1 Motivations

The Role of Spirituality: Five out of the ten leaders interviewed claimed that their connection to the environment and their motivation for that relationship was based in Spirituality. Included in this group was a wide range of faiths, however it shows the type of thinking and motivations for people to get involved in community garden work. These leaders valued the environment, were motivated to know the environment more intimately, to act in accordance with sustainable principals, and to create a symbiotic

lifestyle that reflected this relationship. This could suggest dialogue and ideas in which to appeal to more people when recruiting participants.

Self-Sufficiency (Economic and Skills) and Sharing: Leaders discussed self-sufficiency in both economic terms and as sets of skills that lead to food security and identity and empowerment. However, self-sufficiency was not viewed as something that would lead to isolation or individualism without a sense of community. Through knowledge sharing and skills based workshops, the idea was to connect members of the Carbondale community. Also, several projects were based on sharing not only knowledge, but also actual produce. Self-sufficiency was viewed at the community scale as something that could benefit individual sense of self and community well being.

Self-Sufficiency vs. Institutional Support: Critics of community garden projects claim that an emphasis on self-sufficiency and personal responsibility only aid the Reagan-era, neo-liberal "roll back" of the safety net that the government once provided (McClintock, 2013). Pudup views organized gardening projects as "spaces of neoliberal governmentality…spaces in which gardening puts individuals in charge of their own adjustments to economic restructuring and social dislocation through self-help technologies centered on personal contact with nature" (p.1229). Orlan Mays (Mustard Seed Sower's Farm) supports this idea, despite his dedication to charity and food sharing. Only through market-based values and dialogue did he find people interested in participation. While organized garden projects are often aimed at those who "lack", often it is structural inequality that prevents people from participating. For example, how does privilege play a role in the ability to participate? Asking people to grow their own food puts the responsibility on the consumer, hiding systemic faults in the agro-industrial food

system, state safety nets, and access to a resource that could be viewed as a common right.

5.4.2 Benefits

***Social Capital and Food Insecurity*:** Food insecurity is one component of poverty, resulting in a national rise of Supplemental Nutrition Assistance Program (SNAP) use in the United States (Nord, Andrews, and Carlson, 2009). Social capital generated through the creation of social relationships and networks has the capacity to directly affect households' access to foods, especially in rural areas due to less active food pantries (Whitley, 2012). While households in rural areas often rely on food pantries and SNAP benefits, "food security [is] highly dependent on how socially integrated and how much social capital households have in a community"(Whitley, p.49). As a result, Alternative Food Network literature attempts to "re-embed" the agro-food system within the social relationships that have been eroded by the industrial agricultural system that separates the producer and the consumer (McClintock, 2013).

Although perspectives and literature on social capital is extremely diverse, one view explains the concept as "the connections among individuals or social networks and the norms of reciprocity and trustworthiness that arise from those connections" (Firth, p.558). The garden leaders in Carbondale clearly aimed to connect residents through project participation as well as establishing bridges between projects. Many of the gardens also exemplified linking social capital, defined as "the connectivity between unlike people in dissimilar situations" (Firth, p.558). For example, Grace Presbyterian Community Gardens and the Sufi Garden were not exclusive. Although they organized within a certain faith community, they recruited gardeners from outside their immediate

social circle. A mixture of Northeast Neighborhood residents, those residing outside of the immediate neighborhood, and the Attucks Park youth program comprised the makeup of the Marion Street Community Garden and the board of Common Greens. While membership to gardens such as the Evergreen Terrace Garden were place-based or residential-based, these aforementioned organizations proved to be interest-based. Once again, a place-based or interest-based identity was not possible, as all projects defied a definite category. For example, the Marion Street Garden does *give priority* to Northeast Neighborhood residents. The Sufi Garden manager noted that most people *tend* to live in the area, as it is easier to maintain a garden in close proximity. The Flyover Community Garden specifically sought to educate the youth of the Northeast neighborhood in the composting project despite the leader not being a member of that particular neighborhood. Lastly, social capital can also be experienced negatively, yet those results were outside of the parameters of this research.

Bridging Social Capital Through Collaboration: Although perspectives and literature on social capital is extremely diverse, one view explains the concept as "the connections among individuals or social networks and the norms of reciprocity and trustworthiness that arise from those connections" (Firth, p.558). The garden leaders in Carbondale clearly aimed to connect residents through project participation as well as establishing bridges between projects. Many of the gardens also exemplified linking social capital, defined as "the connectivity between unlike people in dissimilar situations" (Firth, p.558). For example, Grace Presbyterian Community Gardens and the Sufi Garden were not exclusive. Although they organized within a certain faith community, they recruited gardeners from outside their immediate social circle. A mixture of Northeast

Neighborhood residents, those residing outside of the immediate neighborhood, and the Attucks Park youth program comprised the makeup of the Marion Street Community Garden and the board of Common Greens. While membership to gardens such as the Evergreen Terrace Garden were place-based or residential-based, these aforementioned organizations proved to be interest-based. Once again, a place-based or interest-based identity was not possible, as all projects defied a definite category. For example, the Marion Street Garden does *give priority* to Northeast Neighborhood residents. The Sufi Garden manager noted that most people *tend* to live in the area, as it is easier to maintain a garden in close proximity. The Flyover Community Garden specifically sought to educate the youth of the Northeast neighborhood in the composting project despite the leader not being a member of that particular.

5.4.3 Challenges

Long Term Sustainability Elements of Success: From Community Food Assessments to the formation of Food Councils, there are a number of employable strategies in which communities may achieve social, economic, and ecological ends. Ultimately, each community must determine for themselves the strategies that will and will not work (Feenstra, 1997), as evidenced in the changing phases of organized garden projects in Carbondale, IL. This study unveiled several types of organized gardening projects working within similar ethos and bounds. While two host organizations only focused on the formation of gardens, the other projects were simply one of many projects under a larger organizational umbrella. Feenstra writes that there are three elements to creating these new systems: Leadership, collaboration, and fostering the politics of civic renewal. Another author lists secured land tenure, sustained interest, community development, and

appropriate design as the four components of long-term success for community gardens (Milburn and Vail, 2010). All of these concepts were discussed during interviews conducted with garden leaders in Carbondale, IL. The relational and interdependent qualities of these components became very apparent throughout the study. Garden leaders not only bridged relationships between gardens, but also in some cases they physically overlapped space. In addition, these projects exemplified fluid typologies and dynamic changes in phases and action.

Inclusion/Exclusion: The motivations of the leaders and the host organizations impact the way in which they work and operate. However, this research failed to represent multiple perspectives from the viewpoint of participants, neighborhood members, and other city residents as well. Although most literature contains evidence of the positive impact and benefits have on communities, there have been some articles that show that participants experience social capital in the garden setting differently. These issues are often rooted in racial issues, feelings of inclusion or exclusion, and the extent to which these spaces are public (Glover, 2005). Interviews with garden participants would provide a more in depth examination of these projects. Further studies could elicit responses from those who participate. A sample including non-participants may also be helpful in finding barriers to participation and the role that organized gardens play in the future.

5.5 Conclusion

This study shows that organized garden projects do not only exist in large metropolitan areas. Generalizing past this particular case study site, other smaller cities may also host organizations actively pursuing garden projects aligned with overall

missions and personal motivations. Umbrella organizations housed majority of organized garden projects in this case study, providing opportunities for leaders to bridge social ties among groups. However, the organization that specifically organized with food and gardening as their main objective experienced significant buy-in, participation, and growth. Speaking to geographic variability and pragmatic assessments, garden projects may prove as useful tools for organizations in small cities. Despite being closer in proximity to a rural region and local agriculture, leaders were motivated by and experienced benefits beyond food access. Leaders circumvented a prime challenge for projects in geographically larger cities; Available land is a resource that smaller cities may use as a tool to achieve social and environmental ends.

REFERENCES

Alaimo, Katherine, Elizabeth Packnett, Richard A Miles, and Daniel J. Kruger. "Fruit and Vegetable Intake among Community Gardeners." *Journal of Nutrition Education and Behavior* 40 (2008): 94-101.

Armstrong, Donna. "A Survey of Community Gardens in Upstate New York: Implications for Health Promotion and Community Development." *Health & Place* 6 (2000): 319-327.

Baker, Lauren E. "Tending Cultural Landscapes and Food Citizenship in Toronto's Community Gardens." *Geographical Review* 94, no. 3 (2004): 305-325.

Bellows, Anne C., Katherine Brown, and Jac Smit. "Health benefits of urban agriculture." *Community Food* (2003).

Blair, Dorothy, Carol C. Giesecke, and Sandra Sherman. "A dietary, social and economic evaluation of the Philadelphia urban gardening project." *Journal of Nutrition Education* 23, no. 4 (1991): 161-167.

Campbell, Marcia Caton and Danielle Salus. 2003. "Community and Conservation Land Trusts as Unlikely Partners?" *Land Use Policy* 20, no. 2 (2003): 169-180.

Carney, Patricia A., Janet L. Hamada, Rebecca Rdesinski, Lorena Sprager, Katelyn R. Nichols, Betty Y. Liu, Joel Pelayo, Maria Antonia Sanchez, and Jacklien Shannon. "Impact of a Community Gardening Project on Vegetable Intake, Food Security and Family Relationships: A Community-based Participatory Research Study." *Journal of Community Health* 37, no. 4 (2012): 874-881.

Coleman-Jensen, Alisha, Mark Nord, and Anita Singh. 2013. "Household Food Security in the United States in 2012." U.S. Department of Agriculture, *Economic Research Service*.

Colasanti, Kathryn JA, Michael W. Hamm, and Charlotte M. Litjens. "The City as an" Agricultural Powerhouse"? Perspectives on Expanding Urban Agriculture from Detroit, Michigan." *Urban Geography* 33, no. 3 (2012): 348-369.

"Community Food Assessment for Jackson and Union Counties." Jackson and Union County CFA Team, accessed on 2008 www.eatsouthernillinois.org

Comstock, Nicole, L. Miriam Dickinson, Julie A. Marshall, Mah-J. Soobader, Mark S. Turbin, Michael Buchenau, and Jill S. Litt. "Neighborhood attachment and its correlates: Exploring neighborhood conditions, collective efficacy, and gardening." *Journal of Environmental Psychology* 30, no. 4 (2010): 435-442.

Corrigan, Michelle P. "Growing what you eat: Developing community gardens in Baltimore, Maryland." *Applied Geography* 31, no. 4 (2011): 1232-1241.

Cresswell, John W. "Research design." Qualitative and Quantitative approaches (2003).

Delind, Laura B. "Of bodies, place, and culture: Re-situating local food." *Journal of Agricultural and Environmental Ethics* 19, no. 2 (2006): 121-146.

De Kimpe, Christian R., and Jean-Louis Morel."Urban soil management: a growing concern." *Soil Science* 165, no.1 (2000): 31-40.

Denzin, Norman K., and Yvonna S. Lincoln. *The qualitative inquiry reader*. Sage, 2002.

Duram, Leslie Aileen. "Taking a Pragmatic Behavioral Approach to Alternative Agriculture Research." *American Journal of Alternative Agriculture*. 13, no.2 (1998): 90-97.

Draper, Carrie, and Darcy Freedman. "Review and analysis of the benefits, purposes, and motivations associated with community gardening in the United States." *Journal of Community Practice* 18, no. 4 (2010): 458-492.

Eizenberg, Efrat. "The changing meaning of community space: Two models of NGO management of community gardens in New York City." *International Journal of Urban and Regional Research* 36, no. 1 (2012): 106-120.

Faming Concrete, accessed 2014, www.farmingconcrete.org

Feagan, Robert. "The place of food: mapping out the 'local' in local food systems." *Progress in human geography* 31, no. 1 (2007): 23-42.

Ferris, John, Carol Norman, and Joe Sempik. "People, land and sustainability: Community gardens and the social dimension of sustainable development." *Social Policy & Administration* 35, no. 5 (2001): 559-568.

Feenstra, Gail W. "Local food systems and sustainable communities." *American journal of alternative agriculture* 12, no. 01 (1997): 28-36.

Firth, Chris, Damian Maye, and David Pearson. "Developing "community" in community gardens." Local Environment 16, no. 6 (2011): 555-568.

Goetz, Judith Preissle, and Margaret Diane LeCompte. Ethnography and qualitative design in educational research. Vol. 19. Orlando, FL: Academic Press, 1984.

Glaser, Barney G. Emergence vs forcing: Basics of grounded theory analysis. Sociology Press, 1992.

Glover, Troy D. "Social capital in the lived experiences of community gardeners." *Leisure Sciences* 26, no. 2 (2004): 143-162.

Gobster, Paul H., Joan I. Nassauer, Terry C. Daniel, and Gary Fry. "The shared landscape: what does aesthetics have to do with ecology?" *Landscape ecology* 22, no. 7 (2007): 959-972.

Gomm, Roger, Martyn Hammersley, and Peter Foster, eds. Case study method: Key issues, key texts. Sage, 2000.

Guba, Egon G., and Yvonna S. Lincoln. "Competing paradigms in qualitative research." Handbook of qualitative research 2, no. 163-194 (1994).

Guitart, Daniela, Catherine Pickering, and Jason Byrne. "Past results and future directions in urban community gardens research." *Urban Forestry & Urban Greening* 11, no. 4 (2012): 364-373.

Hale, James, Corrine Knapp, Lisa Bardwell, Michael Buchenau, Julie Marshall, Fahriye Sancar, and Jill S. Litt. "Connecting food environments and health through the relational nature of aesthetics: Gaining insight through the community gardening experience." *Social science & medicine* 72, no. 11 (2011): 1853-1863.

Hallett, Ronald E., and Kristen Barber. "Ethnographic research in a cyber era." *Journal of Contemporary Ethnography* (2013): 0891241613497749.

Hess, David, and Langdon Winner. "Enhancing Justice and Sustainability at the Local Level: Affordable Policies for Urban Governments*." *Local Environment* 12, no. 4 (2007): 379-395.

Hynes, H. Patricia, and Genevieve Howe. "Urban horticulture in the contemporary United States: personal and community benefits." In International Conference on Urban Horticulture 643, pp. 171-181. 2002.

"Illinois Behavioral Risk Factor Surveillance System." Illinois Department of Public Health, accessed 2014, http://app.idph.state.il.us/brfss/countydata.asp

Jackson, Jaemi and Zachary Rehm. " Cultivate L.A." University of California Cooperative Extension, accessed 2013, www.cultivatelosangeles.files.wordpress

Keohane, Kieran, ed. Imaginative Methodologies in the Social Sciences: Creativity, Poetics and Rhetoric in Social Research. Ashgate Publishing, Ltd., 2014.

Krasny, Marianne E., and Keith G. Tidball. "Community gardens as contexts for science, stewardship, and civic action learning." *Cities and the Environment* (CATE) 2, no. 1 (2009): 8.

Lawson, Laura. "The planner in the garden: A historical view into the relationship between planning and community gardens." *Journal of Planning History* 3, no. 2 (2004): 151-176.

Lawson, Laura J. "City bountiful." A Century of Community Gardening in America. Berkeley and Los Angeles, California and London, England: University of California Press, Ltd (2005).

Lawson, Laura and Luke Drake. "Community Gardening Organization Survey." *Community Greening Review,* 18 (2012): 20-47.

Lovell, Sarah Taylor. "Multifunctional urban agriculture for sustainable land use planning in the United States." *Sustainability* 2, no. 8 (2010): 2499-2522.

Kurtz, Hilda. "Differentiating multiple meanings of garden and community." *Urban Geography* 22, no. 7 (2001): 656-670.

McCormack, Lacey Arneson, Melissa Nelson Laska, Nicole I. Larson, and Mary Story. "Review of the nutritional implications of farmers' markets and community gardens: a call for evaluation and research efforts." *Journal of the American Dietetic Association* 110, no. 3 (2010): 399-408.

McClintock, Nathan. "Radical, reformist, and garden-variety neoliberal: coming to terms with urban agriculture's contradictions." *Local Environment* 19, no. 2 (2014): 147-171. Merriam, Sharan B. and Associates. Qualitative Research in Practice, Jossey-Bass, 2002.

Milburn, Lee-Anne S., and Brooke Adams Vail. "Sowing the Seeds of Success Cultivating a Future for Community Gardens." *Landscape Journal* 29, no. 1 (2010): 71-89.

"Obesity: Halting the Epidemic by Making Health Easier, At a Glance 2011." National Center for Chronic Disease Prevention and Health Promotion, accessed 2013, http://www.cdc.gov/chronicdisease/resources/publications/AAG/obesity.htm

"National Community Garden Survey," American Community Gardening Association, accessed 2014, www.communitygardening.org

Nord, Mark, Margaret Andrews, and Steven Carlson. "Household food security in the United States, 2004." USDA-ERS Economic Research Report 11 (2005).

Ohmer, Mary L., Pamela Meadowcroft, Kate Freed, and Ericka Lewis. "Community gardening and community development: Individual, social and community benefits of a community conservation program." *Journal of Community Practice* 17, no. 4 (2009): 377-399.

Pudup, Mary Beth. "It takes a garden: Cultivating citizen-subjects in organized garden projects." *Geoforum* 39, no. 3 (2008): 1228-1240.

Rubin, Herbert J., and Irene S. Rubin. Qualitative interviewing: The art of hearing data. Sage, 2011.

Saldivar-Tanaka, Laura, and Marianne E. Krasny. "Culturing community development, neighborhood open space, and civic agriculture: The case of Latino community gardens in New York City." *Agriculture and human values* 21, no. 4 (2004): 399-412.

Smith, Vincent M., Robert B. Greene, and Janet Silbernagel. "The social and spatial dynamics of community food production: a landscape approach to policy and program development." *Landscape ecology* 28, no. 7 (2013): 1415-1426.

Schmelzkopf, Karen. "Urban community gardens as contested space." *Geographical Review* (1995): 364-381.

Staeheli, Lynn A., Don Mitchell, and Kristina Gibson. "Conflicting rights to the city in New York's community gardens." *GeoJournal* 58, no. 2-3 (2002): 197-205.

Southern Illinois University, accessed 2014, www.siu.edu.

Teig, Ellen, Joy Amulya, Lisa Bardwell, Michael Buchenau, Julie A. Marshall, and Jill S. Litt. "Collective efficacy in Denver, Colorado: Strengthening neighborhoods and health through community gardens." *Health & Place* 15, no. 4 (2009): 1115-1122.

Tornaghi, Chiara. "Critical Geography of Urban Agriculture." *Progress in Human Geography* 38, no.4 (2014): 551-567

United States Census website, accessed 2013, www.census.gov.

University of Illinois Extension website, accessed 2014, web.extension.illinois.edu.

United States Department of Agriculture website, accessed 2014, www.usda.gov.

Voicu, Ioan and Vicki Been. "The Effect of Community Gardens on Neighboring Property Values." *Real Estate Economics* 36, no. 2(2008): 241-283

Wakefield, Sarah, Fiona Yeudall, Caroline Taron, Jennifer Reynolds, and Ana Skinner. "Growing Urban Health: Community Gardening in South-East Toronto." *Health Promotion International* 22, no.2 (2007): 92-101

Walter, Pierre. "Theorizing Community Gardens as Pedagogical Sites in the Food Movement." *Environmental Education Research* 19, no.4 (2013): 521-539.

Watts, D.C.H. B. Ilbery and D. Maye. "Making Reconnections in Agro-food Geography: Alternative systems of Food Provision." *Progress in Human Geography* 29 (2005): 22-40

Whitley, Sara. "Changing Times in Rural America: Food Assistance and Food Insecurity in Food Deserts." *Journal of Family Social Work* 16, no.1 (2013): 36-52.

APPENDICES

Appendix A: Carbondale Park District Garden Characteristics

Carbondale Park District Garden	
Place	
Year Established	Unknown
Previous use of site	Unknown
Ownership of land	Carbondale Park District
Size of plots	20ft. X 20ft.
Number of plots	10
Structure/Amenities	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	Yes
Chicken coop	No
Seating area	No
Educational signs	No
Raised beds	No
Rainwater catchment	No
Pathways	No
Playground	No
Tables	No
Beekeeping	No
Sculpture/other	No
Organizational Model	
Structure	Sign-up, Rules and regulations
Host Organization	Carbondale Park District
Duties of manager	N/A
Number of gardeners	5
Events	None
Sharing produce	No
Sharing plants	No
Selling produce	Yes
Environment	
Compost on site	No
Organic	No
Fertilizers	Unknown
Pest management	Unknown
Perennials featured	None
Media	
Website	Yes

Facebook	No
Awards/Recognition	Unknown

Appendix B: Evergreen Terrace Garden Characteristics

Evergreen Terrace Gardens	
Place	
Year Established	Unknown, >10 years
Previous use of site	Open field
Ownership of land	Southern Illinois University
Size of plots	10 ft. X 20 ft.
Number of plots	10
Structure/Amenities	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	No
Chicken coop	No
Seating area	No
Educational signs	No
Raised beds	No
Rainwater catchment	No
Pathways	No
Playground	No
Tables	No
Beekeeping	No
Sculpture/other	No
Organizational Model	
Structure	Sign-up, Rules and Regulations
Host organization	SIUC Housing
Duties of manager	Organize sign-up, Camp Nutri-green
Number of gardeners	10
Events	Youth Nutrition Camp
Sharing produce	Yes
Sharing plants	No
Selling produce	Unknown
Environment	
Compost on site	No
Organic	No
Fertilizers	Unknown
Pest management	Unknown
Perennials featured	None

Website	No
Facebook	No
Awards/Recognition	Unknown

Appendix C: Flyover Community Garden Characteristics

Flyover Community Garden	
Place	
Year Established	2014
Previous use of site	Empty plot at Carbondale Park District
Ownership of land	Carbondale Park District
Size of plots	40 ft. X 40 ft.
Number of plots	1
Structure/Amenities	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	No
Chicken coop	No
Seating area	No
Educational signs	Yes
Raised beds	No
Rainwater catchment	No
Pathways	No
Playground	No
Tables	No
Beekeeping	No
Sculpture/other	No
Organizational Model	
Structure	Garden Manager
Host organization	Flyover Infoshop
Duties of manager	Maintain site, collect and prepare compost, educational events, collaboration with Attucks Park
Number of gardeners	1
Events	Workshops
Sharing produce	Yes
Sharing plants	Yes
Selling produce	No
Environment	

Compost on site	Yes
Organic	Yes
Fertilizers	Organic compost
Pest management	Organic
Perennials featured	None
Media	
Website	Yes
Facebook	Yes
Awards/Recognition	Grant from Awesome Foundation and Kickstarter

Appendix D: Gaia House Garden Characteristics

Gaia House Garden	
Place	
Year Established	2014
Previous use of site	Open lawn
Ownership of land	Gaia House
Size of plots	10 ft. X 20 ft.
Number of plots	1
Structure/Amenities	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	No
Chicken coop	No
Seating area	Yes
Educational signs	No
Raised beds	Yes, Hugelkulture
Rainwater catchment	No
Pathways	Yes
Playground	No
Tables	Yes
Beekeeping	Yes
Sculpture/other	Yes, Peace Garden, LOGIC herb spiral
Organizational Model	
Structure	President as Manager
Host organization	Gaia House
Duties of manager	Build and Maintain garden
Number of gardeners	3
Events	Workdays, Meeting place for faith groups
Sharing produce	Yes
Sharing plants	No

Selling produce	No
<u>Environment</u>	
Compost on site	No
Organic	Yes
Fertilizers	None
Pest management	Unknown
Perennials featured	None
<u>Media</u>	
Website	Yes
Facebook	Yes
Awards/Recognition	Unknown

Appendix E: Grace Presbyterian Community Garden

Grace Presbyterian Community Garden	
<u>Place</u>	
Year Established	2014
Previous use of site	Open field
Ownership of land	Grace Presbyterian Church
Size of plots	5 ft. X 10 ft., 5 ft. X 10ft.
Number of plots	14
<u>Structure/Amenities</u>	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	No
Chicken coop	No
Seating area	No
Educational signs	No
Raised beds	No
Rainwater catchment	No
Pathways	No
Playground	No
Tables	No
Beekeeping	No
Sculpture/other	Toolshed
<u>Organizational Model</u>	
Structure	Pastor as Manager
Host Organization	Grace Presbyterian Church
Duties of manager	Organize workdays and building plots
Number of gardeners	1 family

Events	Workdays
Sharing produce	N/A
Sharing plants	N/A
Selling produce	N/A
Environment	
Compost on site	No
Organic	Yes
Fertilizers	Unknown
Pest Management	None
Perennials featured	No
Media	
Website	Yes
Facebook	Yes
Awards/Recognition	No

Appendix F: Kids Korner Garden

Kids Korner After School Garden

Place	
Year Established	2013
Previous use of site	Empty space in front of building
Ownership of land	City of Carbondale
Size of plots	15ft X 40 ft.
Number of plots	1
Structure/Amenities	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	No
Chicken coop	No
Seating area	Yes
Educational signs	No
Raised beds	Yes
Rainwater catchment	No
Pathways	No
Playground	Yes
Tables	Yes
Beekeeping	No
Sculpture/other	Up cycled material beds
Organizational Model	
Structure	After School Program

Host organization	Carbondale Park District
Duties of manager	Maintain garden, facilitate activities
Number of gardeners	1
Events	Educational activities
Sharing produce	Yes
Sharing plants	Yes
Selling produce	No
Environment	
Compost on site	Yes
Organic	Yes
Fertilizers	Compost
Pest management	Sustainable
Perennials featured	None
Media	
Website	No
Facebook	No
Awards/Recognition	Unknown

Appendix G: Lewis School Garden Characteristics

Lewis School Garden	
Place	
Year Established	2004
Previous use of site	Open space next to classroom
Ownership of land	Carbondale School District 95
Size of plots	5 ft. X 60 ft.
Number of plots	1
Structure/Amenities	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	No
Chicken coop	No
Seating area	No
Educational signs	No
Raised beds	No
Rainwater catchment	No
Pathways	Yes
Playground	Yes
Tables	Yes
Beekeeping	No
Sculpture/other	No

Organizational Model

Structure	Teacher as Leader
Host organization	Academically Talented Program (AT)
Duties of manager	Organize lessons and workdays
Number of gardeners	39
Events	Daily lessons, yearly camp-out with vegetables from garden
Sharing produce	Yes
Sharing plants	Yes
Selling produce	No

Environment

Compost on site	No/brings compost to site
Organic	No
Fertilizers	Synthetic Vs. Organic with compost
Pest management	None
Perennials featured	None

Media

Website	No
Facebook	No
Awards/Recognition	Unknown

Appendix H: LOGIC Garden Characteristics

LOGIC Garden	
Place	
Year Established	2010
Previous use of site	Open Field
Ownership of land	Southern Illinois University
Size of plots	4ft X 20ft, 2ft. X 20ft.
Number of plots	11
Structure/Amenities	
Fence	No
Lock	No
Water	Yes
Greenhouse/hoop house	Yes
Chicken coop	No
Seating area	Yes
Educational signs	Yes
Raised beds	Yes
Rainwater catchment	Yes
Pathways	Yes
Playground	No

Tables	Yes
Beekeeping	No
Sculpture/other	Yes, Permaculture site
Organizational Model	
Structure	Manager
Host organization	Local Organic Gardening Initiative of Carbondale
Duties of manager	Recruit volunteers, Organize workdays and markets
Number of gardeners	10
Events	Workdays and workshops
Sharing produce	Yes
Sharing plants	Yes
Selling produce	Yes
Environment	
Compost on site	Yes
Organic	Yes
Fertilizers	Vermicomposting
Pest management	None
Perennials featured	Herbs, fruit trees, and berry bushes
Media	
Website	No
Facebook	Yes
Awards/Recognition	Grants from SIU Greenfund

Appendix I: Marion Street Community Garden Characteristics

Marion Street Community Garden	
Place	
Year Established	2013
Previous use of site	Vacant lot/previous site of home
Ownership of land	City of Carbondale/Lease to own agreement
Size of plots	4ft X 10 ft.
Number of plots	22
Structure/Amenities	
Fence	Yes
Lock	No
Water	Yes
Greenhouse/hoop house	No
Chicken coop	No
Seating area	Yes
Educational signs	No
Raised beds	Yes
Rainwater catchment	No

Pathways	Yes
Playground	No
Tables	No
Beekeeping	No
Sculpture/other	2 Beds planted for donation
Organizational Model	
Structure	Non-profit/Board members/garden leaders
Host organization	Common Greens
Duties of manager	Recruit, organize meetings, site maintenance, PR
Number of gardeners	10 families, 16 youth with Attucks Community Services
Events	Workshops and meetings
Sharing produce	Yes
Sharing plants	Unknown
Selling produce	Yes
Environment	
Compost on site	Yes
Organic	Sustainable
Fertilizers	Unknown
Pest management	Sustainable
Perennials featured	None
Media	
Website	Yes
Facebook	Yes
Awards/Recognition	Carbondale Bright Spot Award, Troybilt Grant for supplies

Appendix J: Mustard Seed Sower's Farm Characteristics

Mustard Seed Sower's Farm	
Place	
Year Established	2007
Previous use of site	Vacant lot
Ownership of land	Orlan Mays
Size of plots	100ft long
Number of plots	27 plots, 2400 ft. total
Structure/Amenities	
Fence	No
Lock	No
Water	No
Greenhouse/hoop house	No
Chicken coop	No
Seating area	No

Educational signs	No
Raised beds	Yes
Rainwater catchment	No
Pathways	Yes
Playground	No
Tables	No
Beekeeping	No
Sculpture/other	No
Organizational Model	
Structure	Gardener as participant
Host organization	Gift of Love Charity
Duties of manager	ALL
Number of gardeners	1
Events	Markets, store hours
Sharing produce	Yes
Sharing plants	Yes
Selling produce	Yes
Environment	
Compost on site	No
Organic	Yes
Fertilizers	Organic
Pest management	Organic
Perennials featured	None
Media	
Website	No
Facebook	Yes
Awards/Recognition	Unknown

Appendix K: Sufi Garden Characteristics

Sufi Garden	
Place	
Year Established	1997
Previous use of site	Empty lot in a residential neighborhood, gardened by neighborhood resident
Ownership of land	Sufi community
Size of plots	5ft. X 10ft., 5ft.X 20ft.
Number of plots	10 +
Structure/Amenities	
Fence	Partial
Lock	No
Water	Landscape-use quality available

Greenhouse/hoop house	No
Chicken coop	No
Seating area	Yes
Educational signs	Yes
Raised beds	Yes
Rainwater catchment	No
Pathways	Yes
Playground	Yes
Tables	Yes
Beekeeping	No
Sculpture/other	Meditation area, stage
Organizational Model	
Structure	Garden Manager
Host organization	Deyempur Sufi Community
Duties of manager	Recruiting new gardeners, helping new gardeners maintain plots, organizing educational events, general site maintenance
Number of gardeners	10
Events	Workshops, interfaith gatherings, movie nights, potlucks
Sharing produce	Unknown
Sharing plants	Yes
Selling produce	No
Environment	
Compost on site	Yes
Organic	Yes
Fertilizers	Horse manure, lasagna mulching, cover crops
Pest management	Organic
Perennials featured	Medicinal plants, grape vines, herbs and flowers
Media	
Website	Yes
Facebook	No
Awards/Recognition	Unknown

Appendix L: IRB Consent Form
Consent Form for Community Garden Research Project
Researcher: Karen Schauwecker, Graduate Student
Southern Illinois University, Carbondale

Purpose

The purpose of this study is to examine the motivations, benefits, and challenges of participating in community gardens. Garden volunteers and garden leaders will be asked to participate in this study. I will be comparing these findings to gardens in different geographical settings to see how place effects gardener's experiences. For example, variations between gardens in cities and gardens in smaller towns. The findings of this study may be used in academic publications such as a thesis paper or journal.

Participation

If you decide to take part in this study, you will participate in a survey and a semi-structured interview that should last no longer than one hour. This interview will be audio-recorded and later transcribed so it may be referenced most accurately. The recordings will be destroyed by August 1, 2015.

Your Rights

Your participation is voluntary and you may withdraw from this interview at any time. Please feel free to ask questions or voice concerns at any time, before, during, or after the interview. You do not have to answer any question if you do not want to. On the survey, you may leave any question blank.

Confidentiality

All information will be kept in a locked private office. Basic demographic information such as race, age, sex etc. will be gathered, as well as some background information such as education and income. Your name will not be published, and only the researcher will have access to these records.

I _____ agree _____ disagree to participate in a survey and interview for this study.
I _____ agree _____ disagree to be audio-recorded
I _____ agree _____ disagree to allow the researcher to quote me in their papers.
I _____ agree _____ disagree to allow my name to be used in an academic paper or other written material.

Thank you for your help and participation in this study. If you have questions, please email: karens@siu.edu or call at 206-713-6607 or Dr. Leslie Duram, Dept. of Geography and Environmental Resources, duram@siu.edu or (618) 453-6084.

_____
Participant signature   Date

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as participant in this research may be addressed to the Committee Chairperson, Office of Sponsored Projects Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533 Email: siuhsc@siu.edu

VITA

Graduate School
Southern Illinois University

Karen E. Schauwecker

Karenelizabeth2030@gmail.com

Beloit College
Bachelor of Liberal Arts, August 2004

Special Honors and Awards:
Gamma Theta Epsilon, 2014-2015

Thesis:
Organized Garden Projects as Multifunctional Sites: A Case Study of Carbondale,
IL

Major Professor: Leslie Duram