Sowing the Seeds of Success

Cultivating a Future for Community Gardens

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ABSTRACT Whether providing sustenance during the World Wars, an avenue for grassroots activism in the 1970s, or a local food source for a modern world focused on "sustainable" living, community gardens have proven adept at conforming to society's needs. Today, a broad range of organizations seeks to maximize the community building and food security benefits commonly attributed to the success of community gardens. Their development and administration must address concerns related to their long-term sustainability to position them for success as permanent and valuable parts of the urban landscape. The research for this project involved two methods: a literature review and interviews with community garden leaders with various roles in the planning, development, and management of a range of community gardens across the United States. The research reveals that successful community gardens are often grown from four "seeds": secured land tenure; sustained interest; community development; and appropriate design. The recommended considerations include design, development and administration factors.

KEYWORDS community gardens

INTRODUCTION

Whether providing sustenance during the World Wars, an avenue for grassroots activism in the 1970s, or a local food source for a modern world focused on "sustainable" living, community gardens have proven adept at conforming to society's needs. Today, a broad range of organizations seeks to maximize the community-building and food-security benefits of community gardens. Further proliferation of community gardens is likely to persist as the urban landscape of the United States expands and a growing percentage of the population realizes the benefits of community gardens.

Research has shown that community gardens have the potential to provide social, political, and environmental benefits to direct participants and the surrounding community (Francis 1987; Herbach 1998; Howe, Viljoen, and Bohn 2005; Hynes and Howe 2004; Iles 2005; Kingsley and Townsend 2006; Naimark 1982; Patel 1991). Despite these benefits, many community gardens face a wide range of obstacles that affect their long-term viability. In an attempt to explore the key factors supporting the long-term success of community gardens, this study conducted interviews with four community garden leaders from across the United States with experience in the planning, design, construction, and management of dozens of gardens. Their responsibilities ranged from the management of community gardens, consulting and support, oversight of open-space programs, to the leadership of community groups involved in a range of empowerment projects, including community gardens. The interviews focused on the development of a framework for community garden viability rather investigating specific community gardens as case studies. The research revealed that successful long-term community gardens overcome obstacles by basing the growth of their gardens on four "seeds:"

1. secured land tenure;
2. sustained interest;
3. community development;
4. appropriate design.

DEFINING COMMUNITY GARDENS

The term *community garden* came into use about the time of World War I, initially referring to collectively grown gardens and to gardens with individual plots (Lawson 2005). Over time people began to associate the term with neighborhood gardens with individual plots and common management (Lawson 2005). Lawson explained that, while we assume community gardens are "grassroots" efforts, "such ventures rely on a network of citywide, national, and even international sources for advisory, technical, financial, and political support" (2005, 3). Gardens are seen as democratic locales uniting diverse groups in efforts at self-help, and locations for teaching skills, "civic-mindedness," and gardening as a way to reintroduce nature to urban areas (Lawson 2005). Often, garden creation is a community-based attempt to improve local social and physical situations.

Today the American Community Gardening Association (ACGA) defines community gardens broadly as "any piece of land gardened by a group of people" (ACGA n.d., n.p.). This definition encompasses a wide

variety of community gardens including neighborhood gardens, school gardens, therapeutic gardens, public housing gardens, demonstration gardens, job-training gardens, and children's gardens. Community gardens have been created at schools, healthcare facilities, housing complexes, and parks. Gardens take various forms, including site gardens, where paid or unpaid workers tend entire gardens, and plot-style gardens, where individuals, groups, or families are assigned plots. Plot-style gardens do not always serve the organization and structure of educational, therapy, group, market, and training functions addressed by broader urban garden programs (Lawson 2005). Plot-style gardens are generally adopted for community-based individual gardens.

RATIONALE FOR COMMUNITY GARDENS

The primary economic benefit of community gardens is the subsidy of grocery expenses (Linn 1999). The crop size and thus the grocery-bill savings are directly correlated to size of plot, cultivation intensity, and climate (Patel 1991; Sommers 1984). A conservative estimate is that a family can save approximately $475 a year (Patel 1991; Sommers 1984). In addition to the financial savings, community gardens provide fresh produce that may be unavailable (Morland et al. 2002). At a larger scale, local governments may benefit from investing in community gardens because the development and maintenance costs of community gardens are typically less than those of traditional parks (Herbach 1998). Aside from the found savings, investing in community gardens increases the park system's user base, as traditional parks do not serve people interested in gardening (Francis 1987).

Gardening may "enhance a person's psychological, spiritual, and physical sense of well being" (Sommers 1984, n.p.) and reduce stress levels (Howe, Viljoen, and Bohn 2005). In addition, gardens offer ethnic minorities a place to "express their local and ethnic identity" (2005, 57) by providing a place to grow specialty food items not otherwise available and, for some, a place to connect with their agrarian cultural heritage (Friends of Burlington Gardens [FBG] 2005).

In addition to individual benefits, community gardens are widely believed to have far-reaching community benefits. Perhaps the most publicized benefit of community gardens is that they aid in creating a sense of place and fostering community pride in neighborhoods (Herbach 1998). Community gardens often become central meeting areas and event spaces in a neighborhood (Naimark 1982). Having a space where neighbors can meet and socialize increases social networks within the community (Kingsley and Townsend 2006).

Social networks, community, and sense of place are key elements of social capital (Kingsley and Townsend 2006). Increasing a community's social capital empowers the individual (Kingsley and Townsend 2006) and adds to the "ability of a community to take interest in and to shape its own future" (Iles 2005, 85). This often results in community activism and a commitment to enacting positive changes within the community (Lawson 2005). In lower-income and neglected neighborhoods, the activism that comes from participation in a community garden may be enough to revitalize the neighborhood and give residents new hope for the future.

The environmental impact of community gardens is perhaps the most evident benefit. Often, gardens take up vacant lots in urban areas that are left in disrepair. Community gardens beautify these sites and add green space to blighted urban areas. The gardens also reconnect people with natural processes; this in turn makes them more aware of their surroundings and increases their desire to protect the environment, particularly in the immediate area of the garden (Naimark 1982).

THE EVOLUTION OF COMMUNITY GARDENS

The roots of community gardens in the United States grew out of Detroit at the end of the 19th century. In 1894, during a depression lasting from 1893 to 1897, Mayor Hazen S. Pingree sought to relieve the urban poor of Detroit by using gardens both to provide food and to improve the morale of unemployed laborers (Lawson

2005). News of Pingree's success spread across the country and began a national movement (Lawson 2005). Although urban gardens were widely embraced during this time, they were also viewed as a temporary gesture to help the poor until the economy recovered or people were able to establish new careers (Von Hassell 2002).

Years later, as World War I took hold, people again turned toward community gardens as a means of relief (Lawson 2005). During this period, changes occurred at the structural level as national groups became more invested in the success of the gardens. With the adoption of a hierarchical structure of administration, the government and national organizations disseminated technical information and resources for the gardens, while the implementation and organization of the programs fell to local volunteer organizations (Lawson 2005). The temporary nature of the gardens meant that once a crisis was resolved the parties involved focused their efforts elsewhere; the hierarchical organization did not foster the local leadership required to support the establishment of gardens as a sustainable community resource (Lawson 2005).

In the 1970s people inspired by beautification, health and food security began to take part in grassroots activism to rebuild their own communities, (Lawson 2005). The focus of the gardens shifted to their positive impact on social connections, which in turn inspired action toward "physical and social reclamation" (Lawson 2005, 206). This was partly due to a change in the organizational structure of the gardens, allowing for more community ownership of the garden projects. The gardens still relied on financial and technical support from outside agencies, but citizens of the community increasingly took over the planning and development of the gardens (Lawson 2005).

METHODS

The research for this study involved a literature review and interviews with community garden leaders. The literature review provided information about America's largest and most successful community garden programs but little information on community gardens with less institutional support and organization. This gave an incomplete picture of community gardens.

For the purposes of this study, a successful community garden is defined as a garden that has maintained community interest more than ten years after its inception. This study attempted to combine existing literature on the largest and most successful community gardens with in-depth information from community leaders with a range of experience involving smaller, programs demonstrating a capacity for longevity.

The success of community gardens is the product of many factors such as community characteristics, location, site characteristics, economic challenges, and leadership. These factors interact in unique ways that are difficult to predict. This study assumes that the complexity of these factors is best understood through an in-depth dialogue rather than through a broad exploration of topics or cases. Long, loosely structured interviews were conducted with individuals involved in successful community garden programs. In so much as was possible, participants were selected to obtain a breadth of information on different garden types, organizational structures, and degree and type of governmental support. Participants were also chosen to reflect a range of community sizes and geographic locations. Finally, participants involved in programs with Web site(s) were selected to provide sufficient background information for situating the interviews within the context of program structure, organization, priorities, and so forth, though this may bias the results to reflect gardens or programs with greater institutional support or higher levels of organization.

Based on the criteria noted above, six program coordinators received an e-mail inquiring about their willingness to participate in an interview. Four organizers agreed to participate. The interviews with the organizers were conducted by phone between September and November 2007 (Table 1). Each participant was asked a series of general questions related to community garden initiation and startup, management, and success and failure (Table 2). The loosely structured nature of

Table 1. Interview participant information

Contact	Date contacted	Personal information	Organization	Location	City population	Program structure
Joe Mathers	10 Oct. 2007	Community garden developer for 18 years.	Community Action	Madison, WI	214,098[a]	The community garden program, one of many run by the nonprofit community-action agency CAC, provides leadership training, technical advice, and support services for the 31 gardens in Madison.
Jim Flint	11 Oct. 2007	Executive director of FBG for 7 years. Worked for 8 years as the director of the National Gardening Association's Youth Garden Grants program.	Friends of Burlington Gardens (FBG)	Burlington, VT	38,889[b]	Grassroots nonprofit, incorporated in 2001 and dedicated to assisting community gardens in Vermont, stems from a nonprofit started in 1972.
Lucy Bradley	02 Nov. 2007	NCSU Urban Horticulture Extension Specialist. Spent 11 years as the Urban Horticulture Extension Agent in Maricopa County, AZ, where she worked extensively with community gardens.	North Carolina State University (NCSU) Extension	Raleigh, NC	N/A[c]	Extension horticulture department assists interested communities and organizations with finding the tools and resources necessary to start and maintain a community garden.
Leslie Pohl-Kosbau	26 Sep. 2007	Has spent 33 years working as the first and only manager of Portland's Community Garden Program.	Portland Parks and Recreation: Community Gardens Office	Portland, OR	539,950[a]	City of Portland Parks and Recreation Department, in existence since 1975, operates 30 community gardens in this program.

[a] U.S. Census. (2006). http://factfinder.census.gov[January 17, 2008].
[b] U.S. Census. (2000). http://factfinder.census.gov[January 17, 2008].
[c] NCSU Extension works across the State of North Carolina, wherever its services are requested.

the interviews allowed the participants to focus on issues they considered important. Responses were typed, coded, and analyzed using content analysis within the context of available information about the participant's organization(s), garden(s), program structure(s), as well as relevant information from the literature. In general, the participant responses reflected ideas and themes found in the literature review. The results of the interviews were consolidated with the relevant literature, and the four "seeds" were identified.

SUCCESSFUL COMMUNITY GARDENS

In the 1990s, the ACGA conducted two surveys to better understand the community garden movement. The surveys revealed that the two factors most threatening the long-term viability of gardens were lack of sustained interest and the loss of land (ACGA 1996). The ACGA found a rise in community garden popularity, with about two-thirds of the gardens having been developed in the ten years prior to the survey (ACGA 1996), but noted that a significant number of those gardens were unlikely to last more than ten years.[1]

Gardens are considered successful if they provide benefits to the environment, community, and individuals. A community garden that secures land tenure, sustains interest, and acts effectively as a community development tool will thrive. In addition, appropriate and effective designs enhance longevity by creating spaces that people love. The development and administration of the garden is also central to success: the project must consider a wide range of issues and be based in a community management and leadership approach. Planting the four "seeds of success" at the start of the development of a community garden helps ensure its success in the long-term.

Table 2. Study interview questions

	Interview question
1.	Is your organization involved in picking community garden sites? What criteria are used to locate the sites?
2.	Do groups or individuals always seek out your organization's help when trying to start a garden, or is the organization seeking out new neighborhoods to start gardens in?
3.	If your organization is seeking out new neighborhoods, what criteria are used to decide what neighborhood a garden would work best in?
4.	Has your organization found gardens to be more successful in certain types of communities (i.e. with the elderly, certain ethnic groups, renters vs. owners, lower income areas)?
5.	If people are coming to your organization to start gardens, are they typically individuals, established neighborhood groups, or something else?
6.	Does your organization require a certain level of group organization before they get involved?
7.	Has your organization had gardens that it has worked with fail? Why?
8.	Has your organization ever started work on a new garden and not followed through with it? Why?
9.	What do you see as the main reasons why gardens have succeeded?
10.	Have you found that there are some steps you can take when starting a garden that help them succeed in the future?
11.	Is land tenure a major issue? What arrangements are made for land with most of the gardens (lease, own, trust)? Is it different for each site and/or neighborhood?
12.	Are there other major issues the gardens and gardeners have to deal with, especially initially?
13.	Are there any other neighborhood organizations, nonprofits, or groups that help with the community gardens? Does your organization work with them in any way?

SEED OF SUCCESS #1: LAND TENURE

Community gardens have a unique history in that they have existed consistently as an interim land use. This feature does not lend itself to stable land-tenure arrangements. Development pressures are strong for valuable urban land, and gardens in such areas must compete with more profitable land uses. As Herbach noted, "Very few gardens are owned by the community groups that run them. Still fewer are held in trust or are owned by cities that plan on keeping them gardens in perpetuity" (1998 n.p.). Establishing a permanent or long-term land arrangement from the onset helps sustain user interest and dedication to the garden (Bradley 2007), though securing land tenure is no guarantee of commitment or interest on the part of residents.[2]

Securing property does not address all the concerns a community garden might face, but it allows gardeners to develop the site with fewer physical constraints (Naimark 1982). The common options for land tenure arrangements include leases, land trusts, and partnering opportunities. In addition, many communities have found success using policy and planning tools to address land tenure (Pohl-Kosbau 2007). Cities in-

cluding Seattle, Boston, and San Francisco have made significant progress in improving the permanency of their community gardens as a result of the efforts of the communities housing the gardens, garden staff, and local government.

Leases

Many community gardens operate on leased land (MacNair 2002). A lease is a contract with a landowner (lessor) allowing the lessee use of the land for a specified amount of money and period of time. Although common, leases can be terminated on short notice, and are not ideal for establishing land tenure (Schukoske 2000). Gardens may lease land from any willing partner, but interested groups can include universities, schools, municipalities, churches, apartment complexes, and healthcare facilities. The Friends of Burlington Gardens in Vermont recently used a short-term lease to "get a critical mass to develop" (Flint 2007) after which it negotiated a longer lease.

According to Lucy Bradley, a lease of five to ten years is needed to make a startup effort worthwhile (Bradley 2007; see also MacNair 2002). Other sources indicate that a ten-year lease is ideal because of the time

and effort people put into the garden (MacNair 2002). In either instance, when entering into a long-term lease, the lessee is wise to partner with an organization with long-term stability, such as an established nonprofit organization or land trust (MacNair 2002).

Land Trusts

A land trust is a "nonprofit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by its stewardship of such land or easements" (Land Trust Alliance n.d., n.p.) through purchase, donation, or bequest of conservation easements (Land Trust Alliance n.d.).

The type of land a trust protects depends on the focus and goals of the trust, but these can be closely aligned with the objectives of a community garden (MacNair 2002). Trusts manage gardens directly or lease space to garden organizations (Herbach 1998). Unlike a typical lease, a land trust affords greater security, as the land is permanently protected as open space or designated for use as a community garden (MacNair 2002). Using land trusts to secure community garden sites is a relatively new idea, but has been successful in cities such as Philadelphia, Pennsylvania through the Neighborhood Gardens Association (NGA), and Madison, Wisconsin through the Madison Area Community Land Trust (MACLT) (Campbell and Salus 2003; NGA n.d.). In all cases, placing the garden into a land trust is a time-consuming process requiring a responsible and committed group of gardeners (ACGA 1998).

Government Partners

Local governments have proved less than stable partners when it comes to leasing land. However, in cities embracing community gardens, the gardens can potentially be incorporated into the open space network with other recreational uses (MacNair 2002). Short-term leases of one or two years are common for government-owned land (Herbach 1998). Many cities

are hesitant to commit to long-term leases because they would rather see the land developed to expand the tax base (Naimark 1982). If a community garden site is designated for development, gardeners have little recourse when the city chooses to develop the site, though city-owned sites are not usually on the speculative market, and are somewhat protected from development pressures (Herbach 1998).

There are benefits to working with the government. In many locations, the city locates land for gardens and provides staff with developmental, organizational, and maintenance skills. Community gardens integrated into the parks department are more easily protected from future development as they may be located in protected open space (Department of Parks and Recreation, n.d.; Flint 2007; MacNair 2002). Municipally run community gardens are accessible to everyone (Pohl-Kosbau 2007), unlike those run by nonprofits that may target members of specific groups (Hess 2005).

Other Partners

Churches, schools, healthcare facilities, nonprofits, and housing developments all may be champions of community gardens. One of the primary ways they support community gardens is to allow a garden to be built on their land. Although leasing land from one of these organizations is possible, and may provide a steady land arrangement, it is more common for the partner organization to run the community garden (Covenant Community Garden n.d.).

SEED OF SUCCESS #2: SUSTAINED INTEREST

While securing land is critical to protecting the future of community gardens, they would not exist without the interest and support of gardeners and their surrounding communities. A 1996 ACGA survey found the most common reason for failure was lack of interest. Several factors should be considered in developing a community garden project to maximize initial and sustained community interest in the project. These include the lo-

cation of the garden, community outreach, leadership opportunities, and funding.

Location

A community garden's location may have substantial impact on the engagement of people in the project. The garden should be in close proximity to the intended gardeners, and be no more than a short walk or bike ride away (MacNair 2002).

Although community gardens have proven successful in a wide range of communities, the chances of sustaining interest are greater if the garden addresses an unmet need. Herbach argues that neighborhoods with a high density or large percentage of renters and condominium owners are likely to have a "critical mass of people looking for a place to garden" (Herbach 1998, n.p.). Groups most likely to be interested in community gardens include senior citizens or others who might not have the land or tools to garden on their own (Surls, Braswell, Harris and Savio 2001). Areas with stable population demographics are often most successful at supporting a community garden for the long term, but gardens in diverse neighborhoods often find it easier to sustain interest in the gardens as demographics change (Mathers 2007).

Problems of accessibility and democracy are evident at community gardens as some groups, especially children and teens, are traditionally excluded from community gardens. The transient nature of low income and rental communities are also a problem, as people are unwilling to invest in a community garden if they do not have a long-term commitment to the neighborhood (Mathers 2007).

Outreach

Reaching out to gardeners and non-gardeners within the neighborhood where a community garden is located is essential to the long-term success of community garden projects. The surrounding community should be invited to the initial planning meetings for the garden. This ensures that the project will embrace the ideas and hopes of a wide spectrum of community members (Payne and Fryman 2001). These meetings also determine the structure of the garden and its role in the community—often determining how the garden is designed and organized. Community engagement in the early stages of development maximizes the likelihood of a garden's long-term success. Much of this process involves educating the community about the benefits of community gardens and how members of the community can share in those benefits. The initial planning process widens the pool of potential gardeners and "the greater the number of individuals who commit to the garden from the beginning, the larger the community impact when the garden reaches its goals" (Payne and Fryman 2001, 6; Schmelzkopf 1995). If there is little interest at this early stage, another site should be chosen (Emerson n.d.). As the role of the community garden changes, its primary contribution to the community may be as a neighborhood green space or social center (Schmelzkopf 1995).

While initial interest is important to starting a community garden program, organizers should be prepared to continue outreach through the life of the garden (Flint 2007; Mathers 2007). Organizers of community gardens may sustain support from their neighborhoods by hosting inclusive events such as festivals and parties (Emerson n.d.) and offering learning opportunities such as gardening practices or cooking classes (Emerson n.d.; Twiss et al. 2003).

The distribution of a regular newsletter and organizing events for gardeners to share information can overcome dwindling interest (Flint 2007). Other ways to retain community interest may involve restructuring the garden to serve a different demographic, such as youth groups (Mathers 2007), Other tools to support garden interest include the creation of Web sites that build a larger community of gardeners, or the establishment of advisory councils or boards that include neighborhood organizations such as a food pantry or other members of the community with an interest in food production (Bradley et al. 2007).

Leadership

Many community gardens have survived for long periods because of the commitment and dedication of their leaders. Leadership is important to the success of a community garden in two ways: 1) a vital leader sparks the initial idea and has the motivation to carry it forward, and 2) community gardens, if organized properly, increase the local capacity for leadership development.

Ideally, the initial motivation for starting a community garden comes from within the community, as this helps ensure that the ideas and goals of the project are developed by local residents rather than an outside organization (Mattessich, Monsey, and Roy 1997). Successful community building efforts tend to occur "in communities containing at least some residents who[m] most community members will follow and listen to, who can motivate and act as spokespersons, and who can assume leadership roles in a community-building initiative" (Mattessich, Monsey, and Roy 1997, 25). In many cases, "you need that passionate person; without them the programs fizzle" (Bradley et al. 2007).

Once established, leadership roles must be dispersed. People who succeed at completing small manageable tasks are empowered and encouraged to assume greater responsibility (Payne and Fryman 2001). In addition, allowing participants to share in leadership tasks encourages involvement and aids in replacing leaders or filling new leadership roles as they appear (Flint 2007; Mattessich, Monsey, and Roy 1997). Allowing community gardening participants to voice opinions and participate in decision-making processes promotes leadership development (Payne and Fryman 2001). An inclusive decision-making process helps community garden organizations avoid potentially fractious issues (MacNair 2002).

Providing mentoring and leadership training in the first three years of a garden's operation (Mathers 2007) sustains leadership capacity as "new learning experiences increase people's interest, investment, and ownership in the project" (Payne and Fryman 2001, 17; Mathers 2007). Developing a cadre of fresh leaders is important. Mathers recommended limiting the duration of leadership opportunities to two years so that no one "gets stuck in one position" (2007).

Funding

Several methods for acquiring funds have proven successful in community garden projects, including fundraising, seeking donations, securing grants, and charging fees. Fundraising is the easiest and most accessible way for a group to raise money for its garden project. Fundraising is especially useful in helping to expand infrastructure and garden programs once the garden is established (Flint 2005). Fundraising builds social capital and encourages a wider range of individuals to "buy in" to the gardens. In addition, fundraising is an excellent way to garner good publicity and reach out to the community (Emerson n.d.; Flint 2005). "In kind" contributions, such as donated materials and labor, are also an effective way to reduce costs. Community businesses, for example, may be willing to donate supplies such as lumber, fencing, and plants or tools such as tractors (Bradley et al. 2007; Surls et al. 2001).

Grant money can be a crucial source of funding for community gardens. Grants, often for a specific purpose, are available from federal, state, city, or nonprofit organizations. Obtaining grant money is a time-consuming and technical process. Receiving and administering grant funds requires 501(c)3 non-profit status (Surls et al. 2001). Partnering with a nonprofit organization that can raise, receive and distribute grant money may be easier (Pohl-Kosbau 2007). Some cities give small grants to help establish new gardens (Parker 2007). In some cases, gardeners may apply for funding through city programs (Flint 2007; Parker 2007).

Charging a fee to participate in a community garden is a standard practice. Fees generally contribute to maintenance costs but provide the additional benefit of sustaining involvement, as people who contribute financially want to "get their money's worth." The willingness, or lack of willingness, to pay nominal fees often reflects the true level of commitment to a garden project.

SEED OF SUCCESS #3: COMMUNITY DEVELOPMENT

For a community garden to be a successful community development tool it must increase the community's capacity for meeting its economic, social, and physical needs (Lawson 2005). Payne and Fryman identified several characteristics of community gardens that make them uniquely qualified for this task (2001):

- Gardens are places where people of all ages, races, and income levels can interact in a non-threatening way.
- Community gardens are continuous projects that can be sustained by community members rather than outside agencies.
- A wide range of skills is necessary to maintain a garden.
- The evolution of a garden offers unique challenges to participants.
- The residents control garden space.
- Gardens have the potential for dramatic, short-term visual effects.
- The process of gardening allows people to feel pride about doing something for their community.
- The process of developing a garden empowers people to realize that they can contribute in a positive way to their community.

Maximizing community development potential does not necessarily happen *once* a garden is started; rather, it depends on *how* the garden is developed. Community development "requires and helps to build community capacity to address issues and to take advantage of opportunities, to find common ground and to balance competing interests. It does not just happen—it requires both a conscious and a conscientious effort to do something (or many things) to improve the community" (Frank and Smith 1999, 6). The success of the garden is often a combined effort of the gardeners and a pool of community resources and organizations (Schmelzkopf 1995).

Unlike the past, when gardens died along with government interest, many community gardens now continue to thrive because of the active involvement of the participants in all aspects of development and organization (Von Hassell 2002). Today, community gardens have also acquired mainstream popularity as a result of concern about community food security and the importance of eating locally. These interests lend a different focus to the community garden as part of a movement to rebuild "a spirit of local community tied to a place and restoring nature and food growing in the inner city" (Hynes and Howe 2004, 172).

Creating a community garden with a beneficial effect on a community requires more than simply building a garden. The benefits associated with community gardens that lead to community building develop over time through the process of creating and maintaining the garden (Herbach 1998). Gardens that are built by an external group and given to the community to maintain are often abandoned and vandalized as none of the residents feel responsible or have a sense of ownership (Schmelzkopf 1995).

Build Relationships

Building positive relationships among gardeners, the immediate neighborhood, and the larger community is necessary for the garden to fulfill its potential as a community development tool. Personal relationships among gardeners are facilitated through formal and informal opportunities for social interaction (Payne and Fryman 2001). Such interaction, as well as the opportunity to work together, encourages connections between the gardeners that equip them to effectively tackle other issues affecting their neighborhood (Payne and Fryman 2001). Interaction opportunities include parties, garden potlucks, educational workshops pairing experienced and inexperienced gardeners, craft days, cooking and preserving classes, organic gardening classes, classes to share general gardening tips (Community Action Coalition for South Central Wisconsin, Inc. [CAC] n.d.), and activities for children and families (Payne and Fryman 2001). Incorporating the neighborhood into the community garden project facilitates a

garden's positive impact on the community (Payne and Fryman 2001).

Finally, a community garden should be connected to a larger network of community groups and organizations. Such relationships provide gardeners with services, but more importantly, the "merging of agendas among partners supports the garden and nurtures a collective passion to make deep and lasting positive change in a community" (Payne and Fryman, 2001, 8). Coalitions with other community members and organizations bring together gardeners, garden organizers, and partner organizations to strengthen community gardens by linking them through shared stories, resources, and information (Payne and Fryman 2001), through an e-mail bulletin, newsletters, and joint conferences (FBG n.d.).

Organization

Organizational structure influences the character and functioning of a community garden. The garden may be run independently, or by a separate organization. A common arrangement is for an organization such as a city department, nonprofit, church, school or housing complex to run the community garden. In these cases the gardens are typically managed by the gardeners, though the umbrella organization assists with certain aspects of the garden such as providing technical resources, educational opportunities, building materials, staff, and financial assistance. Two aspects of garden organization are important to the garden's success in community building—the overarching organization and the internal organization.

The most important aspect of the overarching organization is that it be driven by the needs and goals of the community. Establishing a garden that is first and foremost organized around the needs of the community helps gardeners to concentrate on the purpose and focus of the garden while effectively utilizing the resources and services of partnership organizations (Mathers 2007; Mattessich, Monsey, and Roy 1997).

The internal organization of the community garden includes everything from defining garden rules and determining member rights and obligations to deciding how to best utilize resources and plan events (Von Hassell 2002). These decisions may be made through different organizational arrangements. Some gardens utilize a more formal arrangement with elected leaders while others focus on broad-based decision-making (Bradley 2007; Bradley and Baldwin 2008; Von Hassell 2002). A structured organization provides a framework enabling gardeners to have a voice and helps "promote stability, trust and a foundation for growth" (Bradley and Baldwin 2008, 7).

SEED OF SUCCESS #4: DESIGN

To function successfully, a community garden must be based on an inclusive process of development (Pohl-Kosbau 2007). Recommendations include working with a small group of stakeholders (at least eight to ten) (Pohl-Kosbau 2007), starting out small (Bradley 2007, Bradley et al., 2007), and developing a vision for a larger design so that there is a plan for additions as the need arises (Bradley et al. 2007; Bradley and Baldwin 2008). Other design factors fall into four general categories: site selection, accessibility, garden spaces, and site elements, as identified in Figure 1.

No single design approach or feature can deliver secure land, sustained interest, and support community building; rather a combination of these factors may create a space that effectively responds to the needs of the community. First, the design process should be a collaborative effort (Pohl-Kosbau 2007). In Portland, community garden design involves at least eight to ten stakeholders present (Pohl-Kosbau 2007). Lucy Bradley cautioned garden projects to avoid starting with too many people and recommended that garden design be altered later to accommodate growth (2007). Starting small was also the tactic used by Chris Burtner when creating the Covenant Garden, as she was unsure about the eventual popularity of the garden and the number of available volunteers. Even with a small start, a vision for a larger design is recommended (Bradley and Baldwin 2008).
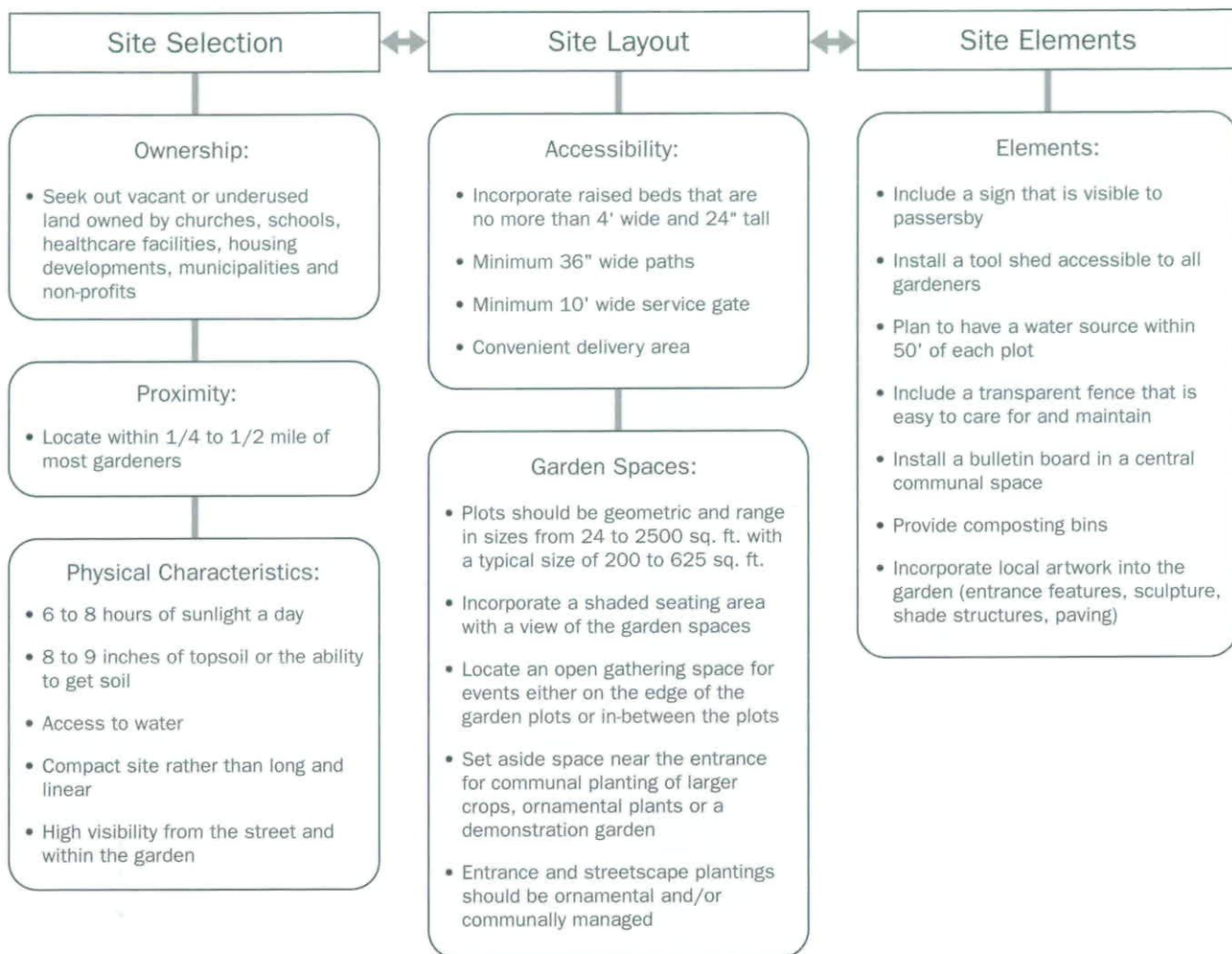
Site Selection	Site Layout	Site Elements

Ownership:

• Seek out vacant or underused land owned by churches, schools, healthcare facilities, housing developments, municipalities and non-profits

Proximity:

• Locate within 1/4 to 1/2 mile of most gardeners

Physical Characteristics:

• 6 to 8 hours of sunlight a day

• 8 to 9 inches of topsoil or the ability to get soil

• Access to water

• Compact site rather than long and linear

• High visibility from the street and within the garden

Accessibility:

• Incorporate raised beds that are no more than 4' wide and 24" tall

• Minimum 36" wide paths

• Minimum 10' wide service gate

• Convenient delivery area

Garden Spaces:

• Plots should be geometric and range in sizes from 24 to 2500 sq. ft. with a typical size of 200 to 625 sq. ft.

• Incorporate a shaded seating area with a view of the garden spaces

• Locate an open gathering space for events either on the edge of the garden plots or in-between the plots

• Set aside space near the entrance for communal planting of larger crops, ornamental plants or a demonstration garden

• Entrance and streetscape plantings should be ornamental and/or communally managed

Elements:

• Include a sign that is visible to passersby

• Install a tool shed accessible to all gardeners

• Plan to have a water source within 50' of each plot

• Include a transparent fence that is easy to care for and maintain

• Install a bulletin board in a central communal space

• Provide composting bins

• Incorporate local artwork into the garden (entrance features, sculpture, shade structures, paving)

Figure 1. Proposed physical design considerations.

Site Selection

The first step in the design of a community garden is finding a site and determining its feasibility for sustaining a garden. The site should be large enough to accommodate the garden spaces and elements that best respond to the needs of the community. The selected site should be suitable for a community garden in terms of its ownership, geographic, and physical characteristics. Considerations include land tenure, ownership, supporting partners, current and surrounding land uses, adjacent resources, and access to the site.

The geographic location of a community garden influences long-term success. Emerson has found that "a garden located within walking distance of its gardeners will receive more activity and therefore will be safer and better maintained" (n.d., 12) and that such a garden is more likely to have surveillance (Figure 2). "Walking distance" depends on the individual

gardeners' health and preferences but the garden probably should be within a five- to ten-minute walk—a quarter to half a mile from the gardeners' homes—though some people are willing to walk up to a mile and a quarter, or for twenty minutes (Bicycle Federation of America [BFA] 1998).

As noted previously, demographics of the surrounding community, particularly those of the population living within walking distance of the garden, must be considered. Gardens near renters or condominium owners, senior citizens, low-income families, and people with different ethnicities are often successful.

Once a potential site is found, its physical characteristics should be considered. Mathers (2007) suggested that the garden site be compact, and more square or circular, rather than long and linear. At a compact site, all plots can be close to a centralized facility such as the community area and tool shed, which

Figure 2. Adjacent residents, as well as members, provide surveillance for community gardens in Seattle. (Courtesy of Brooke Adams Vail)

Figure 3. In Seattle, each plot requires access to water, directly or through a system of hoses. (Courtesy of Brooke Adams Vail)

eases logistics and facilitates interaction. Compact sites increase visibility, which prevents vandalism and promotes safety. Increased visibility also serves as free publicity to a curious public (Herbach 1998). A long, linear site may benefit visibility if the longest side parallels a street or viewshed.

The site should receive six or more hours of sunlight a day for optimum planting conditions (Naimark 1982). There should be eight to nine inches of quality topsoil, though soil may be imported and raised beds constructed (MacNair 2002). Other challenges include topography and access to water. Installation of a water meter may be costly, so finding a site with water, where water access may be negotiated with a neighboring property, or where a group may cover the costs of

installation, is advisable (MacNair 2002; Emerson n.d.). The irrigation system should provide water for each plot. On average, a community garden should have one hose bib for every four plots (Surls et al. 2001) (Figure 3). A more sustainable alternative to piped water is harvesting water for reuse in cisterns, ponds, or retaining basins.

Accessibility

A community garden should be accessible to all members of the community—to broaden the appeal of the garden and to ease logistical concerns that might impede the garden's success in the future. The community garden should be accessible to disabled and elderly people, diverse ethnic groups, and functional services (Payne and Fryman 2001). The Madison Area Master Gardeners Association (MAMGA 2007a) has consolidated the key considerations relative to accessible garden spaces:

- places for people to remain seated, standing, or leaning;
- shaded areas for people to stay out of the sun and heat;
- stable, flat, and slip-resistant surfaces;
- barrier-free access to planting areas;
- pathway width and surface materials accommodating wheelchairs, strollers, and crutches;
- height and reach limitations.

A common strategy for providing accessible garden spaces is to install raised beds, which must also account for reach limitations. A bed that is 4 feet by 8 feet (Friends of Troy Gardens n.d.) and 24 inches high (MAMGA 2007b) is recommended. Tabletop raised beds are another option, providing enough legroom for a participant to sit in a chair or wheelchair while gardening. Typical dimensions for a raised bed are 36 to 48 inches wide and 30 to 33 inches high with 6 to 12 inches of soil (Iowa State University Extension n.d.). Aside from the beds, entrances and paths must accommodate people with disabilities. The Americans with Disabilities Act (ADA) guidelines for path design, dimensions and con-

struction ensure that a garden is fully accessible. The primary considerations are path width and path surface. Path widths of 36 inches and constructed from smooth materials such as concrete, asphalt, compacted crushed stone or gravel, or plastic wood permit passage of wheelbarrows and single wheelchairs while 60 inch path widths accommodate two wheelchairs (MAMGA 2007a; Ferris, Norman, and Sempik 2001).

Gardens should support change and adaptation by ethnically diverse groups of people. The design of the garden should allow for the installation of culturally specific spaces (Payne and Fryman 2001). For example, the Hispanic garden tradition includes building a casita, or little shack (Schmelzkopf 1995). Casitas, unique to Hispanic gardens, are used as social centers and places to store tools, cook, or have parties (Warner 1987). Flexibility may also mean setting aside space for crops that require more room to grow, such as corn.

Finally, the garden must be accessible for bulk deliveries. Planning for this in advance may ease logistical issues in the future. A community garden will receive deliveries of building materials, compost, soil, and plants, and requires truck access. The garden should have a minimum 10-foot wide gate, or opening, to allow for required access (Naimark 1982). In addition, curb cuts and a driveway entrance help to accommodate deliveries (Naimark 1982). The site design should account for these deliveries by locating vehicular access points near storage areas so that the vehicles do not have to drive through the site.

Garden Spaces

The ability to facilitate community interactions makes community gardens valuable community assets. The interactions between gardeners and the community may be encouraged through the design of garden spaces (Linn 1999). The importance of gathering spaces in a community garden should not be underrated—"common areas create a sense of place and build a community garden's identity. An inviting shared space, even something as simple as a comfortable spot to sit in the

Figure 4. In Durham, North Carolina, small seating areas provide places for rest, relaxation, and socializing. The character, furniture, and design of these spaces enhance a sense of ownership. (Courtesy of Leslie A. Titchner)

shade, gives gardeners and neighbors a place to gather informally, outside of organized meeting and social events" (Payne and Fryman 2001, 7). Both small (Figure 4) and large (Figure 5) gathering areas are important to fostering interaction among gardeners and the rest of the community through social events and activities. A shaded seating area with chairs and benches, preferably with a view of the gardens, is sufficient, though some gardens also reserve open areas, grass-covered or paved, for use when there are parties or classes (Walter 2003). These communal gathering spaces are typically more organic in form, whereas garden plots and paths are more geometric (Walter 2003).

The number of garden plots should be based on anticipated participation, and their size varied according to the needs of the gardeners. Plot sizes may be 10 × 20, 15 × 15, or 25 × 25 feet, all easily halved or doubled. Individually managed plots encourage a sense of ownership and attachment to place, yet it is also important to reserve some communal plots (Walter 2003). The

Figure 5. Large gathering areas become the location for community events, decision making, and collaborative effort in Durham, North Carolina. (Courtesy of Leslie A. Titchner)

Figure 6. In Seattle, the tool shed often becomes the "base of operations," with information board, water bibs, social area, and tools. (Courtesy of Brooke Adams Vail)

entrance spaces should be attractive and inviting, and this is often where communal beds with ornamental plantings are located (Walter 2003).

Site Elements

Features within the site contribute to the feeling of community and create a visible garden that is an asset to the neighborhood (Flint 2007). The most important and common site features are tool sheds, signs, fencing, compost bins, informational boards, and public art.

Tool shed. The tool shed allows gardeners to store tools without transporting them back and forth with each garden visit (Emerson n.d.). The tool shed is also a communal social space (Figure 6).

Signs. A simple sign establishes the garden's identity and ownership, and provides information to outsiders (Walter 2003). Including a sign as part of an attractive streetscape encourages the interest of the surrounding community.

Fencing. A common concern when starting a community garden is security and vandalism. Eight-foot high fences reduce the problem to manageable levels (Surls et al. 2001). The issue of fencing is contentious and should be considered within the context of the community and its culturally specific values as some people believe that fences block out the community for which the garden is intended (Jobb 1979).

Compost bins. Compost bins enable easy disposal of debris and plant material on site, as well as serving as a free source of nutrient-rich soil (Emerson n.d.).

Information board. An information or bulletin board helps maintain communication between gardeners and the surrounding community by providing a location for information about garden rules, upcoming meetings and events, and other general information (Surls et al. 2001).

Public art. The design of the community garden should be open and flexible enough to allow gardeners to incorporate some of their own ornamentation and artwork (Figure 7). In his study, Walter (2003) found that ornamentation was one of the most common elements of a community garden. Some gardens seek out contributions from local artists such as ornate entrance gates (SEEDS in Durham, North Carolina, Figure 7), garden sculptures, hand-painted bricks, wood arbors, and murals (Walter 2003). This helps to establish the garden's identity and sense of place.

The primary concerns for physical design are site selection, site layout, and site elements. In selecting a garden site, ownership, proximity, demographics, and physical characteristics are the most important considerations. In terms of site layout, the most important

concerns are accessibility, both of site and garden spaces. Incorporating these elements into the design of a community garden will not ensure its long-term success, but these elements are universally recommended by successful community gardens. In combination with an overall design responding to the needs of the community and gardeners, the elements can help strengthen the connections between the gardeners and the community.
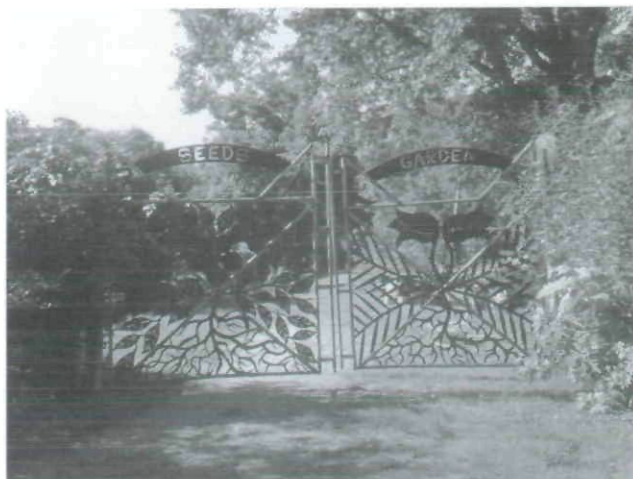

Figure 7. In Durham, North Carolina, artwork (see also Figure 5) expresses and enhances a sense of ownership and community property. Fences and gates are often the recipients of artistic expression—signs, colorful paint, and ornamentation—that reinforce the sense of entry and market the garden to the local community. (Courtesy of Leslie A. Titchner)

PLANTING THE SEEDS OF SUCCESS: ADMINISTRATION AND DEVELOPMENT CONSIDERATIONS

Development and administration considerations (Figure 8) are central to planning and organizing the garden and the gardeners. This study has identified three primary categories in the development process:

1. securing land;
2. working with the community; and
3. anticipating problems.

In terms of securing land, the primary focus should be on determining a land tenure arrangement and planning for the future. For the garden to be rooted in the community and its decisions (Arnstein 1969), the community must work together to establish a vision, organize itself, and engage multiple members at every level. A community garden that anticipates inevitable problems is more able to effectively respond as a result of an educated leadership that has identified and discussed issues. Creating a decision-making system based in dialogue builds flexibility and resilience into the system, making a group more capable of addressing unforeseen challenges.

The elements for consideration described in Figure 8 are by no means inclusive of all the decisions that community gardeners must make during the development of a garden. Figure 8 does, however, present recommendations for those issues identified through the literature and interviews as most crucial for sustaining a community garden for the long-term.

CONCLUSION

The factors contributing most to the success of a community garden are land tenure, sustained interest, community development, and overall planning, and design. Each garden becomes a unique combination of what works best within a particular community as a result of the particular organizational structure, leadership roles, relationships, and design. Community gardens are dynamic entities that must have the ability to respond to change: strong relationships, clear leadership, and a solid organizational structure ensure that the garden is prepared to respond effectively to challenge. Ironically, as gardens become more secure, their organizations are likely to become more structured and less flexible—an evolution undermining the very principles from which community gardens grow.

This study brings to light the importance of community control in the creation and management of community gardens. Current approaches to "consulting communities" reflect an attitude wherein a government or non-governmental group retains control by consulting with a community only after key decisions are made. This approach is contrary to the principles underscoring long-term community garden viability. Outside groups often get involved because of the role that community gardens play in providing park, play, and open
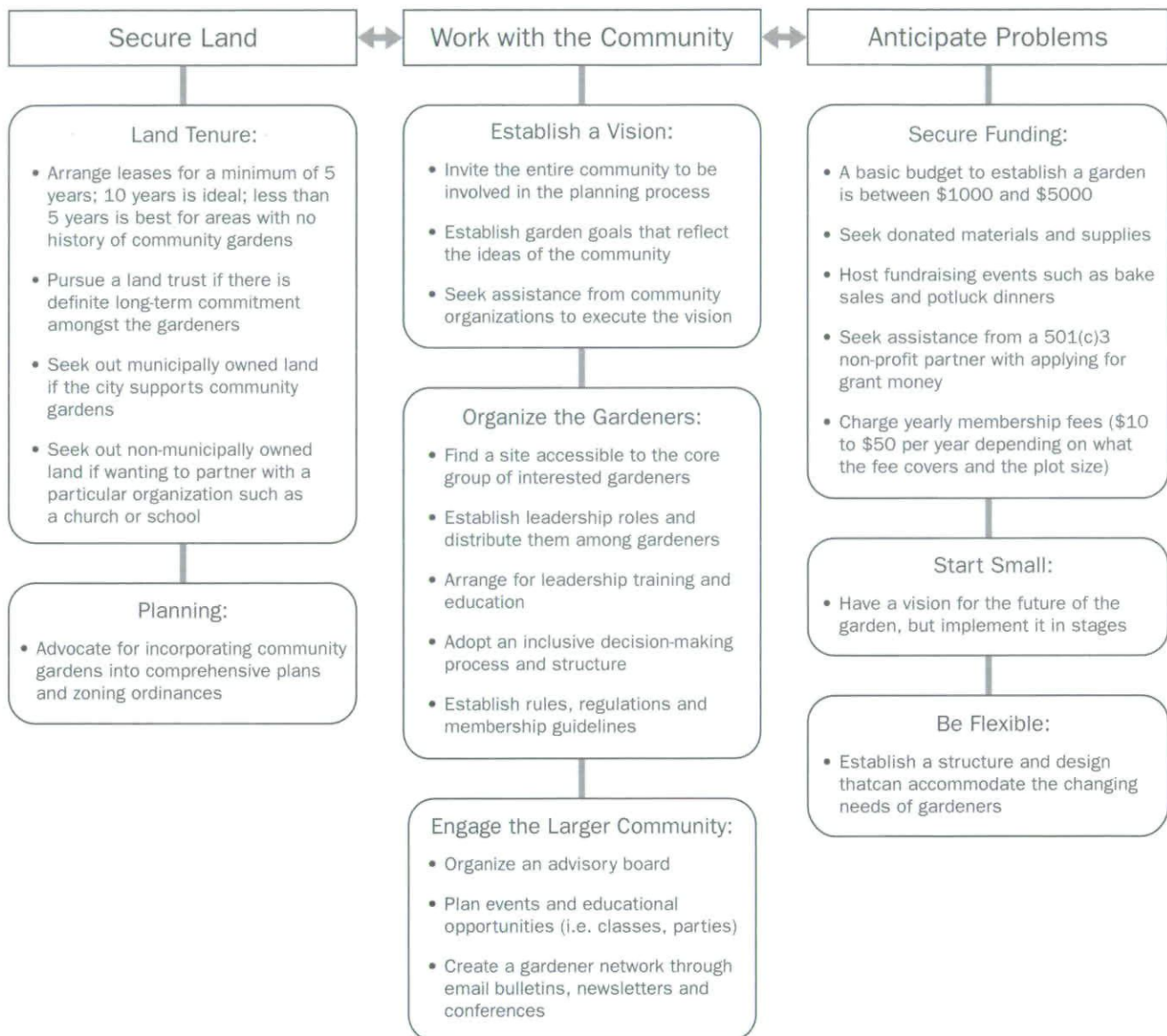
| Secure Land | ↔ | Work with the Community | ↔ | Anticipate Problems |

Land Tenure:

- Arrange leases for a minimum of 5 years; 10 years is ideal; less than 5 years is best for areas with no history of community gardens
- Pursue a land trust if there is definite long-term commitment amongst the gardeners
- Seek out municipally owned land if the city supports community gardens
- Seek out non-municipally owned land if wanting to partner with a particular organization such as a church or school

Planning:

- Advocate for incorporating community gardens into comprehensive plans and zoning ordinances

Establish a Vision:

- Invite the entire community to be involved in the planning process
- Establish garden goals that reflect the ideas of the community
- Seek assistance from community organizations to execute the vision

Organize the Gardeners:

- Find a site accessible to the core group of interested gardeners
- Establish leadership roles and distribute them among gardeners
- Arrange for leadership training and education
- Adopt an inclusive decision-making process and structure
- Establish rules, regulations and membership guidelines

Engage the Larger Community:

- Organize an advisory board
- Plan events and educational opportunities (i.e. classes, parties)
- Create a gardener network through email bulletins, newsletters and conferences

Secure Funding:

- A basic budget to establish a garden is between $1000 and $5000
- Seek donated materials and supplies
- Host fundraising events such as bake sales and potluck dinners
- Seek assistance from a 501(c)3 non-profit partner with applying for grant money
- Charge yearly membership fees ($10 to $50 per year depending on what the fee covers and the plot size)

Start Small:

- Have a vision for the future of the garden, but implement it in stages

Be Flexible:

- Establish a structure and design thatcan accommodate the changing needs of gardeners

Figure 8. Proposed development and administration considerations.

space in communities with little green space. While the proposed "seeds" support long-term success, community leaders, designers, planners, and government staff must recognize when a garden has evolved from a food production space to what is primarily recreational and leisure open space. Open space functions can be as important as community gardens to community building, and perhaps may be the next natural step in a community garden's evolution. For designers, the most important lesson is that of empowerment. The successful community garden is less about a grand design than about facilitating a dialogue whereby the community identifies, prioritizes, and visualizes its garden.

Rising food and fuel costs bring to the fore the importance of having access to an inexpensive and local food source that is part of a larger, diverse, urban food network. Despite this, many individual community gardens face an unsure future. There is no "one-size-fits-all" solution to this issue; some factors, however, have been identified as effective in creating successful community gardens. These factors combine to form and guide a process for starting community gardens and promoting long-term viability, stability, and success. This process should help community gardens realize their potential for becoming a key component in an integrated, local, food community network as they not only provide fresh

produce but also, when successful, have far-reaching social impacts.

ACKNOWLEDGMENTS

NOTES

1. While the original function of a community garden may be food production and community building, as time passes, the garden may no longer be needed for those functions. As its use changes over time, the value of the garden to the community changes, and the community may no longer need the garden. If this occurs, the garden may be retained for its environmental and open-space benefits.

2. Some may argue that interest or commitment should be evident or proven before attempting to secure land tenure. This may be a "chicken or egg" issue.

REFERENCES

American Community Gardening Association (ACGA). 1996. *National Community Gardening Survey: 1996.* http://communitygarden.org/docs/learn/CGsurvey96part1.pdf. [August 19, 2007].

———. 1998. *Securing Space.* http://www.communitygarden.org/learn/resources/articles.php. [February 2, 2008].

———. n.d. *What Is a Community Garden?* http://www.communitygarden.org/learn/. [November 19, 2007].

Arnstein, Sherry R. 1969. A ladder of citizen participation. *JAIP* 35 (4): 216–224.

Balmori, Diana, and Margaret Morton. 1993. *Transitory Gardens: Uprooted Lives.* New Haven, CT: Yale University Press.

Bicycle Federation of America (BFA). 1998. *Creating Walkable Communities: A Guide for Local Governments.* http://www.bikewalk.org/ncbw_pubs.php. [April, 29, 2008].

Bradley, Lucy. 2007. Personal communication with the authors, November 2.

Bradley, Lucy, and Keith Baldwin. 2008. "How to Organize a Community Garden" (unpublished). Raleigh: North Carolina Cooperative Extension Service.

Bradley, Lucy, Jessamine Hyatt, Brenda Brodie, and Chris Burtner. 2007. Cultivating community: Starting a congregation-sponsored community garden. Paper presented at the meeting of *Come to the Table.* Pittsboro, NC. Notes

available at http://www.cometothetablenc.org/Cultivating_Community_Workshop%20Notes_11-3-07.pdf. [September 29, 2009].

Campbell, Marcia Caton, and Danielle Salus. 2003. Community and conservation land trusts as unlikely partners? The case of Troy Gardens, Madison, Wisconsin. *Land Use Policy* 20 (2): 169–180.

Community Action Coalition for South Central Wisconsin, Inc. (CAC). n.d. *About us.* http://www.cacscw.org/. [February 2, 2008].

Covenant Community Garden. n.d. *Covenant Community Garden* (pamphlet). FuquayVarina: Chris Burtner.

Department of Parks and Recreation (Burlington, VT). n.d. *Burlington Area Community Gardens.* http://www.enjoyburlington.com/Programs/CommunityGardens.cfm. [February 2, 2008].

Emerson, Brian. n.d. *From Neglected Parcels to Community Gardens: A Handbook.* http://www.wasatchgardens.org/gardenresources.html. [February 2, 2008].

Ferris, John, Carol Norman, and Joe Sempik. 2001. People, land, and sustainability: Community gardens and the social dimension of sustainable development. *Social Policy and Administration* 35 (5): 559–568.

Flint, Jim. 2005. *Fundraising for Success.* http://www.burlingtongardens.org/gardenorganizer.html. [February 2, 2008].

———. 2007. Personal communication with the authors, October 11.

Francis, Mark. 1987. Some different meanings attached to city parks and community gardens. *Landscape Journal* 6 (2): 101–112.

Frank, Flo, and Anne Smith. 1999. *The Community Development Handbook: A Tool to Build Community Capacity.* Hull, Ontario: Labour Market Learning and Development Canada.

Friends of Burlington Gardens (FBG). n.d. *Vermont Community Garden Network.* http://www.burlingtongardens.org/Vermont_Community_Gardens.html. [February 2, 2008].

Friends of Troy Gardens. n.d. *The Troy Enabling Garden.* http://www.troygardens.org/enablinggard.html. [April 29, 2008].

Herbach, Geoff. 1998. *Harvesting the City: Community Gardening in Greater Madison, Wisconsin.* http://www.cityfarmer.org/madison.html. [August 20, 2007].

Hess, David. 2005. *Case Studies of Community Gardens and Urban Agriculture: Portland, Oregon.* http://www.davidjhess.org/PortlandCG.pdf. [August 19, 2007].

Howe, Joe, André Viljoen, and Katrin Bohn. 2005. New cities with more life: Benefits and obstacles. In *Continuous Productive*

Urban Landscapes: Designing Urban Agriculture for Sustainable Cities, ed. André Viljoen, 57–64. New York: Architectural Press.

Hynes, H. Patricia, and Genevieve Howe. 2004. Urban horticulture in the contemporary United States: Personal and community benefits. *Acta Horticulturae* 643: 171–181.

Iles, Jeremy. 2005. The social role of community farms and gardens in the city. In *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, ed. André Viljoen, 83–88. New York: Architectural Press.

Iowa State University Extension. n.d.. *Therapeutic Gardening: Creating Raised Bed Planters*. https://www.extension.iastate.edu/store/ListItems.aspx?Keyword=rg111. [June 3, 2008].

Jobb, J. (1979). *The Complete Book of Community Gardening*. New York: William Morrow.

Kingsley, Jonathan, and Mardie Townsend. 2006. "Dig in" to social capital: Community gardens as mechanisms for growing urban social connectedness. *Urban Policy and Research* 24 (4): 525–537.

Land Trust Alliance. n.d. *Frequently Asked Questions*. http://www.lta.org/aboutlt/faq.shtml. [February 2, 2008].

Lawson, Laura J. 2005. *City Bountiful: A Century of Community Gardening in America*. Berkeley: University of California Press.

Linn, Karl. 1999. Reclaiming the sacred commons. *New Village* 1: 42–49.

MacNair, Emily. 2002. *The Garden City Handbook: How to Create and Protect Community Gardens in Greater Victoria*. Victoria, BC: Polis Project on Ecological Governance.

Madison Area Master Gardeners Association (MAMGA). 2007a. *Accessible Garden Design Part A*. http://www.madison.com/communities/mamga/library/index.php#Access. [April 29, 2008].

———. 2007b. *Accessible Gardens Supplement*. http://www.madison.com/communities/mamga/library/index.php#Access. [April 29, 2008].

Mathers, Joe. 2007. Personal communication with the authors, October 10.

Mattessich, Paul, Barbara Monsey, and Corinna Roy. 1997. *Community Building: What Makes it Work*. Saint Paul, MN: Amherst H. Wilder Foundation.

Morland, Kimberly, Steve Wing, Ana Diez Roux, and Charles Poole. 2002. Neighborhood characteristics associated with the location of food stores and food service places. *American Journal of Preventive Medicine* 22 (1): 23–29.

Naimark, Susan, ed. 1982. *A Handbook of Community Gardening*. New York: Charles Scribner's Sons.

Neighborhood Gardens Association. n.d. *About NGA*. http://www.ngalandtrust.org/about.html. [February 2, 2008].

Parker, Janet. 2007. *New Garden Fund Grants for 2008*. http://www.cacscw.org/gardens/new_garden_fund_grants.htm. [February 2, 2008].

Patel, Ishwarbhai. 1991. Gardening's socioeconomic impacts. *Journal of Extension* 29 (4). http://www.joe.org/joe/1991winter/a1.html. [February 2, 2008].

Payne, Karen, and Deborah Fryman. 2001. *Cultivating Community: Principles and Practices for Community Gardening as a Community-Building Tool*, ed. Don Boekelheide. Philadelphia: American Community Gardening Association.

Pohl-Kosbau, Leslie. 2007. Personal communication with the authors, September 26.

Schmelzkopf, Karen. 1995. Urban community gardens as contested space. *Geographical Review* 85 (3): 364–381.

Schukoske, Jane. 2000. Community development through gardening: State and local policies transforming urban open space. *Journal of Legislation and Public Policy* 3 (2): 351–392.

Sommers, Larry. 1984. *The Community Garden Book: New Directions for Creating and Managing Neighborhood Food Gardens in Your Town*. Burlington, VT: Gardens for All/National Association for Gardening.

Surls, Rachel, Chris Braswell, Laura Harris, and Yvonne Savio. 2001. *Community Garden Start-up Guide*. http://celosangeles.ucdavis.edu/garden/articles/startup_guide.html. [February 2, 2008].

Twiss, Joan, Joy Dickinson, Shirley Duma, Tanya Kleinman, Heather Paulsen, and Liz Rilveria. 2003. Community gardens: Lessons learned from California healthy cities and communities. *American Journal of Public Health* 93 (9): 1435–1438.

Von Hassell, Malve. 2002. *The Struggle for Eden: Community Gardens in New York City*. Westport, CT: Bergin and Garvey.

Walter, Andrew. 2003. *A Pattern Language for Community Gardens*. Unpublished master's thesis, University of Georgia, Athens. http://www.cityfarmer.org/pattern.html. [April 29, 2008].

Warner, Sam Bass. 1987. *To Dwell Is to Garden: A History of Boston's Community Gardens*. Boston: Northeastern University Press.

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