

**Farming Inside Cities: Entrepreneurial
Urban Agriculture in the United States**

Jerry Kaufman and Martin Bailkey
© 2000

**Lincoln Institute of Land Policy
Working Paper**

The findings and conclusions of this paper are not subject to detailed review and do not necessarily reflect the official views and policies of the Lincoln Institute of Land Policy.

After printing your initial complimentary copy, please do not reproduce this paper in any form without the permission of the authors. Contact the authors directly with all questions or requests for permission.

Lincoln Institute Product Code: WP00JK1

Abstract

Most people think of farming as an activity occurring almost exclusively on rural land. This report, however, takes a look at cities in the United States—especially those affected more substantially by economic changes and population losses over the past several decades—as a new and unconventional locus for for-market farming ventures. The setting for food growing in these cities is the abundant vacant land left in the wake of people and economic activities moving from central cities to the suburbs.

The report investigates the nature and characteristics of for-market city farming, obstacles to such activities, and ways of overcoming these obstacles. It also offers proponents of urban agriculture suggestions to advance the cause of city farming in environments where many are either uninformed of the multiple benefits of entrepreneurial urban agriculture, disinterested, or skeptical about its durability and longer lasting significance. Certain important groups—local, state and federal governments, local foundations, and community development corporations—who could lessen obstacles to entrepreneurial urban agriculture, if they so choose, are also targets for suggestions on ways they could be more proactive in support of city farming.

More than 120 people served as informants for this study. Some 70 entrepreneurial urban agriculture projects in United States cities were found. The initiators of these projects are a very diverse group—community garden organizations, community development corporations, neighborhood organizations, inner-city high schools, social service organizations, church-affiliated groups, youth service agencies, farmers with a special interest in in-city food production, university extension services, animal husbandry organizations, homeless agencies, public housing tenants, and private sector businesses. Just as the sponsors of for-market urban agriculture ventures varied, there were differences among the projects across several important dimensions, such as the form of urban agriculture practiced, sources of funding, resource capacities of the responsible organizations, staffing arrangements, scale of operations, types of production techniques used, market outlets, and locations. Detailed case studies of Boston, Chicago, and Philadelphia probed the institutional climate for urban agriculture and investigated fifteen for-market urban agriculture projects in these cities.

The study found both supporters and skeptics of entrepreneurial urban agriculture. Obstacles to such activities were generated from the interviews conducted. These are discussed under four broad categories—site-related, government-related, procedure-related and perception-related. Among the more prominent obstacles mentioned were site contamination, site vandalism, government and non-profit community development group skepticism, inadequate financing, and staffing problems. Ways of overcoming these obstacles are discussed, premised on the possibility that governments at all levels, local and national philanthropic foundations, and community development corporations can offer stronger support for entrepreneurial urban agriculture. Actions that specific groups could initiate to be more proactive towards the nascent movement of for-market urban agriculture are presented.

About the Authors

Jerry Kaufman is a professor in the Department of Urban and Regional Planning at the University of Wisconsin-Madison. A graduate of the University of Pennsylvania planning program, he has been an active planner for nearly five decades—as a planning practitioner until the early seventies, and since then as a planning educator and researcher. He has taught courses and published articles on topics including the ethics of planning, strategic planning, alternative dispute resolution applications to planning, central city planning issues, and community food system planning. Since 1996, he has been director of the Madison Food System Project at the University of Wisconsin-Madison. He recently co-authored two journal articles with Kami Pothukuchi, Wayne State University, on food system planning issues. This study on for-market city farming bridges his interest in community food systems and older American cities.

Contact Information:

Professor
Department of Urban and Regional Planning
University of Wisconsin-Madison
925 Bascom Mall
Madison, WI 53706
Phone: 608 262-3769
Fax: 608 262-9307
Email: jlkaufma@facstaff.wisc.edu

Martin Bailkey is a senior lecturer in the Department of Landscape Architecture at the University of Wisconsin-Madison. He is also a dissertator in the Department of Urban and Regional Planning at the University of Wisconsin-Madison, conducting research on how community organizations gain access to vacant land in United States cities. He is presently serving as co-chair of the Community Food Security Coalition on urban agriculture, and has spoken on urban agriculture at several national conferences.

Contact Information:

Senior Lecturer
Department of Landscape Architecture
University of Wisconsin-Madison
1450 Linden Drive
Madison, WI 53706
Phone: 608 263-7699/263-7940
Email: bailkey@facstaff.wisc.edu

Contents

Section 1: Introduction	1
Section 2: The Study Framework	3
Section 3: The Research Approach	9
Section 4: An Overview of Entrepreneurial Urban Agriculture Projects	10
Section 5: The Case Studies	23
Section 6: Obstacles to Entrepreneurial Urban Agriculture	54
Section 7: Overcoming Obstacles to Entrepreneurial Urban Agriculture	66
Section 8: Conclusions	83
Endnotes	86
Bibliography	91
Appendix A: Current or Planned Inner-city Entrepreneurial Urban Agriculture Projects in the United States and Canada	96
Appendix B: Photographs of Entrepreneurial Urban Agriculture	106
Appendix C: Project Informants	116

Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States

Section 1: Introduction

This study is informed by both *vision* and *reality*. Beginning with the perplexing dilemma of what to do about the increasing amount of abandoned land in lower-income sections of many cities in the United States, the vision projects a scene where many of these vacant lots are transformed into working farms—where inner-city residents grow food in the soil, in raised planting beds or in greenhouses, then market their produce at farmer’s markets, to local restaurants, or to city and suburban residents eager for fresh, locally-grown food.

Two proponents of city farming sketch a parallel vision with more distinct and vivid images:

Shade trees will be partially replaced by an urban orchardry of fruits and nuts. Sunlit walls will become architectural backdrops for espaliered fruits and vine crops. Shrubs, which purify air by removing auto exhaust, lead and zinc will be planted in raised beds between the streets and sidewalks. Community gardens and gardening will increase as participation grows. Agricultural bioshelters will fill vacant lots and ring parks. Floating bioshelters will line harbors and produce their fish, vegetables, flowers and herbs for sale. Old warehouses and unused factories will be converted into ecologically inspired agricultural enterprises. Fish, poultry, mushrooms, greens, vegetables, and flowers will be grown in linked and integrated cycles. Rooftops will utilize bioshelter concepts for market gardens all year. (Todd and Tukul 1999)

Do such visions convey a plausible future, or are they merely fanciful dreams? Will some American cities add significant levels of food production to their repertoire of functions? Will city farming be recognized as a legitimate enterprise as the early years of the 21st century unfold?

Advocates of urban agriculture envision multiple benefits to cities, including:

- reducing the abundant supply of vacant, unproductive urban land under management by local governments;
- improving the public image of troubled neighborhoods;
- increasing the amount of neighborhood green space;
- supplying low-income residents with healthier and more nutritious food;
- developing more pride and self-sufficiency among inner-city residents who grow food for themselves and others;

- revitalizing the poorest neighborhoods by creating food-based employment (particularly for young people), thus bringing more income to residents;
- providing new, non-traditional program activities for community-based non-profit organizations;
- converting the food waste of supermarkets into compost and fertilizer used in food production;
- reducing food transportation through the greater availability of local produce; and
- supporting local and regional food systems in general.

Skeptics contend that such scenarios are highly unlikely. They identify the following as impediments to turning such visions into reality:

- inner-city vacant land is too contaminated by past uses to grow food safely, with the cost of cleaning up the land often being prohibitive;
- few funding sources exist for urban agriculture projects initiated by resource-strapped non-profit organizations;
- key federal agencies, such as the Department of Agriculture (USDA), and the Department of Housing and Urban Development (HUD), are only remotely attuned to the idea of urban agriculture;
- most city-based neighborhood or community development organizations lack the interest and know-how to grow food, let alone possess the knowledge of how to produce food for the urban market;
- organizations with an interest in and capacity for urban agriculture would encounter significant difficulties that would impede their efforts, such as vandalism, a lack of markets for selling their products, or a shortage of staff with the necessary technical knowledge to be urban food producers;
- support for urban agriculture from city officials is sparse—especially noteworthy are the difficulties experienced by project initiators in accessing city-owned vacant parcels;
- and finally, a lack of consensus exists among participants and observers over what constitutes successful urban agriculture projects.

In conducting this research, skepticism (ranging from mild to strong) was encountered over the feasibility of urban agriculture, beyond that of traditional community gardening. This skepticism was felt, in particular, towards *entrepreneurial* urban agriculture, this study's primary focus, which is a subset of the broader and more inclusive field of *urban agriculture*.

There are many definitions of urban agriculture (see Mougeot 2000, Quon 1999). One rather simple and straightforward example from an authoritative source is:

The production of food and nonfood plant and tree crops, and animal husbandry, both within and fringing urban areas (UN Organization for Economic Cooperation and Development 1998).

Such definitions often specify *location* (urban, and sometimes suburban sites), *activities* (such as the production of vegetables and fruits, aquaculture and animal husbandry, or the horticultural production of trees and ornamental plants), *stage of production* (growth and harvesting, or processing, marketing, and distribution), and *purpose* (e.g. production for own consumption, or production for sale to others). Thus the concept of entrepreneurial urban agriculture can be broad, not only including the cultivation of food crops in non-rural settings, but processing, marketing and distributing food as well. Producing and selling non-food products such as flowers, trees and fertilizer by community-based organizations can also be found within some definitions.

Despite the skepticism, there are signs of an emerging presence and constituency for entrepreneurial urban agriculture in some North American cities. In these instances, the vision of farms in cities may not be as far-fetched as the more severe skeptics would contend. A diverse array of non-profit and private sector organizations actively engaged in undertaking entrepreneurial urban agriculture projects were found. (See Appendix A for brief descriptions of 71 such projects.) Some were even turning a profit. A small cadre of government representatives and local foundations supportive of entrepreneurial urban agriculture was also discovered. Entrepreneurial urban agriculture is clearly in an embryonic stage. Nonetheless, there are indications that the vision its advocates would like to see is becoming more of a reality.

Section 2: The Study Framework

To imagine the framework for this study, visualize a wobbly three-legged stool. One leg of the stool represents *urban vacant land*, and the government agencies and policies affecting its disposition and management. The second leg represents *entrepreneurial urban agriculture*, a movement composed of individuals and organizations having the desire and knowledge to produce food in the city for market sale. The third leg represents the *institutional climate* within a particular city, the environment in which entrepreneurial urban agriculture would take place—be it accommodating, neutral, or restrictive. The interest behind the study was to find out whether the three legs of the stool could be made sturdier—that is, whether an increased number of entrepreneurial urban agriculture projects would be developed on vacant city land within the context of a more supportive institutional climate—or whether the legs would continue to wobble.

The First Leg: Vacant Inner City Land

Deindustrialization and decreasing urban populations have resulted in the abandonment of literally tens of thousands of residential, commercial, and manufacturing structures in older cities. Many buildings remain in various states of decay. Many others are

eventually demolished, sites cleared, and the land often taken over by city government as abandoned, tax-delinquent property. Not only is there an additional administrative burden assumed by municipal government for this land, but abandoned land and buildings give credence to a widely-held and pervasive image of inner-city decline.

The scale of the vacant land problem in older cities is significant. Philadelphia has an estimated 30,900 vacant lots (31% in public ownership), an increase of almost 100% over the city's 1992 count (Pennsylvania Horticultural Society 1999). New Orleans has 14,000 vacant lots (New Orleans *Times-Picayune* 1999), and Chicago has an estimated 70,000 (Chicago Department of Environment 1997). Twenty percent of Chicago's 77 community areas (almost all in the poorer areas of the city's south and west sides) have at least one-quarter of their properties considered as "abandoned" (Chicago Rehab Network 1993). According to city agency records, there are an estimated 2,500 acres of public or privately-owned vacant land in Milwaukee; at almost four square miles, this represents four percent of the city's total land area. Following the loss of one-half million residents since World War II, St. Louis has assumed control of 13,000 tax-delinquent parcels comprising over 1,200 acres; slightly less than two square miles, or three percent of the city's total land area of 61 square miles (Ward 1997).

This problem is not limited to larger cities. For smaller ones it may be even more critical. Isles, Inc. a Trenton, New Jersey community development corporation deeply involved with the development and greening of vacant parcels (see Section 4) calculated that eighteen percent of the land area (900 acres, or 1.4 square miles) of Trenton, a city of over 84,000 population, is vacant. The same pattern of abundant vacant land is found in other older, smaller cities, especially former manufacturing centers in the Northeast and Midwest.

Abandoned buildings are also of concern, as they are likely to be torn down for safety reasons, thus adding to a city's vacant land inventory. Ten percent of the houses in Syracuse, New York, a city of 152,000, which lost much of its industrial base, are, empty or abandoned (Eaton 2000). In Philadelphia, the Department of Licenses and Inspections believes that there are almost 22,000 vacant residential structures as of April 2000, representing 93 percent of all the abandoned structures in that city (Young 2000).¹ Only 800 of the estimated 37,000 abandoned houses in New Orleans in 1999 were on the city's official blight list (New Orleans *Times-Picayune* 1999). Detroit's 1998 inventory of 46,000 city-owned vacant parcels was accompanied by an estimated 24,000 empty buildings, 6,000 of which were targeted for demolition at city expense (McConnell 1998). Adding abandoned buildings to estimated vacant land totals would give Philadelphia 53,000 vacant and potentially vacant parcels, 51,000 in New Orleans and 70,000 in Detroit. This same pattern of buildings no longer inhabited, but waiting for the demolition ball, exists in many other older cities.

From a policy standpoint, the scope of this vacant land problem is significant and its dimensions complex. Not only is visual blight a result, but considerable municipal revenue is lost when abandoned properties are removed from the local property tax roll.

Significant management costs are also incurred. The city of Philadelphia, for example, spends \$18 million annually to clear and maintain only a portion of its vacant parcels (Pennsylvania Horticultural Society 1999). Vacant land thus represents a difficult challenge for urban policymakers wishing to put such parcels back into productive fiscal and social use. But from another perspective, the desire to reuse vacant land represents an opportunity for a heretofore-unheralded purpose, urban agriculture.

The Second Leg: Entrepreneurial Urban Agriculture

Housing, small business development, and the occasional large-scale non-residential development have been the predominant reuses of inner city vacant land in the United States. Although present in many cities, urban agriculture has not caught on to anywhere near the same degree. Within cities of developing nations, however, where the need for city farming is often driven by the unreliable transportation of food from rural areas, food production is a more common activity. Urban-produced food accounts for fifteen percent of the world's food production, according to the United Nations Development Program (Smit et al 1996). One-half of the vegetables consumed by residents of Havana are produced in the city's 8,000 gardens and urban farms (Friedrich 1999). The government of Singapore licenses almost 10,000 urban farmers active over 17,300 acres (27 square miles), producing 80 percent of the poultry and one-quarter of the vegetables consumed locally (Smit et al 1996).

Although urban agricultural activity is most prevalent in the cities of less-developed countries (thus the many case studies from rapidly-growing cities such as Nairobi and Calcutta), more voices are being heard in the past decade among adherents in developed nations. A few comprehensive studies have gauged the extent and potential of urban food production in major European cities like London (Garnett 1999). More networks of urban agriculture proponents are being created. The European Group on Urban Agriculture and the Global Facility for Urban Agriculture are cases in point. The latter, founded in 1996, was funded jointly by the United Nations, Canada's International Development Research Centre, and the Netherlands Ministry of Foreign Affairs. The literature on urban agriculture also reflects increased attention on developed countries (Bakker et al 2000, Barr 1997, de Zeeuw et al 2000, Lifecycles 1998, Martin and Marsden 1998, Mougoet 2000). Similarly an extensive Internet site is devoted to promoting urban agriculture across all levels of national development.²

Using inner-city vacant land for growing crops in the United States does have a precedent. By 1895, twenty cities had established vegetable gardens for the purpose of providing the urban poor with fresh food. Victory gardens were common in many cities during World War I and the following decades. The still-thriving Fenway Gardens in Boston began this way in 1942 (Hynes 1996). The victory garden idea evolved into today's community gardens, where individual gardeners typically pay a small plot fee to grow vegetables and flowers for their own use, often on abandoned, vacant land. Though they are vulnerable to eviction in favor of uses that produce more property tax revenue,³ community gardens are, in certain cities, a well-accepted activity. A 1996 survey

conducted in collaboration with the American Community Gardening Association determined that there were over 6,000 community gardens across 38 U.S. cities (Monroe-Santos 1998). Used for both food production and the growing of ornamental flowers, community gardens have at least sensitized the much larger community of non-gardeners to the possibility that food can be grown in poorer urban neighborhoods.⁴

While community gardens provide a degree of legitimacy among the general public for the idea of growing food on vacant city land, other interest groups endorse the idea as consistent with their agendas. Many are found within the sustainable agriculture movement, whose interests involve growing food organically through labor-intensive methods free from pesticides and herbicides. The locus for organic farming, however, has been in rural areas where farms have always flourished. But some sustainable agriculture proponents have become intrigued with the notion of growing organic food on vacant parcels and city rooftops, as is occurring, for example, in Toronto (Smith 1998). Given the high energy costs of transporting food from distant places, accompanied by the continued loss of farmland in metropolitan areas, there is increasing interest in growing more food locally and regionally. Consequently some voices have been raised in favor of using inner city land for food production (Hough 1995, Rauber 1997).

Still another impetus, albeit to a lesser extent, comes from those promoting community economic development. In these quarters, the primary emphasis is on establishing successful economic ventures in the inner city and creating more jobs for its residents, many of whom were formally on welfare or had little work experience beforehand. In this regard, it is interesting to note that approximately 3,600 community development corporations exist in the United States (Peirce 1999), many serving low-income central city areas where vacant land is most in abundance. Urban agriculture is seen by some community development proponents as a way to create economic enterprises and jobs. Boston's Dudley Street Neighborhood Initiative, for example, has made urban food production a cornerstone of its long-term revitalization strategy (Watson 1999), as will be described in Section 5.

As befitting an emerging movement, the types of entrepreneurial urban agriculture activities do not fit any single model. They are initiated and managed by a wide range of organizations—community garden groups, community development corporations, social service providers, food-based organizations, coalitions for the homeless, neighborhood organizations, school- and university-based groups, animal husbandry organizations, and individuals with farm backgrounds who become committed to growing and marketing food in the inner city. Some projects produce agricultural products solely for market sale. Others are hybrid operations, growing some food for consumption by growers then selling the surplus. Many initiating groups are chartered with the Internal Revenue Service as 501(c)(3) non-profits. Some are for-profit private sector organizations, while others are informal collections of active neighbors. The details of these operations, however, are largely situational, a response to the specificity of context, the amount of funding in hand, the size and capability of the available land, the individual values and

initiative of those involved, and their ability to improvise in the face of changing operational situations.

Entrepreneurial urban agriculture projects, whether non-profit or for-profit, have different operating characteristics. Some grow food in cultivated soil. Others use hydroponic (non-soil) techniques to produce food. A few are located in greenhouses. Others operate out of older warehouse facilities in industrial areas. Some are located in residential facilities. Many projects are located on relatively uncontaminated urban sites, others on designated brownfield sites.

Entrepreneurial urban agriculture projects also differ across several important dimensions:

- in their funding capacity (generating start-up, working and expansion capital)
- in their sources of funding (local foundations, local government grants or loans, tax concessions, discounted utilities, federal and state government grants, special grants)
- in their managerial capacity (business planning and organizational skills)
- in the amount of paid staff, and volunteer or in-kind assistance
- in the scale of operation (as indicated by size of staff, or by the amount of financial support needed)
- in the type of production techniques used for growing food (in-soil cultivation, raised beds, hydroponics, greenhouse, warehouse)
- in the form of urban agriculture practiced (food grown directly for market, value-added food production, community processing kitchens, aquaculture, tree nurseries, ornamental horticulture, animal husbandry)
- in the location of the activity (inner city, peri-urban with programmatic links to inner city areas)
- in market outlets (selling at farmers markets, to neighborhood residents, to restaurants, to supermarkets and smaller grocery stores, to health food stores, or through community-supported agriculture or box scheme programs)
- in their partnership arrangements with other organizations, if any.

The Third Leg: The Local Institutional Climate⁵

Given the opportunity presented by larger amounts of mostly inexpensive vacant land in cities, can entrepreneurial urban agriculture projects be a viable use of such land? This study has noted the emergence of some place-based organizations with sufficient know-how, savvy and energy to take advantage of local vacant land opportunities to achieve their vision for entrepreneurial urban agriculture. But there is another important ingredient that must be considered—the readiness of external groups to accept and support this vision; or, in other words, the institutional climate for entrepreneurial urban agriculture to occur. Defining such a climate entails addressing the following questions:

- In general, is the local government's attitude towards entrepreneurial urban agriculture supportive, neutral, or negative?
- What is the local market demand for vacant inner city land?
- Are the local government policies and regulations relevant to urban agriculture facilitative or restrictive?
- Are local foundations willing to provide funding for such projects?
- What is the attitude of state and national government representatives towards urban agriculture?
- Do local community development groups view urban agriculture as a way of creating jobs and bringing economic investment to their areas, or are they skeptical of its viability?
- What are the existing local greening programs from which urban agriculture could build?
- Can urban agriculture provide welfare-to-work jobs?
- Can city-produced foods help satisfy the public's increasing demand for organically grown products?

The more that entrepreneurial urban agriculture is seen in positive terms by government officials, lending agencies, and the general public, the greater likelihood of a smoother road. But if the institutional climate is cool or indifferent towards entrepreneurial urban agriculture, its advocates will clearly encounter more difficulties in achieving their vision.

With regard to institutional climate, what did this research discover? Starting from the premise that entrepreneurial urban agriculture currently lacks a strong track record, the overall assessment among the institutional representatives spoken to is mixed. There are some true believers, enthusiastic supporters who see entrepreneurial urban agriculture as having a promising future. Others, open to the idea and expressing hope that urban agriculture will succeed, still raise questions about whether such projects can be economically viable, create a sufficient number of jobs, and deliver on its potential. Some are downright skeptical, questioning whether such projects are anything more than a fanciful flight of the imagination, unlikely to take root in the urban setting to any significant degree. And finally, some, positioned to assist entrepreneurial urban agriculture ventures, were basically indifferent to the idea.

The local institutional contexts within which entrepreneurial urban agriculture can—or potentially can—exist is composed of many separate units. Some units are networked, others not. Some are more open-minded towards innovative ideas than others. Given the lack of any sort of mandate for urban agriculture, its evolution within a particular city is dependent upon the personal attitudes of initiating and facilitating actors operating in a complex social and political environment.

Section 3: Research Approach

This research study had three primary objectives:

- to provide a more comprehensive understanding of the extent and key characteristics of entrepreneurial urban agriculture activity in the United States;
- to provide a thorough assessment of the obstacles to its practice;
- to identify ways by which these current obstacles and impediments to entrepreneurial urban agriculture might be overcome so that its now small footprint might be enlarged as the 21st century unfolds.

The starting point for the study was to identify and interview representatives of organizations either operating entrepreneurial urban agriculture projects or starting one. In addition, representatives of relevant outside groups believed to have something to say about the chances for success of such ventures were interviewed. Among these groups were local and national foundations, community development corporations, community garden organizations, community food security advocates, open space land trusts, local government officials involved in the disposition of vacant land, city planning officials involved in land use planning, state and federal officials involved in brownfield or greening activities, and academic researchers knowledgeable about urban agriculture.

An initial short list of people to interview by telephone was generated by first contacting a smaller number of individuals known at the outset to be knowledgeable about urban agriculture, vacant land/brownfield issues or community development. The first round of interviews occurred in late 1998. Over the course of these interviews, additional names were obtained using a modified snowball representation approach. This second round of interviews occurred in early 1999. Some interviews were conducted at project sites during visits to Kansas City, Missouri (October 1998); Philadelphia (December 1998, February and June 1999); Durham, North Carolina (April 1999); Boston, Holyoke, Massachusetts and Milwaukee (May 1999); and Chicago, Toronto and Trenton (June 1999). Throughout the study these interviews have been supplemented by collecting documented project information from previous research studies, local newspapers, the Internet, and other sources. In addition, several conferences were attended, granting further opportunities to talk with people face-to-face about the research.⁶

For consistency, all interviews were structured similarly. Each interviewee was asked to identify key obstacles to entrepreneurial urban agriculture and suggest ways of overcoming these specified obstacles. In addition, the subgroup of individuals actually managing entrepreneurial urban agriculture operations were asked questions regarding the characteristics, objectives, difficulties encountered, and successes achieved in their particular projects.

In all, 122 people provided information for this study. Of these, 67 interviews with individuals from 27 cities were conducted in-person or on the telephone. These

interviews were documented. Another 55 interviews were conducted informally at conferences and visits to project sites. Appendix C provides a complete list of project informants.

Finally, three case study cities to be described in more detail in Section 5 of this report—Boston, Chicago and Philadelphia—were chosen and visited in May and June, 1999. These cities were selected because in each a nexus of urban agriculture projects was underway and a network of groups interested in such projects was present. Three or four days were spent in each city. Visits to entrepreneurial urban agriculture projects in Holyoke and Trenton were also made due to their proximity to Boston and Philadelphia.

Section 4: An Overview of Entrepreneurial Urban Agriculture Projects

The history of entrepreneurial urban agriculture in the United States is decidedly brief, with the earliest projects coming into existence no more than twenty years ago. Now scattered across cities in different regions, the *raison d'etre* of each project can be traced to the motivation, drive and creative vision of its particular sponsor or group of sponsors. No network or association of entrepreneurial urban agriculture organizations existed to provide the originators of these fledgling projects with advice and support. No forums were available where they could share ideas and experiences and learn from each other. The originators of these early ventures were pioneers in developing an innovative urban initiative, one that combined a valued product (fresh, nutritious food) with a process potentially rich in social benefits.

Only within the last few years has it been evident that a fledgling support system has emerged to give those involved in entrepreneurial urban agriculture projects greater collective voice and support. One important support mechanism is the USDA's Community Food Project (CFP) competitive grant program. Since its establishment under the 1996 Federal Agriculture Improvement and Reform Act, CFP grants totaling \$8.3 million have been awarded to 69 projects for the purpose of increasing the food security of low-income urban and rural populations by improving their self-reliance with regard to their nutritional needs (USDA 2000). Twenty-one of these (30 percent) contained some aspect that can be considered as entrepreneurial urban agriculture.

Further evidence of an emerging support system occurs when urban agriculture managers and staff meet informally at national conferences of food-based organizations such as the Community Food Security Coalition and the Agriculture, Food and Human Values Society. In addition, the Community Food Security Coalition has recently established an urban agriculture committee, and the American Community Gardening Association regularly convenes an urban agriculture panel at its annual conference. A recent milestone gathering was the symposium on urban agriculture research organized by the Pennsylvania Horticultural Society in Philadelphia on March 6, 2000.⁷ A second symposium in 2001 is being discussed.

Together, all of these activities, at the national or regional level, have furthered the work of the growing cadre of entrepreneurial urban agriculture proponents. At the local level, there are also signs that informal networks of people interested in promoting an urban agriculture agenda are meeting. The case studies of Boston, Chicago, and Philadelphia, covered in Section 5 of this report, include discussions of local coalitions in those cities.

As noted, no uniform pattern of entrepreneurial urban agriculture ventures exists in the United States. The breadth and diversity of for-market urban farming is seen through descriptions of several selected projects, portraying their origins and purposes, operating contexts, key operational characteristics, difficulties encountered by each, and their accomplishments to date. This section profiles nine representative projects in the United States and one in Canada.⁸ Of the ten, six were visited by the research team.⁹

The projects represent a range of initiating organizations and/or primary sponsors. These include:

- two not-for-profit groups initially incorporated to manage inner-city community gardens (Nuestras Raices in Holyoke, Massachusetts and the San Francisco League of Urban Gardeners)
- a community development corporation (Isles, Inc. in Trenton)
- an inner-city high school (Crenshaw High School in Los Angeles)
- one farmer's initiative now partnered with an organization supporting local food systems (Growing Power/Farm City Link, Milwaukee)
- a longstanding youth services agency (Berkeley Youth Alternatives)
- a privately-held agrobusiness corporation (AgroPower Development, Inc., a New Jersey-based firm operating a project in Buffalo, New York)
- a private microenterprise now allied with a non-profit focused on metropolitan food security (Annex Organics/FoodShare, Toronto)
- two university extension services (the Cornell Cooperative Extension of New York City, and the University of Georgia Extension)

Centro Agricola, Holyoke, Massachusetts

Expanding an existing community garden structure through entrepreneurial urban agriculture characterizes a new venture located on the corner of Main and Cabot Streets in central Holyoke, a city of 41,000 in western Massachusetts. Once known as the "Paper City of the World" because of its paper mills, Holyoke had 60,000 residents during its industrial peak in the 1920s. Since then, the city has suffered through the deindustrialization characteristic of industrial centers in the Northeast. Immigrants have long comprised a significant segment of the city's population, and the influx of Hispanics that began in the 1960s has continued to the present day. The Centro Agricola expresses the Latin character of central Holyoke. It represents an extension into commercial food-based programs by its parent organization, Nuestras Raices ("Our Roots"), an

incorporated non-profit established in 1992 to manage what is now a total of five community gardens involving 90 families from the surrounding Puerto Rican population.¹⁰ In addition to the gardens, Nuestras Raices today organizes nutrition and gardening workshops, a children's garden, field trips to local farms, and arranges space for its gardeners to sell their produce at the Holyoke Farmers' Market (a test market of sorts for Latino varieties of different vegetables).

Although Nuestras Raices does not consider itself a CDC, it resembles conventional CDCs in being place-based, in having a local board of directors, and in having a strong community development direction.¹¹ Over time, the Nuestras Raices board began exploring ways to direct the energy of the community gardens that were already present into economic development. A 1996 USDA Community Food Projects grant of \$89,000 provided the seed money to plan the Centro Agricola, an umbrella designation for a number of separate endeavors centered on a single site. Subsequent appeals raised \$150,000, and an additional \$100,000 in in-kind donations, to begin the transformation of a century-old, 2,700 square-ft. former tavern into a community kitchen, office space for Nuestras Raices, and a 24-seat Puerto Rican breakfast/lunch restaurant to be operated by an established local restaurant family. In addition, the adjacent vacant corner lot was acquired for \$500 from the City of Holyoke, and is now the site of a 600 square-ft. greenhouse to be set behind a landscaped plaza characteristic of rural Puerto Rican villages (*Appendix B, Figure 1*). Most of the renovation and new construction work was performed by volunteer labor, and the progress of construction has been based largely on their availability.

Daniel Ross, the Director of Nuestras Raices, envisions the Centro becoming fiscally self-sufficient after two years of operation. The primary revenue sources would be rents and fees generated from the restaurant concession, from a retail cooperative using display cases in the restaurant and pushcarts in the plaza to market its products, and from the community's use of the commercial kitchen for catering and the value-added processing of produce from the nearby gardens for market sale. Expected costs and revenues for the first two years are in the \$20,000-23,000 range.

As of April 2000, the only operating component of the Centro is the greenhouse, where 6,000 pepper, eggplant and tomato seedlings (including special Latino varieties) are being grown for later sale to gardeners at the local farmers' market. While the initial phase of the plaza is close to completion, the restaurant and community kitchen are not expected to be completed until the end of 2000. Once all of its components are built, the Centro Agricola will represent a mutually beneficial relationship between small-scale community gardening and its logical extension into neighborhood-scaled business enterprises reflecting the ethnic traditions of the community.

St. Mary's Urban Youth Farm & Urban Herbals, San Francisco¹²

While the Centro Agricola represents a small, fledgling operation, a larger, more established entrepreneurial venture—also the product of a community gardening-based

organization—is located in the Bayview/Hunter’s Point section of southeast San Francisco. Since the early 1990s, the San Francisco League of Urban Gardeners (SLUG) has used urban gardening and food production as vehicles to educate and create jobs in a part of San Francisco where over one-quarter of the residents receive public assistance, and drugs and crime are daily realities. Today SLUG supports and coordinates over 100 community garden sites throughout San Francisco as its core activity, with construction performed by low-income men and women directed by SLUG’s in-house landscape architects.

A special location of concern is the Alemany housing project, where the unemployment rate was as high as 84 percent in the mid-1990s. In 1995, SLUG garden interns, along with Alemany residents, removed exotic vegetation, garbage and construction debris from a 4-1/2-acre city-owned parcel between the housing project and St. Mary’s Park, and created the St. Mary’s Urban Youth Farm. It is one of two urban farmsites managed by SLUG’s Urban Agriculture department. An organic vegetable production area is surrounded by an orchard with over one hundred apple, peach, pear and loquat trees, a flower production garden, a seasonal wetland, and raised bed garden plots for Alemany residents living next to the Farm. Over forty varieties of fruits and vegetables are produced at St. Mary’s and SLUG’s other farm, the Double Rock Community Garden at another housing project, and distributed to over 200 low-income households. In this way, the farms fulfill SLUG’s mission to address the nutritional needs of its target community. In addition to food production, St. Mary’s Farm is the center of SLUG’s Youth Garden Internship (YGI) program. Young people between the ages of 14 and 17 work on the Farm after school and during summers, learn basic skills in planting and harvesting, composting and caring for beehives, and work on other landscaping and landscape restoration projects.

SLUG’s initial goal for the Farm was for it to become a self-sufficient market garden. However, despite produce sales at farmers’ markets and flower sales to funeral homes, the goal of self-sufficiency has not been reached. SLUG’s continued commitment to market farming at St. Mary’s, and its desire to create further employment to those who graduate from YGI at age seventeen, led to the creation of a new entrepreneurial program, also based within SLUG’s Urban Agriculture department. Urban Herbals is a line of value-added products processed initially from fruits and vegetables grown on the St. Mary’s Farm. Today, produce is bought from organic farmers in the San Francisco Bay Area. Production occurs in rented kitchen space at the nearby Hunter’s Point Naval Shipyard. Specific training in sales, marketing and business operations is provided in-house for the four-person part-time production staff, ages 18-22. Urban Herbals also employs a project manager, an office manager, and production and sales supervisors.

Recent and projected Urban Herbals sales figures reflect the program’s success. Gross revenues in 1999 were \$36,000, and the projected revenues in 2000 are approximately \$60,000, a 66 percent increase. Currently, the Urban Herbals product line includes three varieties of “Jammin’ Jam,” “Bee Real Honey” harvested from beehives throughout the Bay Area, three blends of herbal vinegars, and hot or mild “Slammin’ Salsa,” made fresh

weekly.¹³ The newest product is an unfiltered virgin olive oil made by local family farmers. Gift and combination baskets are available, with marketing targeted during the Christmas season. Currently, Urban Herbals products are available by mail order, over the Internet, and at 23 retail sites throughout the Bay Area (*Appendix B, Figure 2*).

Isles Community Farm, Trenton, New Jersey

Community development corporations are not, at present, the urban agriculture catalysts that they are capable of becoming. One that has aggressively taken on market urban agriculture is Isles, Inc. in Trenton New Jersey.¹⁴ Isles is a larger-than-average CDC in terms of size (a 35-person staff, including interns) and operating budget (\$2.2 million in 1997). Urban agriculture is a core activity within the organization, along with affordable housing, youth job creation, environmental education, and facilitating community involvement in the redevelopment of local brownfields. Started in 1980 by students and faculty from Princeton University, Isles, has from its beginning, seen community gardens as a vehicle to achieve its stated mission of “fostering more self-sufficient families in sustainable communities.” Unlike the conventional CDC model where social service activities are built from a base of successful housing provision, Isles has used its success with community gardens (65 sites throughout the city, producing 120,000 pounds of food annually) to structure other forms of community building, while strengthening the food security of low-income Trenton residents.

The concept of using urban farming as a community-building mechanism is being enlarged in scope through the Isles Community Farm, an operation utilizing underutilized greenhouses (*Appendix B, Figure 3*) and five acres of farmland on the West Windsor campus of Mercer County Community College, six miles northeast of central Trenton. Despite its suburban location, the Farm is closely linked to the inner-city through the employment of some Trenton residents and the distribution of organically-grown produce throughout central Trenton. The suburban location presents transportation difficulties for farm workers and staff, and a lack of the streetside visibility that the CDC’s community gardens benefit from. Seed money for the project was provided by a 1997 USDA Community Food Projects grant for \$114,000 over three years. Additional funds from the New Jersey Department of Labor support the farm’s job-training component.

Perhaps the best assessment of the Community Farm after two growing seasons is that it is building itself up in steady increments. In 1998, the farm’s first year of production, it supplied 7,500 pounds of vegetables to the local food bank, while 2,500 pounds were sold through youth farm stands in Trenton neighborhoods. The following year saw the implementation of a community supported agriculture (CSA) program that, along with sales of cut flowers and outside donations, provided revenues of \$6,000. Because the 1999 salaries of the farm’s director, Ron Friedman, a seasonal production manager and additional seasonal help totaled \$77,000, Isles feels it is critical that the CSA be expanded beyond the six shares of 1999, and that more flowers and herbs be sold in 2000 and beyond. As of July 2000, 15 CSA shares have been sold at \$300 or \$400 per share,

depending on family size. The farm also made \$2,000 raising perennials for the landscape renovation of Morven, the former Governor's Mansion in nearby Princeton.

The plans for the Farm are ambitious, in part to make the project more attractive to potential funders. Yet, after two years, Friedman has discovered how difficult it is to combine public relations activities and Isles's commitment to offer employment to often-unskilled laborers from inner-city neighborhoods with the rigorous day-to-day work necessary for the farm to simply break even financially, much less turn a profit. A recent development has been the interest on the part of an Islamic community group in Trenton to take over some of the farm's day-to-day management, receiving a portion of the proceeds from food and cut flower sales in return. The mosque has also expressed interest in assisting Isles with initiating a food cooperative. Friedman believes that a successful partnership with the mosque can provide both longer-term stability for the farm and, for Isles, a new institutional avenue for increasing self-sufficiency within Trenton neighborhoods.

Food From the 'Hood, Los Angeles

The marketing of a value-added product from food grown on underutilized city land characterizes the beginnings of Food From the 'Hood (FFTH), the highly successful natural food products company owned and managed by students from Crenshaw High School in South Central Los Angeles. FFTH began modestly in 1992, following the local riots, with the transformation of an abandoned quarter-acre lot behind the Crenshaw football field into a small organic flower and vegetable garden to be used for environmental education. Crenshaw students, largely African-American, soon began selling their produce at local farmers' markets. Soon, the ambitious students, realizing the income potential of what they were growing, did some investigation, and by 1994, through seed grants and much pro bono assistance from marketing professionals,¹⁵ began producing and distributing an all-natural salad dressing under the brand name, "Straight Out 'the Garden" (*Appendix B, Figure 4*)

Since then, FFTH has expanded to the point where it has added a second, fat-free, salad dressing to its product line. It is now distributing to 2,000 stores nationwide, and has spawned "sister" programs in Ithaca, New York (which makes three types of "Straight Out 'the Orchard" applesauce) and in Chicago (described in Section 5). Most importantly, it has succeeded in providing its student-owners with college scholarships generated by company profits. Each student earns points based on hours spent in operating the business, that are later transferred into scholarship money upon graduation. Any remaining profits are distributed to projects in the local community.

Today, FFTH is run with an annual budget of over one-half million dollars, of which more than 50 percent is returned in gross revenues (annual grants provide much of the balance). Although the original Crenshaw garden is still tended, to keep close to the project's roots, the company has expanded far beyond it in order to meet production

needs, and now relies on other organic producers. After eight years, FFTH remains an exemplar of food-based inner-city youth entrepreneurship that is also widely known.¹⁶

Growing Power/Farm City Link, Milwaukee

In contrast to most of the entrepreneurial urban agriculture ventures described in this report, the agenda and activities of Farm City Link—now Growing Power/Farm City Link (GP/FCL)- are largely the work of a single individual. Will Allen, one of the last full-time farmers in the growing Milwaukee suburb of Oak Creek, began Farm City Link on his own and without pay in 1995. His objective was for inner-city Milwaukee youngsters to gain life skills by cultivating and marketing organic produce. The range of Allen's activities dedicated to the practice and promotion of organic food production, both within and outside of GP/FCL, is broad and ever-changing. A selective list would include reviving the only one of Milwaukee's ten farmers' markets serving the African-American community, launching a market basket program with five other Wisconsin farmers to serve inner-city residents, initiating an exchange of agricultural products with African-American farmers in the southern United States, serving as a vendor for the SHARE program of southeast Wisconsin, and training urban youngsters to grow vegetables, fish and compost-making worms. It is clear in talking to him that his youth-centered work is the most significant component of his vision to use urban farming as a vehicle for improving food security in central Milwaukee, and for the long-term strengthening of its neighborhoods.

To better achieve Allen's vision, Farm City Link has undergone radical administrative changes. In April 1999, it became part of Neighborhood House, a long-established family service agency in Milwaukee. The arrangement was intended to provide Farm City Link with institutional support and staffing, as well as allow Allen to receive a salary for his work with Milwaukee youngsters, generally aged 8-18. Later that year, Farm City Link also began a working partnership with Growing Power, a non-profit based in Madison, Wisconsin that fosters local food systems with a particular focus on youth gardening and training. By mid-2000, the relationship with Neighborhood House was terminated. Allen and Hope Finkelstein, Growing Power's creative Executive Director, became co-directors of a reconstituted Growing Power under which Farm City Link now operates.

GP/FCL operates under the premise that allowing urban kids to work with plants and soil is not only educational, but can instill the idea of pursuing careers in horticulture, landscaping or organic farming. Its operation is straightforward. Inner-city youth groups connect with GP/FCL through various organizations, such as the YMCA or their school. Each group plans a specific program that GP/FCL facilitates by providing facilities or land, guidance in food growing, and overall project maintenance. Much of what is produced by these separate enterprises is donated to meal programs and emergency food providers. Other products—vegetables, cut flowers, tilapia fish and worm castings—are mostly sold by the youngsters at local farmstands and farmers' markets. Each group decides on their own how to distribute the money raised. GP/FCL, however, insists that one-quarter be returned to the local community.

The program's nerve center is a farmstand, vegetable garden, and five connected 30 by 100-foot greenhouses on a 1.7-acre site on 55th Street and Silver Spring Drive in northwest Milwaukee. Allen purchased the site and greenhouses from the city in 1992. Four of the five once-dilapidated greenhouses have been repaired, allowing him, with assistance from area youngsters, to produce vegetables and other plantings for his various projects (*Appendix B, Figure 5*). The greenhouses also house the bins used for vermiculture, and ten three-tank aquaculture systems (comprised of 55-gallon plastic barrels purchased for \$40 each from the local Scrub-a-Dub Car Wash, *Appendix B, Figure 6*.) The worm and fish operations are conducted with a \$20,000 grant from the Chicago office of Heifer Project International, and are modeled after the God's Gang Worm and Fish Project in that city, described in the Chicago portion of Section 5. Next to the greenhouses, food waste from a local supermarket is being converted to compost, and vegetables and fruit trees are being grown on a half-acre plot.

As for funding, GP/FCL has received several grants, along with individual contributions, and earns additional revenue by providing horticultural and landscaping services to different organizations through its Youth Corps program. In 2000, total GP/FCL income is projected to be \$115,000.¹⁷ GP/FCL also has high hopes for its newest entrepreneurial venture, combining worm castings with "green sand" fertilizer imported from Texas.

Of the projects profiled in this section, Growing Power/Farm City Link best represents that characteristic of entrepreneurial urban agriculture wherein the origins and direction of the enterprise is found within a dedicated, savvy, creative individual who understands the complicated urban context in which he operates, and accepts the various setbacks to success as being necessary to achieving success.

BYA Garden Patch, Berkeley

Urban youth are also the focus of the BYA Garden Patch in Berkeley, California. This venture is included because it represents an example of entrepreneurial urban agriculture with a clear social agenda, and one with a history that has been the object of recent academic research. In October 1999, Laura Lawson and Marcia McNally issued a report under the auspices of the University of California Sustainable Agriculture Research and Education Program¹⁸ that focused upon improving the economic viability of an existing market garden (that both authors had past involvement with) through an internal examination of its operation, along with reviews of the operation by outside experts (Lawson and McNally 1999). Given the present lack of extensive research into market urban farming, the depth of Lawson and McNally's study gives it a value beyond that of the specific project under examination.

Berkeley Youth Alternatives (BYA), an established non-profit dedicated to helping at-risk youth, initiated the Garden Patch in 1993 on a ½-acre railroad right-of-way off Bancroft Way near its offices in West Berkeley. The intention behind the Garden Patch was to provide a multiple-use open space in combination with programs for youth employment. Its components include community garden plots, a children's garden, a

youth market garden and public activities promoting the site as a community center. The inability of BYA to reach an early goal—financing the entire Garden Patch program through sales from the market garden—led to Lawson and McNally’s investigation, beginning in 1996.

Recent Garden Patch budget figures confirm that the program was far from being economically self-sufficient. During 1998-99, \$19,000 in gross earned income (\$11,000 from farmers markets, local retail and CSA produce sales, and \$8,000 from a bouquet delivery business operating at another site) was returned on a total budget of \$80,000 (Lawson 1999). A high percentage—about 70 percent—of this total budget was dedicated to staff costs, a common problem among similar “social agenda” market farming operations (Feenstra et al. 1999).

A significant revelation of the Lawson and McNally study were the limitations imposed upon income generation by the original social agenda of the Garden Patch. In other words, institutional goals to “grow healthy kids” (in the words of the BYA director), often conflicted with the special focus deemed necessary to produce adequate revenues. An especially critical limitation was the pressure on Garden Patch staff to address multiple demands—to simultaneously practice labor-intensive sustainable agriculture, train young people, develop avenues for community outreach, conduct educational programs, and make money (Lawson 1999). Recognizing this and other constraints on the program led to a rethinking of the Garden Patch mission on the part of the BYA staff and board of directors.¹⁹ As a result, the Garden Patch now clearly prioritizes job and entrepreneurial training over business achievement. An annual revenue target of \$10,000 has been set, with increases expected as the program develops. In addition, there is a new emphasis on management training, with the young participants preparing budgets, ordering supplies, and developing long-range plans.

Village Farms, Buffalo²⁰

Village Farms of Buffalo represents the single entrepreneurial urban agriculture venture in this report developed by a private sector corporation, and managed to maximize profits. Any social benefits to the local community resulting from this operation are more “trickle-down” than actively sought. Although this, along with its size, makes Village Farms something of an anomaly within this study, its commercial success, its use of innovative technologies, and the example it sets for re-using contaminated industrial land for urban food production warrant its inclusion.

Village Farms is an 18-acre greenhouse facility (on a 35-acre site) that produces vine-ripened tomatoes for sale to area supermarkets and distributors using state-of-the-art hydroponic techniques. Like many large urban redevelopment projects, Village Farms represents a degree of partnership between a private corporation looking for a site to establish a specific business, and state and local governments actively recruiting business, especially those promising to bring new life to abandoned areas. In the case of Village Farms the abandoned site was that of the former Republic Steel mill in a heavily-

industrial area along the Buffalo River southeast of downtown. The developer, New Jersey-based AgroPower Development (APD) Inc., is the largest hydroponic greenhouse operator in the United States, and was looking to expand its local tomato-growing operations beyond a smaller, suburban greenhouse north of the city.

The city of Buffalo (through the Buffalo Economic Renaissance Corporation), the state of New York (through a \$400,000 interest subsidy grant), and local utilities offered several incentives to locate Village Farms on the Republic Steel site. These were critical, given the high start-up costs involved in an urban operation of such size. By the time Village Farms began operations in 1998, APD had taken advantage of the site's location within both a federal Enterprise Zone and a city economic development zone. The latter designation allowed APD to receive significant reductions in electric and natural gas rates, a seven-year 100 percent tax abatement agreement, and other tax credits based on generated employment. The city also paid for the remediation of the oil-contaminated site (at a cost of \$860,000) and bought the land, subsequently leasing it back to Village Farms. Given these incentives, APD's primary expense was \$13 million in greenhouse construction costs, out of an overall start-up and development cost of \$20 million.

Village Farms operates in a "second-hand" aluminum and steel greenhouse purchased in a foreclosure sale and moved from Pennsylvania to Buffalo. The operation employs a Dutch technology where individual tomato plants are grown in porous, rock wool blocks of varying densities. Saplings are planted in December with harvesting beginning in mid-March. Production then peaks in June and the cycle starts again in December with new saplings. Computers monitor the flow of nutrients to the plants, as well as climatic conditions in the greenhouse. Bees pollinate the plants, and bio-control measures (i.e.; "helpful" insects) are used to control unwanted pests, minimizing pesticide use. Approximately 175,000 plants are grown, yielding 7-8 million pounds of tomatoes annually. These are sold directly to two large regional supermarket chains, with smaller retailers buying on-site. Marketing agreements guarantee the purchase of all greenhouse production. Some evidence indicates that Village Farms has caused some local tomato growers to leave the business (Meyer 1998), although other growers are now Village Farms employees.

By most standards, Village Farms is considered a success. As a private corporation, APD has exercised its privilege to not divulge sales figures, but they are happy with the revenues produced, and are investigating the replication of the Buffalo operation in other cities.²¹ The city of Buffalo sees Village Farms as an example of how economic development zones can work, and as a exemplary use of unused industrial land for an innovative, non-polluting business producing an in-demand product. The project has been recognized by Vice-President Gore and New York Governor George Pataki, and by *The New York Times*, as a model reuse of industrial brownfields (Revkin 1998).

The only area where initial expectations have apparently not been met is in the amount of local employment generated. The current number of 80-100 jobs is far below the 250-300 initially envisioned (and down from 130 jobs in the first operating year). While pickers

and packagers reside in Buffalo, the majority of management and administrative staff live outside of the city. Thus, while Village Farms is an impressive example of food production on underutilized urban land, it should not be directly compared with other urban agriculture projects presented in this report as grassroots ventures with benefits directed at a particular community. The objectives and goals of Village Farms are clearly different.

Annex Organics/FoodShare, Toronto

To trace the five-year history of Annex Organics is to also trace the search by small-scale urban agriculture entrepreneurs for a stable base of management and financial support for a business venture that has consistently tried to maintain its original ideals in the face of practical realities. What began independently as “a model urban farm designed to challenge the North American myth that food must come from the countryside,” in the words of one of the founding partners (Spillane 1998), now operates under the auspices of FoodShare, a successful, multi-dimensional non-profit dedicated to improving food security among Toronto’s ethnically-diverse population.

The relationship with FoodShare dates back to the early days of Annex Organics. The roof of the FoodShare warehouse on Eastern Avenue, east of downtown Toronto, was the site of the first Annex Organics venture in 1995, a 2,000 square-ft. rooftop farm used primarily to grow rare heritage tomato varieties for sale to restaurants and other buyers (often delivered via subway). Annex Organics has since added a 600 square-ft., four-season greenhouse to grow garden seedlings, and developed a sprout-growing business that is now its biggest single revenue producer. At present, 1,000-1,500 bags of several sprout varieties are sold to five wholesalers weekly throughout the year, grossing between \$700-800 (Canadian) per week (*Appendix B, Figure 7*). Annex Organics expects the sprout business to grow slowly along with its customers, a strategy applied to other present and future products—greenhouse-grown plants and flowers, strawberries, mushrooms and honey. In 1999, Annex Organics made \$40,000 (Canadian) in total gross revenue, with \$30,000 coming from sprout sales and \$8,000 from the new seedling business. All Annex Organics production is certified organic, guaranteeing a premium price from buyers.²²

A noteworthy characteristic of Annex Organics is the symbiotic relationship it has evolved with FoodShare. Although FoodShare bought the Annex Organics technology in January 2000, and made the remaining partner, Lauren Baker, a FoodShare staff member, Baker still maintains the identity of Annex Organics as an entrepreneurial urban agriculture model within the diversity of other FoodShare programs. FoodShare offers an array of community-based microenterprises for Annex Organics to supply, including a catering business, community kitchens and a “food box” operation (a pre-paid bi-weekly delivery of high-quality fruits and vegetables across Metro Toronto). Annex Organics also benefits by receiving labor from FoodShare volunteers and youth trainees. From the perspective of FoodShare, the incorporation of Annex Organics provides an in-house

supply of fresh produce and garden plants for its activities, as well as a vibrant demonstration of urban agriculture to show its visitors and supporters.

Today, through FoodShare's support of food-centered microenterprises, and its assuming certain management responsibilities, Baker is free to pursue several future directions for Annex Organics. Regardless of the direction, all Annex Organics ventures are expected to reflect certain core values—food production within closed resource loops (characterized, for example, by the re-use of wastes), the demonstration of innovative technologies that are both comprehensible and appropriate to the purpose, the development of transferable food-production skills, and the building of close relationships with customers and consumers.

Operations Sponsored by University Extension Programs

The final two projects in this overview represent examples of entrepreneurial urban agriculture whose primary support comes from the extension programs of two land-grant universities, Cornell and the University of Georgia. They are not unique in this regard; Rutgers and the University of Arizona are two public institutions that have initiated urban agriculture operations in the central areas of New Brunswick and Phoenix respectively (see Appendix A). However, these projects of the Cornell University Extension and University of Georgia Extension bear special attention; the first due to the extent of its reach in New York City, and the second for the careful manner in which its entrepreneurial venture was planned.

New Farmers/New Markets, New York City

The Cornell Cooperative Extension of New York City operates within four program areas: environmental revitalization and management, nutrition and health, workforce development, and community and economic development. New Farmers/New Markets is based within the latter program area, with the goal of generating new food sector employment through the development of a regional network of farmers' markets and other forms of community-based agriculture (such as CSA farming), while simultaneously increasing access to fresh foods within low-income neighborhoods. This goal is achieved through specific projects cooperatively managed with community partners. Cornell Extension educators utilize university research to assist in building a community's capacity to practice sustainable agriculture and develop food-centered small businesses. Several New Farmers/New Markets sites are among the fifteen sponsored by City Farms, a training and support partnership between Cornell Cooperative Extension; the community-based non-profits, Just Food and Green Guerillas; Food for Survival, a major local food bank; and the Northeast Organic Farming Association of New York.

Financial returns from for-market food production are modest at best—sales in 1998 ranged from under \$500 to close to \$2000. But these small sales figures make up only a small part of the returns. A strength of New Farmers/New Markets is found in the

aggregate social benefits resulting from the breadth of its activities, in terms of both geography and mission. Projects are located in four out of five boroughs (including a prison farm on Rikers' Island), and, to one degree or another, address many of the social aims for which entrepreneurial urban agriculture serves as a vehicle; community food security (including producing for soup kitchens), community organizing around food production, youth employment, small business incubation and training in direct marketing. The strong connections between New Farmers/New Markets and other food-based non-profits in New York City, allows for a citywide network of production and distribution, such as that represented by the system of emerging, strategically-located farmers' markets. These "new markets" provide "new farmers," often recent immigrants, with the direct marketing opportunities denied by established farmers' markets.

New Farmers/New Markets is perhaps best characterized by the individual sites receiving its support. A typical operation is the Taqwa Community Farm at 164th Street and Ogden Avenue in the Highbridge section of The Bronx. Started in 1991 by five neighbors wanting to remove garbage and drug dealers from a vacant, two-acre site, the Taqwa farm now counts as gardeners over 200 individuals of different ages and backgrounds. Together, they regularly produce upwards of 500 pounds of produce per week. The harvest is distributed among the gardeners and needy residents of the community. New Farmers/New Markets assists gardeners and a group of eighteen kids, ages 9 to 15, in selling vegetables at the nearby farmers' market on Ogden Avenue. The youngsters also maintain a recently-installed hydroponic system used to grow lettuce that is sold on-site. The Taqwa farmers plan to become more independent by increasing their own fundraising abilities to ensure the farm's future.

Entrepreneurial Program, The Atlanta Urban Gardening Program

Initiated in 1978, the Atlanta Urban Gardening Program (AUGP) is a multi-dimensional effort by the University of Georgia Cooperative Extension Service to structure youth development and community organization around urban food production. AUGP provides management and technical assistance to over 200 community gardens located in public and private schools, public housing sites, elderly care facilities, mental health centers and other institutional settings. While its primary focus is on lower-income neighborhoods in central Atlanta, the program's reach has broadened to include suburban schools in Fulton and DeKalb counties. Under the direction of Extension Agent Bobby Wilson, AUGP has built a successful adult leadership program around its neighborhood gardens. The program's broadest reach, however, is to the children who represent future gardeners and future community leaders. About 4,000 students, primarily in elementary schools, benefit from AUGP's efforts to integrate the lessons of organic gardening into their entire curriculum.

One important example of this integration is the AUGP Entrepreneurial Program. Using start-up grants from the Atlanta Urban Resources Partnership, Fulton County and the Atlanta Metropolitan Association, the program was designed to train inner-city youth in the production and direct marketing of one non-perishable product—loofah sponges,

processed from garden-grown gourds, and used in skin care—and one perishable product—a hot peppered vinegar. The gourds and peppers are harvested specifically for the program by community gardeners. The processing is scheduled seasonally, in order to tie in to the school year, and to allow the products to be available during special occasions, such as Valentine’s Day and Mother’s Day. Various groups, including schools, churches and senior centers sell the products as a fund-raising activity.

The decision to produce and sell only these two products came after a careful market investigation. An additional survey of similar entrepreneurial programs nationwide led to the decision that training in production and direct marketing, not the generation of profits, was to be the program’s primary goal. This set a clear direction, and in doing so, avoided much of the “learn-as-you-go” insight experienced by, for example, the BYA Garden Patch which was initiated to address several competing demands. In Wilson’s words, it is the “life-skills gained through customer relations, handling money and working collaboratively,” that are emphasized by AUGP.

Part of the management role of UGA Extension is to expose the student entrepreneurs to how the state of Georgia regulates agricultural production. Gardeners take certification classes to properly process the peppers used in the vinegar, and their processing methods and facilities are certified by the Georgia Department of Agriculture and the University’s Food Science Department. Finally, the marketing of the vinegar and sponges is licensed by the Department of Agriculture. AUGP also arranges for the direct marketing of the products at schools, churches and Boys and Girls Clubs, teaches different marketing skills (such as sales techniques and aspects of customer service), and different forms of advertising and promotion (creating banners, placing samples in strategic locations, meeting prospective buyers).

Although not a profit-making venture, the AUGP Entrepreneurial Program still reflects a business-like approach to city farming. Evolving from its existing management of community gardens, the program first set a single clear objective—entrepreneurial training—then focused upon guiding the students through the state’s support and regulatory structure for processing and marketing value-added agricultural products. By doing so, the Atlanta program, together with New Farmers/New Markets, represent valuable models for university-based urban extension, and a supportive role for state government with regards to urban agriculture.

Section 5: Case Studies

Three case study visits were undertaken in May and June of 1999. Boston, Chicago, and Philadelphia were selected because the three legs of the project’s conceptual stool were evident in each—considerable vacant land in the inner city area, a handful of entrepreneurial urban agriculture projects already underway, and some evidence of receptivity towards urban agriculture among key local institutions. Each city also

maintained a strong sense of neighborhood identity and grassroots activism focused on, and centered within, these neighborhoods.

In each city, three to four days were spent interviewing: a) people involved in specific urban agriculture projects; b) those informed and supportive of urban agriculture but not directly involved in any project; and c) those individuals representing organizations positioned to influence or assist urban agriculture activities in some manner (including city and federal government, local foundations, community development corporations, and neighborhood organizations). Approximately fifteen interviews were conducted in each community. In addition, sites of urban agriculture projects having an entrepreneurial component were visited and the relevant participants interviewed.

These trips gave a sense of the community and institutional climates affecting urban agriculture in each city, and a richer, field-level view of specific obstacles to entrepreneurial projects and means of overcoming them. In general, the visits left the impression of both similarities and differences existing across all three cities. Innovative entrepreneurial urban agriculture projects were discovered in each, as were emerging informal networks of organizations and growers attempting to promote urban agriculture as a viable economic activity. Another important similarity was a small cadre of people scattered within local governments who were fairly receptive to the idea of urban agriculture as an alternate reuse of vacant land.

A range of reactions to the idea of urban market farming was displayed among those interviewed during the three visits. Some were enthusiastic about its long-term prospects. Others, generally supportive of the idea, were guardedly optimistic about the chances for success but offered caution in other respects. Still others expressed skepticism about the prospects of such projects having any long-term viability. Each city also has a few visionaries thinking “outside of the envelope” represented by the traditional mindset of how to best reuse vacant urban land. They may advocate on the margins of public policy, but the local climate for urban agriculture benefits by their presence.

Each of the case study descriptions that follow begin with a brief overview of the community and context for the investigation. This is followed by descriptions of individual projects, each representing a set of operating characteristics, and each reflecting, in some way, the larger citywide context within which they were initiated. Finally, the institutional climate for sustaining market city farming in that particular city is discussed. Rather than look for commonalities, the case studies aim to draw certain distinctions in each city relative to the climate for creating viable examples of entrepreneurial urban agriculture that reflect those distinctions.

Chicago

Even in the post-industrial era, Chicago is still seen as one of the world’s major cities. Its downtown core, the Loop, remains a vibrant center for tourism, advanced corporate services and international trade. The city still retains a strong industrial base, albeit

reduced in size and changed in character. Its primary airport handles more passengers on a yearly basis than any other in the world, save one. But in other respects, the city is struggling mightily. It has lost considerable population, from two-thirds of the metropolitan area population 40 years ago to one-third in 1990. That same year, the city of Chicago had only a third as many factories, a per capita income nearly 50 percent lower, 50 percent fewer jobs, and a poverty rate four times higher than the 262 suburban governments in the six-county metropolitan area (Kaufman 1998).

One consequence of these losses is the high incidence of vacant land. In one of every five of the city's seventy-seven community areas, at least a quarter of the property has been abandoned and now lies vacant, with at least 10 percent of the total housing units in these areas vanishing during the decade of the 1980s (Chicago Rehab Network 1993). City officials now estimate that as many as 70,000 lots have become vacant (Chicago Department of Environment 1997). What is the potential for urban agriculture to use even a small fraction of this land resource? The answer at this time is indeterminate. There is a coterie of individuals and organizations, centered on the concept of "greening" Chicago, that may boost the chances of urban agriculture in the city. But the obstacles facing proponents of such a land use are still formidable.

During a three-day visit (June 23-25, 1999), scheduled interviews were conducted with nineteen individuals. Half of them were engaged directly in urban agriculture, while the other half represented organizations—local government, non-profit greening groups, local foundations, and community developers—seen as positioned to externally support local urban agriculture in some way. Site visits were also made to eight existing or projected projects throughout the city, and involved speaking with project initiators and managers.

Entrepreneurial Urban Agriculture Projects

The 70th Street Farm

A 1/3-acre site in the African-American Englewood neighborhood on the city's South Side, three blocks west of the Dan Ryan Expressway, is being cultivated as the 70th Street Farm (*Appendix B, Figure 8*). The grower, Neil Dunaetz, who is white, grew up on a farm and began farming this site in 1998. A wide variety of organic vegetables (including over 40 different types of tomatoes) are being grown in 52 in-ground beds, and sold at a weekly farmers market in the nearby, middle-income neighborhood of Hyde Park, and to the restaurant of an upscale downtown hotel. The first year of operation in 1998 generated \$3,500 in revenue after about \$3,000 in expenditures. Neighborhood youngsters helped sell the produce and, in turn, received 20 percent of the profits. The second growing season (1999) produced \$16,000 in gross revenue. Dunaetz had an intern working with him on an occasional basis, but did most of the work himself. He now farms as a staff member of the Resource Center, a longtime Chicago non-profit dedicated to creating inner-city jobs through environmental activities centered on the reuse of industrial and consumer materials.

The farmsite is owned by nearby St. Bernard's Hospital. In the near future, the hospital plans a residential development on the lot and the adjacent parcels it also owns. Dunaetz thus farms the land with no long-term security. Because of his belief in community participation, area residents use a quarter of the site as a community garden. There is occasional evidence of vandalism, whereby produce is taken and sold. An eight-foot high chain-link fence has been installed by the adjacent school for disabled children to reduce the incidence of vandalism within the farm.

Another component of the Resource Center, a second market garden, is being cultivated a few miles to the east in Woodlawn, another African-American neighborhood that has experienced extensive abandonment in recent decades. The farmer of the site immigrated to the United States from British Guyana. Up to 600 tomato plants are being grown, with the Resource Center buying most of what is produced.

The God's Gang Worm and Fish Project

A vermiculture (worm-growing) and aquaculture (tilapia fish) operation was, in June 1999, located in the refurbished basement of a high-rise building in one of the city's more notorious public housing projects, the Robert Taylor Homes, on Chicago's South Side. In autumn 1999, the Planting Dreams Worm and Fish Project was forced to relocate by the Chicago Housing Authority (CHA) as part of its plan to demolish the structure. The project has now relocated to the basement of the Taylor Homes building next door.

The Worm and Fish Project is staffed by teenagers living in Taylor Homes, and is part of a larger organization, God's Gang, begun by local women as a community outreach program by an adjacent church. Alison Meares Cohen of the Chicago office of Heifer Project International (HPI), trained the youth—presently five boys and girls—in the growing and selling of worms, and in the production and packaging of worm castings. HPI contributed \$14,000 to the effort, the CHA provided the remodeled basement space free of charge, and the Greater Chicago Food Depository donated over \$3,000 in organic vegetable waste for worm food. Castings produced in the 75 worm bins are sold in one, two, and three-pound bags at the Daley Plaza farmers market downtown (*Appendix B, Figure 9*). In 1999, approximately \$1,500 worth of vermiculture products were sold. These included the castings (used as compost for vegetables, annual flowers, shrubs, berries, and rose bushes), worm beds, and start-up vermiculture kits.

In another part of the basement, 55-gallon plastic tanks are used to raise tilapia fish acquired as fingerlings from the University of Illinois. The aquaculture business plan is to donate the mature fish to food pantries in the initial years of the project, then later sell them to supermarkets to generate income. Tilapia take eight months to grow to full-size, weigh between one and two pounds, and are popular in Asian cooking.

Like other community-driven entrepreneurial urban agriculture ventures, such as Food From the 'Hood, God's Gang assumes a high public profile. Since its inception, the Worm and Fish Project has appeared in the *Chicago Tribune* (Anderson 1997) and *The Christian Science Monitor*. The project also promotes the benefits of worm castings for

home gardening, and markets the project through public events. One flyer, announcing a weekend open house in early May 1999, announced “Urban Farming, Inside and at Its Best—Join Us.”

Ivy Crest Garden

The Ivy Crest Garden is located on a 1-1/2 acre vacant site (comprising nine city lots) in the Lawndale area on Chicago’s West Side. A church abutting the site bought a quarter of the abandoned site from the city. Another adjacent landowner, a company that manufactures pancake mix, owns the rest of the site. That company’s owner is letting the garden group affiliated with the nearby church use the land for crop production. Before the site was cleared in 1999, it was a dumping ground for garbage, tires, and drug paraphernalia.

HPI has funded this project for \$10,000 over three years. It has also provided the ducks being raised in a small duck house next to a series of raised planting beds (*Appendix B, Figure 10*). Five adults from the church and ten youngsters are involved in the project. The intention is to grow vegetables and flowers, and produce duck eggs. The goal is to eventually have 30 ducks (there are now six). The youngsters working on the project are developing a marketing plan for the sale of some of their produce. Restaurants are the primary marketing target, with one already committed to buying some of the vegetables.

Growing Home

A one-acre vacant site on the city’s near West Side, next to the ABLA public housing project, is being transformed by the Growing Home project of the Chicago Coalition for the Homeless into an operation combining urban agriculture with sustainable building practices. The site is not far from the downtown single-room-occupancy (SRO) area where many of Chicago’s homeless congregate. The most pressing concern is the remediation of contaminants from the gasoline station and dry cleaning establishments that once occupied it. Four underground storage tanks have been excavated so far. Growing Home will assume remediation costs for the greenhouse portion of the site, while the city and state will pay for cleaning other parts of the site. The Coalition intends to practice “phytoremediation” by growing native plants with the capacity to take in site contaminants, and to also market such plants to others.

Growing Home’s intention for the site is to grow food in a 2,100 square foot (30’ x 70’) cold-climate greenhouse and in raised planting beds. The program received title to the site in 1998 in exchange for giving up usage rights to a 1/3-acre parcel next to Navy Pier, downtown’s popular lakefront recreation site, which had been promised by the city government. As part of the agreement, the city will give Growing Home access to a selling stall on Navy Pier and waive the standard vendor fee. In addition, Growing Home does not have to pay any vendor fees for selling its products at local farmers markets. The program has also received a \$50,000 Community Development Block Grant (CDBG) to perform market research, develop a strategic plan, and hire temporary

workers from among the homeless. A \$5,000 grant from the Chicago Urban Resources Partnership is dedicated to the creation of a native plant nursery business.²³

Food From the 'Hood Chicago

A fledgling school-based project modeled after the successful Food From the 'Hood project in the Watts area of Los Angeles is now underway. Food From the 'Hood Chicago (FFHC), was created in 1998. The plan is for students at a selected Chicago public high school to create, own and manage a natural food products business, with revenues going to college scholarships for the participants. Based on the Los Angeles model of the early 1990's, where Crenshaw High School students created two salad dressings that are now marketed in 2,000 stores in the United States (see Section 4), FFHC's goal is to produce enough revenue to offer \$15,000 grants to each student-owner. Jewel Supermarkets, one of Chicago's largest supermarket chains, has agreed to waive its store slotting fee for the FFHC products, and a few local foundations have expressed interest in supporting the project. Rona Heifitz, the founder and director of FFHC, sees the essence of the project as the development of entrepreneurial skills geared towards the production of a naturally-made food product.

Chicago Indoor Gardens

Chicago Indoor Gardens is a privately-owned, for-profit business growing eleven different varieties of sprouted grasses and beans under artificial conditions in a small factory building on the city's Northwest side. The company markets its products to Dominick's (another large supermarket chain in Chicago), Whole Foods Markets, and a number of health food stores. Ten people currently work for the company, which began in 1987, and earned revenues of \$700,000 in 1998.

The Ginkgo Organic Gardens

The eighth urban agriculture activity visited has no intention of selling its produce, but serves as an appropriate model for entrepreneurial city farming operations. The Ginkgo Organic Gardens, on the North Side near Wrigley Field, has turned an empty, tax-delinquent 1/6-acre lot into a productive, volunteer-run effort to provide a steady supply of fresh produce (1,000 pounds in 1998) to local food non-profits—in 1998, the Inspiration Café, a restaurant employing the homeless, and Groceryland, a free food pantry for those with HIV and AIDS. The site is divided into raised production beds (*Appendix B, Figure 11*) and some smaller lots for the personal use of garden volunteers. The long-term mission of the Ginkgo Organic Gardens was secured by the 1998 acquisition of title to the land by NeighborSpace, the public land trust described below.

Other Entrepreneurial Urban Agriculture Operations

Chicago has other entrepreneurial urban agriculture projects underway or still in the planning stages. The best-known is Cabrini Greens, which was launched on the grounds of another of the city's public housing projects. In operation since 1991 and affiliated

with Heifer Project International, Cabrini Greens has a variety of youth-related projects underway on three sites. One site is in front of the Schiller School in the Cabrini Greens public housing project, where youngsters grow salad greens and other vegetables for sale to noted upscale restaurants such as Michael Jordan's and Charlie Trotter's. Another site is near the Cook County Hospital, where livestock provided by HPI is kept. A third, two-acre site is outside the city near Elgin, Illinois.

The West Side South Austin neighborhood is the location of the Quincy Community Center Youth Garden, a partnership between the Community Center, the popular Wishbone Restaurant downtown, and others. A mid-block residential lot was acquired through the city's sidelot purchase program, and is now the setting for container gardens on portions of the site with lower lead readings and beds in plastic wading pools on the higher-lead portions (*Appendix B, Figure 12*). After initially providing vegetables to a nearby nursing home, the Youth Garden now supplies the Wishbone Restaurant, whose chef and co-owner has also offered culinary training to teenage mothers in the Austin neighborhood. Its location in a targeted drug prevention zone has enabled the Youth Garden to receive a HUD grant to develop a job training component to accompany its food distribution efforts.

Another HPI project is planned for the predominately-Hispanic Pilsen neighborhood on the southwest side, where twenty families will eventually be involved in raising tilapia fish in the homes of women who have recently immigrated from El Salvador. While some of the fish will be consumed by the families of the participants, some will be sold for market. HPI is funding this project at \$9,000 annually over a three-year period.

The Institutional Climate for Entrepreneurial Urban Agriculture

Chicago's motto, *urbs in horto*, the "city in a garden," is being realized by organizations in and out of government now creating the institutional context for entrepreneurial urban agriculture. As noted, a diverse array of for-market urban agriculture projects are underway in Chicago. Most are managed by non-profit organizations, such as a city-wide homeless coalition, a group of public housing residents, a resource center that recycles waste materials, a local off-shoot of a school-based organization in Los Angeles that produces value-added food products for a national market, and a church-affiliated group in a low-income neighborhood. Other projects reflect the diversity of such activities. These include Hispanic women raising tilapia fish in their homes, a proposed urban agriculture demonstration garden now looking for a home after being denied a vacant site in a gentrifying neighborhood west of Lincoln Park, a solar greenhouse project on thirteen vacant lots in a West Side Hispanic neighborhood, and a possibly clandestine operation where Asian growers are raising vegetables beside the railroad lines on the city's north side for an informal consortium of Vietnamese restaurateurs.

To those currently engaged in entrepreneurial urban agriculture activity in Chicago, there are signs that a more supportive attitude may be in the making within certain sectors of local government, local foundations, and the non-profit community than in past years

when little or no interest was evident. Three factors form the basis for this guarded optimism: a strong city-wide greening movement centered in local government and supported by a number of non-profit organizations, an emerging interest in urban agriculture projects by a few local foundations, and the presence of Heifer Project International, an organization already described as promoting several entrepreneurial urban agriculture ventures in the city.

Mayor Richard M. Daley has, of late, championed greening projects across Chicago, setting the tone for a proactive stance by city government agencies and environmental and open space non-profits to carry out projects that will improve the city's physical appearance, including the planting of trees, flowers, and shrubs along sidewalks and street medians, and on vacant land parcels of land. Daley's interest in urban beautification has not, however, included using any of the large number of city-owned vacant lots on the south and west sides for growing food. Some of those interviewed, however, felt that if the community development benefits of urban agriculture were presented as an accompaniment to improved aesthetics, the Mayor could become urban agriculture's primary catalyst in Chicago. Consequently, the already-strong emphasis on greening the city could become a springboard leading to increased support of urban agriculture by city government.

A few agencies within city government have taken the lead in implementing the Mayor's greening policy. The Departments of Planning and Development (through its City Space program) and Transportation (through its Green Streets program) have been important players. More prominent has been the Greencorps Chicago program of the city's Department of Environment. Starting in 1994, Greencorps Chicago's mission has been to enable Chicagoans to improve the quality of life in their neighborhoods by providing horticultural instruction, materials, and employment. Through a yearly budget in excess of one million dollars, with a considerable portion coming from CDBG funds, Greencorps Chicago provides community gardening groups with tools, materials, workshops, horticultural instruction, and the supplies needed to create attractive gardens and landscapes. Each qualifying group receives about \$3,000 worth of resources in the form of plants, materials, and soil amendments. In 1997, 71 community groups received such assistance, along with another 137 groups receiving lesser amounts for cleaning up vacant lots in their neighborhoods and for mulching, pruning, and planting (Greencorps Chicago 1997 Yearbook). Greencorps Chicago also has a job-creation emphasis, helping to prepare people for careers in green industries, such as landscaping and nursery work.

A difficult problem for non-profit urban agriculture operations, whether market or non-market, is to gain firmer control of the land on which cultivation takes place. Chicago has a unique public sector organization that could be a boon to urban agriculture.

NeighborSpace, established in 1996, is a partnership between the Department of Planning and Development, the Chicago Park District, and the Cook County Forest Preserve District. Representatives of each agency serve on the board of directors, and approve requests for NeighborSpace to acquire land for open space projects. Having signed an intergovernmental agreement for a 20-year period, each partner commits

\$100,000 a year. With these funds, NeighborSpace acquires title to vacant lands, deeds the land to community organizations for greening purposes, and provides funding for insurance. Seventy percent of the land NeighborSpace has acquired was once city-owned, and often tax delinquent. Of this, about 60 are now community garden sites. The other 30 percent were privately-owned parcels, also primarily tax delinquent. As part of the land acquisition agreement, NeighborSpace requires the community groups using the land to take responsibility for its management as a community project.

Although only seven NeighborSpace sites were used for food production as of June 1999, this was a result of neighborhood preferences for ornamental gardens. NeighborSpace staff, however, were favorably disposed toward entrepreneurial urban agriculture. One indication was their support of a recent proposal to establish a half-million dollar urban agriculture demonstration site, along with market gardens, on a small irregularly-shaped city-owned parcel on North Sheffield Avenue in a bustling near northside neighborhood. This project never got off the ground, because of opposition from some residents who wanted the site used only for housing. Through this experience, NeighborSpace staff learned that while gaining local government support for urban agriculture projects was not a significant problem, it is a good strategy to publicly present and package proposed projects in the right way. In the Sheffield Avenue case, this would entail stressing how the community's appearance would be improved as a result of establishing the operation on a now-vacant parcel.

Chicago has a local Urban Resources Partnership (URP) with the potential to provide grants to urban farming projects. In keeping with the URP model as practiced in other cities, the Chicago URP funds a variety of community-based natural resource projects, a number of them involving the restoration of urban streams and native plant communities. Project grants, which averaged just under \$20,000 in 1999, are drawn from a base of \$300,000 annually, half of which comes from the U.S. Forest Service, the rest from the Natural Resources Conservation Service. This base is supplemented by discretionary monies from other partner agencies, such as EPA and the National Park Service. The Chicago URP assigns a lead contact and two or more secondary contacts, all drawn from the 19-person Steering Committee to each funded project. While few projects are food-related, this does not represent a bias against urban agriculture, but more a reflection of how few proposals to produce food are received. The current city coordinator, who operates out of the Illinois HUD office, is actively advertising URP among Chicago's non-profit organizations, meaning that more examples of urban agriculture will conceivably be funded (although the Partnerships in all URP cities are uncertain about their futures past 2001, and a new Administration).

While most governmental and non-governmental organizations in Chicago have committed little in the way of financial resources or technical assistance to the fledgling entrepreneurial agriculture projects underway, exceptions do exist. The most notable is Heifer Project International, an Arkansas-based organization whose mission is to end global hunger by providing impoverished families with food- and income-producing animals, such as goats, chickens and cows. Since establishing its first urban, North

American office in 1996 in Chicago—partly because its zoning was more liberal in allowing farm animals to be raised than other cities—HPI has become the leading institutional supporter of entrepreneurial urban agriculture projects in the city. It has provided both funding and technical assistance to ten projects to date (six in Chicago, two just outside of the city, and two in Milwaukee) and has other projects in the planning stage. Through its former Chicago field director, Alison Meares Cohen, HPI was also expanding its support of entrepreneurial urban agriculture by helping to form a local food security group exploring the expansion of urban agriculture to ensure food access for the most vulnerable segments of Chicago’s population.²⁴

The Richard Driehaus Foundation is an example of a local foundation that has shown an interest in entrepreneurial city farming by providing funds to Growing Home, Food From the ‘Hood Chicago, and HPI projects. Several years ago, it also provided support for the Turn-a-Lot-Around program run by the non-profit Resource Center (the current sponsor of the 70th Street Farm.). This program restored some 200 vacant lots in the city, some becoming market gardens run by neighborhood residents. In 1997, the Driehaus Foundation undertook a study of the linkages between greening and community development. One justification for this study was to determine whether members of the greening network saw their work as having the potential to become catalysts for job creation and economic self-sufficiency. Interviewing over 40 people, it found inconclusive evidence at that time to support the proposition that greening projects could yield much economic benefit. Among other local foundations, interest in urban agriculture as a generator of entrepreneurial employment opportunities in low-income areas was also found among the R.R. Donnelly and Sons Foundation and the Chicago Community Trust. This too might lead to support for urban agriculture if the proper connections could be made between the social dimensions of urban agriculture and the established interests of these particular funders.

In addition to these local foundations and HPI, several citywide organizations involved in environmental and greening programs could play a facilitating role for urban agriculture in the future. GreenNet, consisting of more than 40 affiliated organizations, is the most inclusive network of those developing urban open spaces and greening activities. In addition to NeighborSpace, the Bureau of Forestry, and the city's Green Streets and Greencorps programs, the consortium also includes the University of Illinois Cooperative Extension (which manages a project in which inmates at the Cook County Jail grow food for WIC participants), and non-profit, non-agricultural, organizations such as the Nature Conservancy, the Chicago Wilderness Society, and the Trust for Public Land. Included also among GreenNet's members are those organizations more directly involved in urban agriculture, such as the Chicago Coalition for the Homeless, HPI, and the Resource Center. The Evangelical Lutheran Church, known nationally for its innovative food-production and horticulture gardens on rooftops and in public parking areas such as those at O'Hare Airport, is also a GreenNet member.

Founded in 1963, the Openlands Project, also a GreenNet member, is one of the oldest urban conservation organizations in the nation, having helped to protect 43,000 acres in

hundreds of separate park, public recreation and natural habitat restoration projects. In several Chicago neighborhoods, the Openlands Project provides technical and community organizing assistance for open space planning and neighborhood greening. It frequently works with community gardening groups to build benches and plant perennials. Consistent with the ratio of food-producing to ornamental gardens among NeighborSpace sites, only ten percent of these Openlands efforts are on sites used to grow vegetables.

A recent Openlands Project activity involved a collaboration with a neighborhood greening committee to prepare an open space plan for an impoverished west side neighborhood with a considerable inventory of vacant land. Although the plan did not call specifically for market gardens, it did include several vacant lot and community garden recommendations. Among them were a neighborhood composting lot; four scattered site gardens on vacant lots, subdivided into 12-50 separate plots for use by apartment dwellers to grow vegetables or flowers; and a call for a city ordinance requiring property where buildings had been demolished to be landscaped immediately with a topsoil and wood chip cover at a minimum depth of twelve inches.

Little, if any, interest in urban agriculture was found among Chicago's community development corporations. One of the city's largest CDCs, Bethel New Life, did have an interest in developing a hydroponic garden as a business enterprise in the early 1990s. Its intent was to sell waste for ethanol, but no funds were available to test the project's viability, so the idea was dropped. The Local Initiative Support Corporation (LISC) office in Chicago, a principal funder of local CDC activities, is undertaking a major campaign to build healthy, livable communities, going beyond the traditional CDC emphasis on affordable housing. While job training, microenterprise development, and child care were seen as important contributors to such an expanded focus, urban agriculture was not.

Summary

Even though Chicago's experience with community gardens dates back to the "potato patches" of the 1890s, a strong citywide non-governmental support organization for urban agriculture does not exist to the same degree as in the other two case study cities, Boston and Philadelphia. Interviews conducted in Chicago instead revealed separate areas of institutional support. A small cadre of people working for local government are supportive, but for most local government officials the topic is not on their radar screens. A few local foundations have provided some funds to assist for-market urban agriculture projects, and some citywide non-profit organizations have expressed support. Heifer Project International has been the strongest advocacy organization by shepherding an array of entrepreneurial urban agriculture projects, as well as advertising the benefits of these ventures to a wider audience. One can conclude that entrepreneurial urban agriculture is still in an embryonic stage in Chicago. There are some hopeful signs that a firmer foothold might materialize for entrepreneurial urban agriculture in the future, but at present only a light layer of support exists.

As the largest of the three case study cities, and the one with the strongest agricultural heritage (no doubt a reason why it was the only one of the three to allow larger livestock within its municipal code), Chicago, among them, contains both the largest core of entrepreneurial urban agriculture activities and the municipal structure closest to fully supporting city farming as an alternate use of vacant land. Local urban agriculture advocates hope that Mayor Daley can be convinced to provide the same level of support for city farming as he has shown towards the visual enhancement of streets and neighborhoods.

Philadelphia

Philadelphia exemplifies the older American city struggling to cope with a myriad of problems in the wake of an economic transformation from a manufacturing to a service-based economy. Its population declined by 32 percent since 1950, dropping from 2,071,605 in 1950 to a July 1999 estimate of 1,417,601. The city of Philadelphia now constitutes only 29 percent of its primary metropolitan area. Job losses have also been pronounced; from under 1.1 million jobs in 1970 to 800,000 in 1994, with manufacturing jobs decreasing from just under 250,000 to 60,000 over the same period. Through this sizable exodus of economic activities and population from Philadelphia (and the ongoing demolition of homes built on poorly-filled streambeds throughout the city), a considerable amount of land has become vacant, particularly in the largely African-American neighborhoods of North Philadelphia. Recent estimates put the total amount of vacant lots under one acre in size in the city at 30,900, with one-third being publicly-owned (Pennsylvania Horticultural Society 2000).

Activities on several fronts indicate that Philadelphia's decline has slowed. The city rebounded from near-bankruptcy in the early 1990s to a stronger level of fiscal health during the recently-ended administration of Mayor Edward G. Rendell (1992-2000). In the last decade Philadelphia's Center City saw the construction of a new convention center, several large convention hotels, and a rejuvenated arts district along South Broad Street. Through these and other efforts, Philadelphia now sees itself as both a visitor destination and an attractive city in which to live and do business. However, local activists differ with city officials over the degree to which the distressed neighborhoods surrounding Center City to the north, west and south have benefited from these downtown investments.

Despite such criticism, these declining neighborhoods were not totally ignored by city officials during the Rendell Administration. The Office of Housing and Community Development (OHCD), in particular, has supported strategies to address the development opportunities found within Philadelphia's core neighborhoods, including open space management (Kromer 2000). In addition, the newly-elected mayor, John Street, is fulfilling his campaign promise to initiate a \$250 million blight removal program involving neighborhood-scaled plans to demolish abandoned buildings, grade and green vacant lots, and remove abandoned automobiles from city streets. Street's commitment

recognizes, at the highest municipal level, the need to deal seriously with the issue of vacant land as an impediment to neighborhood revitalization.

Philadelphia was the first city to draw the attention of this study because of three documents that became known at the time the research was being conceptualized. The first was a three-part series in *The Philadelphia Inquirer* in October 1997 (Goodman 1997) that profiled several local urban agricultural actors, and presented their efforts collectively as a cutting-edge approach to addressing the blight evident in Philadelphia's poorer neighborhoods. (Most of those profiled have been contacted during the course of this research.) The second and third documents—*Vacant Land in Philadelphia: A Report on Vacant Land Management and Restructuring*, produced by the City Planning Commission in June 1995, and *Urban Vacant Land: Issues and Recommendations* published by the Pennsylvania Horticultural Society in September 1995—urged a focused effort by local government and important non-profits to develop and implement a comprehensive future vision for the thousands of vacant parcels plaguing the inner city. A broad understanding of issues, opportunities and obstacles to the practice of urban agriculture on Philadelphia's vacant parcels emerged from these three documents.

In June 1999, a seven-day visit was made to the Philadelphia area by one member of the research team. Ten individuals were interviewed in Philadelphia and nearby Trenton (at the Isles Community Farm described in Section 4). This official visit, however, was preceded by shorter trips in December 1998 and February 1999, during which time initial contact was made with some of the individuals in and out of government having some influence or knowledge about linking city farming with vacant land.²⁵ In all, over twenty-five people in Philadelphia have assisted this study since 1998.

Entrepreneurial Urban Agriculture Projects

Greensgrow Farm

Greensgrow Farm, a privately-owned, hydroponic vegetable producer, is located on Almond and East Cumberland Streets in the Port Richmond section of North Philadelphia. Greensgrow operates as both a for-profit farm, and as a community-based non-profit with a local Board of Directors. Though not a high-profit enterprise, Greensgrow embodies much of what distinguishes entrepreneurial urban agriculture from conventional farming: achieving a close spatial proximity of producer and buyer; attempting to be as closed and self-sufficient an organic growing system as possible; and acting on opportunities to benefit the larger community in which it is located. These opportunities include utilizing undervalued land, providing employment for underskilled labor, and supplying in-demand products like fresh flowers and produce.

The noteworthy characteristics of Greensgrow are, in one way or another, responses to the history and character of its 3/4-acre site—the former Boyle's Galvanized Steel Plant, demolished in 1988 and later cleared of zinc and lead by the EPA. Partly surrounded by residences, the location was (and is still) designated for future housing by the New Kensington Community Development Corporation (NKCDC), within whose service area

Greensgrow lies. In 1997, seeing no demand for the site from developers, NKCDC helped facilitate lease negotiations with its owner on behalf of Mary Seton Corboy and Tom Sereduk, two former chefs familiar with the difficulties of locating fresh, locally-grown produce. Renting the site for \$100 per month, Corboy and Sereduk spent \$30,000 in constructing an extensive hydroponic system over the broken concrete, in which small plugs of several different gourmet lettuces are grown in plastic rain gutters irrigated by water pumped from four 500-gallon reservoirs (*Appendix B, Figure 13*).²⁶ In their first year of operation (1998), the Greensgrow partners sold several lettuce varieties to fifteen local restaurants through a middleman, earning approximately \$18,000.

The next year saw several facility and management changes. First, Greensgrow was awarded a \$50,000 Sustainable Development Challenge Grant from the EPA, money that primarily paid the salaries of Corboy and Sereduk. \$22,000 in additional capital expenditures was invested in upgrading a donated 6,000 square-ft. hoop-style greenhouse used to seed 20,000 lettuce plants per week and prepare harvested lettuce for distribution, and in a trailer from which to run the operation. This second year also saw the hiring of three participants in Philadelphia's welfare-to-work program, each a single mother, as day laborers. The production lessons learned in their first year helped Sereduk and Corboy increase the consistency and quality of the product delivered twice-weekly to 25 area restaurants, although the quantity delivered continued at 450 pounds per week. Greensgrow also broadened its product line to include heirloom tomatoes grown in plastic bags connected to a drip irrigation system, culinary herbs, a small amount of special-order produce, and fifteen varieties of cut flowers sold to restaurants as table decorations. The flowers were grown along the inside of an eight-foot high chain link fence in an effort to beautify the site for the benefit of the neighborhood. These additional saleable items, and going from a middleman to direct marketing helped Greensgrow earn revenues of \$32,000 in 1999.

The third growing season will benefit from the addition of a new four-season greenhouse, also acquired at no cost, that will be used to grow bedding plants, and, more importantly, will lengthen revenue production beyond the April to October period of past years. This full-year growing allowed for a reduction of lettuce production in favor of a larger production of tomatoes, potatoes, herbs and flowers. With revenues now expected from March onward, instead of from June onward, Corboy and Sereduk project revenues of \$50,000 in 2000.

Growing flowers along the perimeter fence is only one component of the community relations campaign that has earned Greensgrow the acceptance of their once-skeptical neighbors. Sereduk and Corboy have an "open gate" policy, whereby any adult or child from the neighborhood is given a tour of the operation simply by walking in. Such openness, and the barbed-wire-topped perimeter fence, has helped minimize vandalism. The partners consider it no small achievement that neighbors now show Greensgrow to their out-of-town guests. They also freely share the results of their on-site trials and experiments with other growers and interested parties.

Further community outreach characterizes Greensgrow's short-term plans. Armed with grants from local foundations interested in community development, Corboy, through Greensgrow's non-profit side, is developing a job training and entrepreneurial program with the nearby Norris Square CDC. As for its long-term future, a feasibility analysis has concluded that profits will occur by doubling the size of the operation to 1-1/2 acres, refining the product line, and employing five seasonal workers rather than three (Hope Wohl Associates 1999). For their part, Corboy and Sereduk envision outgrowing the East Cumberland property, and either relocating to a larger site (the partners take special pride in their mobility), or replicating the operation on vacant sites in other Philadelphia neighborhoods. Each site would be dedicated to a specific product, and be tied to a central marketing and distribution mechanism. Spreading the operation throughout the city would more broadly advertise the Greensgrow model as a means of investigating different methods of growing and marketing the agricultural products of small urban sites.

Philaberry Farms

A much smaller, but no less interesting, operation is Philaberry Farms, a seven-year-old for-profit berry farm occupying a half-acre site on Wallace Street, just north of Center City. Managed by two partners who own half the site (a third partner owns the other half), Philaberry is a modest operation run as a sideline to a real estate and property rental business. Despite its small scale, Philaberry serves as an example of producing and marketing a fresh, in-demand product in the inner city, close to its consumers, while also providing some job opportunities to local youth during the summer.

In 1999, Philaberry marketed fresh "picked-that-morning" blackberries and seven types of raspberries to four produce or grocery markets and two restaurants, including the popular White Dog Café. Since raspberries go through two growing cycles, there is a steady production stream through the fall season. The original plants are being replaced by "ever-bearing" plants, with a 3-4 week first cycle and a longer second cycle of at least six weeks. Recently lilacs and pussy willows were planted alongside the berries as additional "cash crops."

At the time of the June 1999 visit, a pint was selling for approximately two dollars. The young pickers receive one dollar per pint, but since their participation tends to be inconsistent, the two managing partners do most of the harvesting, along with the daily deliveries. There is little overhead, as the operation requires little infrastructure; a water supply is unnecessary, for example, as the berries are packaged unwashed, and normal rainfall provides enough irrigation.²⁷

From Philaberry, the partners draw salaries that supplement their income from other sources. As much as \$3,500 gross revenue has been earned, but because harvesting only occurred for one-half of 1999, only \$1,500 was made. For 2000, a slow start is projected to limit gross profits to between \$2,000-3,000. Philaberry's future is uncertain, as neither managing partner has made a long-term commitment to the operation. The land is owned

speculatively, and will remain a berry farm until the time is right for residential development.

Sea Change, Inc.

The city's most ambitious example of entrepreneurial urban agriculture was Sea Change, an economic development corporation based in North Central Philadelphia, and begun in 1993. Rosalind Johnson, a former café owner and advertising professional, initiated Sea Change to provide the homeless with jobs and entrepreneurial training. Subsequent efforts were aimed at creating jobs for inner-city youth. One of these, a licensed tree farm, steered Sea Change in an environmental direction. In 1994, a vacant ½-acre lot on North Carlisle Street near Temple University was leased from the Philadelphia Redevelopment Authority for one dollar annually. With the help of the Philadelphia Green of the Pennsylvania Horticultural Society and other supporters, the lot once controlled by drug dealers became the center of Johnson's dream of an inner-city "eco-village," dedicated to using organic farming as the basis for local economic development. Her practical vision for city farming combined traditional and innovative technologies to promote economic and social growth, and environmental justice among the African-American community.

In the intervening years, the fortunes of Sea Change waxed and waned. The original clay soil of the Carlisle Street site was amended using compost acquired from the Fairmount Park Commission, until, by 1997, it was producing not only trees, but close to 2,000 pounds of produce, including 37 varieties of vegetables, herbs and flowers (Kelley and Riggle 1998). That same year, the Sea Change farm was certified as organic, the first shares of a community supported agriculture (CSA) program were sold (at \$300 per share), and a few value-added products, such as zucchini bread, also were sold. The next year saw Sea Change establish the Cyber Cycle Café, a combination coffee shop/café/bicycle repair and rental establishment in Center City, and expand the CSA farm by utilizing a ¾-acre plot in the Awbury Arboretum, six miles north of the Carlisle Street site. In the midst of all this activity, Johnson investigated alternative technologies that would further her vision of sustainable development, local self-reliance, and greater food security. This wide range of activities became, in the eyes of one observer, "a mix of horticulture, black culture, and counter-culture" (Goodman 1998).

All of Johnson's projects, however, did not ensure the long-term future of Sea Change. By 1998, the continued use of the original site on North Carlisle Street, was threatened by the city's intention to facilitate large-scale private redevelopment within the North Philadelphia Empowerment Zone, with the Sea Change farm seen as a future parking lot for Temple's nearby sports and entertainment center. Johnson was granted an extension from the Redevelopment Authority through the 1999 growing season. However, as of April 2000, the difficulties of fundraising, the marginal revenues produced by the CSA and Cyber Café, and the inability to resolve issues of future land access have pushed Sea Change to the brink of bankruptcy.

Roots Gardening Project

In 1999, Martin Galvin, a social studies teacher at University City High School in West Philadelphia, and Danny Gerber of the Urban Nutrition Initiative, a community health project based at the University of Pennsylvania, transformed an unused 20 x 20-foot greenhouse on the high school's roof into an entrepreneurial farming venture expected to earn close to \$6,000 in 2000. The Roots project was started with \$50,000 in seed money from the Kellogg Foundation, The William Penn Foundation, and the USDA Community Food Projects grant program (from which Roots received a portion of the \$95,000 dedicated to food-based enterprises in West Philadelphia public schools).

Currently, 42 University City High students are involved in the program, with ten forming the core group of interns. Most interns of this group are ninth-graders, who are expected to continue with the program over four years. As of April 2000, the Roots program is still considered to be in its "infrastructure stage," during which time the size of the original greenhouse is being doubled and other physical improvements are being installed. Even during this initial phase, the interns have managed to produce an average of fifteen pounds of baby green lettuces per week. The lettuce is harvested by three o'clock in the afternoon, and delivered to a single customer, the nearby White Dog Café, within an hour. The White Dog's owner, Judy Wickes, a staunch supporter of locally-grown produce, first encouraged Gavin and Gerber to consider food production as a way to provide entrepreneurial training, while keeping the resulting income within West Philadelphia. For now, the money earned by the Roots program goes to student stipends. Future plans envision greater profits (translated into scholarship money for the students) due to the increased growing capacity of a larger greenhouse and the development of a farm site on land adjacent to the school.

Village Community Tree Farm

A new project broadens the picture of entrepreneurial urban agriculture in Philadelphia beyond that of food production. A triangular two-acre vacant site bordered by an elevated commuter rail line houses the latest enterprise of the Village of Arts and Humanities which for over a decade, under the direction of artist Lily Yeh, has been a social and cultural catalyst for the Fairhill community of North Philadelphia. The former manufacturing site at 11th and York Streets across from Fotherall Square has been transformed over the past year into a tree farm and sculpture park (*Appendix B, Figure 14*). Initiated with a \$15,000 grant from The William Penn Foundation and an additional \$10,000 from the Philadelphia Urban Resources Partnership, the tree farm now has contracts with the Fairmount Parks Commission and the Awbury Arboretum. The 9,000 trees cultivated on-site include white pines, bald cypress, white ash, river birch and locusts.

With the help of a state senator, the Village was able to cut through tax liens on the property to gain "right of entry" and replace the original 3-1/2 feet of rubble on the site with four inches of soil enhanced with sludge produced and marketed by the city. Cultivation of the tree stock prior to delivery will be handled by students from an area

high school as hands-on horticultural training in container growing. The high school students will, in turn, train younger children from the neighborhood. The farm's technical advisor, a retired landscape consultant who essentially volunteers his time to the Village to manage the tree farm and over 100 vacant lots in the community, estimates that \$70,000 worth of trees will be delivered in 2000. He also sees the tree farm expanding to other locations, including the former Sea Change site at the Awbury Arboretum and a site in South Philadelphia.

Philly Farms Mushrooms

Plans are currently underway for a state-of-the-art commercial mushroom farm to be sited in a 38,500 sq. ft. renovated building along the Delaware River. Philly Farms Mushrooms represents a partnership between Urban Strategies, Inc. of Philadelphia, a private firm that would coordinate the project, and Kaolin Mushroom Farms located in Chester County, Pennsylvania, one of the largest mushroom producers in the United States. The idea of expanding Pennsylvania's well-established mushroom industry into the inner city has been discussed for several years, and Philly Farms, and the new technology it will employ, is seen as a foundation for larger-scale food production in Philadelphia.

Philly Farms will employ the "tray" growing method, where 4-foot by 8-foot trays containing the mushroom-growing substrate (produced at Kaolin Farms and brought into the city) are moved into separate rooms, each room having different environmental conditions. This contrasts with the more common "shelf" method, where the substrate remains in one location throughout the growing period, with the room environment changing as the mushroom crop matures.

The developers of Philly Farms envision producing close to six million pounds of the common white button mushroom annually, and an additional half-million pounds of Crimini and Portabella brown mushroom varieties. Projected gross revenues would approach six million dollars annually, and upwards of seventy full-time jobs would be created, with temporary employment added during peak production. The mushrooms would be marketed to local restaurants, retailers, wholesalers and food service suppliers. The partnership behind Philly Farms expects the venture to be fully operational by 2002.

The Institutional Climate for Entrepreneurial Urban Agriculture

Urban agriculture in Philadelphia greatly benefits from the long-standing grassroots interest in community gardens and neighborhood greening one finds throughout the city, with thousands of individual sites together evoking William Penn's original image of a "Greene Countrie Towne." The idea of turning vacant lots into community-managed green space took hold in Philadelphia in the mid-1960s with the creation of sixty small parks through a HUD beautification grant. This action tied into the city's aggressive urban renewal policy by establishing a land bank of tax-delinquent vacant properties for future redevelopment (Warner 1987).

Today, as seen in the descriptions of individual projects, the vacant land situation in Philadelphia forms much of the institutional context in which entrepreneurial urban agriculture occurs. Consequently, the future development of urban agriculture is largely tied to expected changes in the city's management of vacant land. In addition to the blight caused by population loss and abandoned properties, city government is also facing the phenomenon of homes sinking into poorly-filled creek beds. The extent to which collapsing houses will exacerbate Philadelphia's vacant land problem is, at present, difficult to determine (Panaritis and Nicholas 1999). But one interviewee within city government acknowledged that the 25 sinking rowhouses in the Wissinoming neighborhood in northeastern Philadelphia that were condemned and demolished in the summer of 1999, with the owners compensated at city expense, represents only "the tip of the iceberg." The Wissinoming situation parallels that of the nearly-empty Logan section of North Philadelphia, where 17 blocks of nearly 1,000 sinking homes were ordered demolished in 1986. Since then, the city has spent over \$30 million in clearance and resettlement costs, leaving behind a site with elevated levels of lead and arsenic. An additional 4,000 homes nearby may be affected by the spreading of unstable landfill and damage to underground pipes (Clines 2000).

During the Rendell Administration, the Philadelphia City Planning Commission also called attention to the policy issues surrounding vacant land in a June 1995 report. The report focused on three topics: the dimensions of the problem (largely as a result of deurbanization); the existing legislative and administrative tools for the public management of vacant land, and how these tools can be made more effective; and finally, case studies of how vacant land could be developed within four different neighborhood types (for example, one type being rowhouse blocks with a scattering of vacant houses and lots.) The effect of the Commission's report was mixed: a few of the practical recommendations for streamlining the vacant land management process have been implemented, but a comprehensive vision of incorporating vacant land into neighborhood-level planning (with open space as part of the land use mix) has not.

A systematic assessment of the physical attributes of vacant property in Philadelphia is found in "Vacant Land: A Resource for Reshaping Urban Neighborhoods," a report issued by the West Philadelphia Landscape Project (WPLP), an innovative urban outreach program based in the Department of Landscape Architecture at the University of Pennsylvania. The distribution of vacant parcels in West Philadelphia east of the Penn campus strongly correlates with the location of buried streams and developed floodplains. The WPLP staff of graduate students has developed a typology of vacant land (such as vacant corner lots, "missing teeth" along a residential block, and multiple contiguous vacant blocks), and design recommendations tied to the typology. Community gardens, orchards and outdoor markets are three envisioned uses. Despite their efforts, the work of WPLP has gone unnoticed by local officials.²⁸

Results of the mid-1970s movement to organize community gardeners in cities such as Boston and New York are evident in Philadelphia as well. Outside of local government, the city's two major urban agriculture actors today are the Penn State Cooperative

Extension Urban Gardening Program and the Philadelphia Green program of the Pennsylvania Horticultural Society (PHS). Established in 1977, the Urban Gardening Program, befitting its university extension status, is a hands-on operation providing technical assistance and educational support to over 500 community gardens in Philadelphia through garden advisors and demonstration gardens. The program's success at focusing on community gardens and the individual gardener means that for-market production has not been emphasized or supported, primarily because its constituents are older and not interested.

The other major non-government urban agriculture player, and the one with the greatest commitment to locating food-growing entrepreneurial projects on vacant land, is Philadelphia Green. Funded largely by profits from the annual Philadelphia Flower Show, Philadelphia Green, since 1974, has improved the appearance of city neighborhoods through street tree plantings, landscape design assistance, and by helping community groups start flower and vegetable gardens.

Philadelphia Green sees the vacant land opportunities in the city as a logical avenue for furthering its mission to establish and manage urban green spaces. As mentioned, PHS compiled its own vacant land report in 1995. Like the Planning Commission's vacant land study of the same year, it discusses the dimensions of the problem as a function of depopulation, then advocates for a model neighborhood-based open space management program. Such a model has since been implemented through Philadelphia Green's association with the New Kensington Community Development Corporation (NKCDC), beginning in 1996.

NKCDC was initially established to rehabilitate vacant single-family homes and provide housing counseling services to its North Philadelphia target area. By the mid-1990s NKCDC had incorporated the opportunities presented by the 1,100 vacant parcels in the area into a planning process having an explicit open space management component (Kromer 2000). This attracted the attention of Philadelphia Green, which had been asked by the city's Office of Housing and Community Development to undertake a neighborhood-based vacant land pilot project that specifically used CDCs as the primary facilitator. The thrust of the open space management plan is in organizing neighborhood residents to transform vacant lots into well-maintained open spaces, sideyards (the landscaping of an empty lot by an adjacent landowner who has acquired the property from the city), community gardens and children's play areas. Philadelphia Green provides plant materials and technical assistance. A once-vacant site on the corner of Frankford Avenue and Berks Street in the center of New Kensington has been transformed into the Garden Center, the site of garden-related events, a garden library and assistance center, a mulch pile, a place to buy plants, soil and tools, and the outreach center for the neighborhood Clean and Green program (*Appendix B, Figure 15*). NKCDC and Philadelphia Green are extending their collaboration by offering their experience at open space management to non-profits in other Philadelphia neighborhoods, particularly those within the two North Philadelphia Empowerment Zones. Further development of

the NKCDC/Philadelphia Green vacant land strategy could likely facilitate the increased practice of market city farming.

A recent PHS study funded by The William Penn Foundation, analyzes the economic feasibility of entrepreneurial urban agriculture. The report draws similar conclusions to this study, namely that urban agriculture, while not *the* solution to Philadelphia's vacant land situation, is an economically viable alternative, especially if initiated within a larger vacant land strategy (Hope Wohl Associates 2000).

Other organizations contribute to the urban agriculture infrastructure in Philadelphia. As in the other two case study cities, there is an active Urban Resources Partnership in Philadelphia (PURP), currently consisting of 23 governmental and non-governmental partner agencies. Philadelphia was one of the cities to receive the second wave of URP seed money in 1995. Since then, PURP has provided grants to a number of local environmental education projects and vacant land initiatives. Its first three years (1995-97) saw an annual total of \$500,000 in awarded grants. Since 1998, the total has dropped to \$300,000 each year. The NKCDC open space management program received a \$20,000 grant in 1997. In June 1999, three Philadelphia CDCs were awarded PURP grants of \$100,000 each to support the integration of vacant land into their existing development plans, part of the larger Green Land Initiative. Three additional CDCs, including the Village of Arts and Humanities, were selected in March 2000.

As a city of neighborhoods, Philadelphia has an active group of place-based CDCs operating within its core. However, there is little, if any, CDC involvement with urban agriculture. Other CDCs in North Philadelphia have worked with Philadelphia Green, and the success of the NKCDC pilot effort may lead to more CDCs becoming poised to explore innovative vacant land alternatives, such as entrepreneurial urban agriculture. The amount of inquiries from CDCs into the feasibility of urban agriculture was one of the reasons that PHS took on the responsibility of planning one of the first North American conferences on entrepreneurial urban agriculture, held in Philadelphia on March 6, 2000. In addition, the Philadelphia Association of Community Development Corporations has recently urged its member organizations to follow the lead of NKCDC in strategically managing vacant land (PACDC 1999).

Another local non-profit, the Farmers' Market Trust, while not having an explicit focus on entrepreneurial urban agriculture, actively addresses several related dimensions of inner-city food security through local capacity-building. The Trust's goals include developing seasonal and permanent food markets to direct fresh, affordable produce to inner-city consumers, and school-based markets to ensure improved diets within urban schools. It also organizes outreach programs and conferences that bring together players in the regional food system, including practitioners of urban farming.²⁹

A fledgling urban agriculture actor is the Inner City Growers Association, recently formed to bring together practitioners and supporters of urban agriculture in its different guises. The group holds meetings, sponsors guest speakers (such as noted alternative

agriculture writer and farmer, Michael Ableman), and, in general, looks to further the cause of urban agriculture in southeastern Pennsylvania. The ICGA also struggles to channel the enthusiasm of its members into a clear agenda for action and advocacy.

Finally, while philanthropic foundations support urban agriculture in other cities, their influence in Philadelphia is deeper. The William Penn Foundation has already been mentioned for their support of the vacant land studies by PHS, the Village Community Tree Farm and the Roots Gardening Program. This support is consistent with the objectives of one of its granting areas, the natural and physical environment. In particular, the Penn Foundation looks to preserve open space throughout the Philadelphia region, support environmental education initiatives, and strengthen low-income communities in and around Philadelphia. Urban agriculture meets these criteria, and the Foundation recognizes the capacity of local non-profits to wisely manage urban agriculture. Another Philadelphia foundation capable of supporting city farming is The Pew Charitable Trusts, as part of its ongoing interest in supporting the work of community-based non-profits. One of its current programs, Community Serving Ministries Initiative (announced in March 2000) aims to capitalize on the ability of urban congregations to address their most serious concerns, including youth violence and the lack of inner-city jobs. Urban agriculture can serve as a vehicle for tackling these issues, in partnership with Philadelphia's local greening organizations. It remains to be seen if this will indeed occur over the seven-to-ten year life of the initiative.

Philadelphia city government presently plays no explicit role in the support of urban agriculture; in other words, there is no existing program such as the Greencorps Chicago program of that city's Department of Environment. In part, this may be due to the long-term success of Philadelphia's non-governmental greening organizations. A more likely reason is that the city's demand response in repeating the physical renaissance of Center City within surrounding neighborhoods is to facilitate brick-and-mortar development, in particular new housing for those choosing to remain or move back to central Philadelphia—a widespread public policy goal common in other cities.

Summary

The growing number of entrepreneurial urban agriculture projects in Philadelphia accompanies a large and somewhat diffuse supporting infrastructure taking shape outside of municipal government, composed of open space advocates, community gardeners, local foundations, food security agencies, and community developers. It is fortunate that the chief institutional advocate for urban agriculture is the Pennsylvania Horticultural Society, with its history and reputation as a friend to the city's neighborhoods. However, an observer of the local scene should not neglect a small number of visionary thinkers found throughout the region, like Rosalind Johnson, who see urban agriculture as a component within a larger vision of social and environmental sustainability. Their existence justifies the potential importance of the Inner City Growers Association as a vehicle for communicating their interests, knowledge and concerns to the city and to each other.

Yet, despite the positive awareness of city farming in Philadelphia, acquiring the land needed to implement it is, in practice, difficult due to bureaucratic complexity and the way in which city agencies managing vacant land guard their own interests. And, in another contradiction of sorts, this difficulty contrasts with the stated concerns of city government for the social and economic consequences of blighted properties in central Philadelphia neighborhoods. For this reason, the strategic approach of the Pennsylvania Horticultural Society in locating entrepreneurial urban agriculture within the framework of comprehensive, neighborhood-scaled, partnership approaches to vacant land management makes sense. In other words, first define the problematic situation of vacant land, then advocate urban agriculture as one of several solutions. The commencement of the Street Administration, with its commitment to a focused policy addressing neighborhood blight, may anticipate greater opportunities for entrepreneurial urban agriculture in the near future.

Boston

Boston has witnessed the same effects of suburbanization and deindustrialization as Chicago and Philadelphia. Its population has declined 31 percent from its 1950 peak of just over 800,000 to the July 1998 estimate of 555,477. The city's population represents just 16 percent of a four-county metropolitan aggregate, down from 28 percent in 1950. Based in part on its lower historical dependence on heavy manufacturing, Boston currently has a smaller inventory of vacant land—approximately 12,000 parcels—than either Philadelphia or Chicago. But the development pressure on Boston's vacant land inventory is greater. A strong local economy, together with other factors, has made city living more desirable in recent years, leading to levels of gentrification in a number of neighborhoods not likely to abate for decades (*Boston Sunday Globe* 1999).

Over the course of four days in May 1999, seventeen interviews were conducted with individuals either directly or indirectly involved with urban agriculture, community gardens, or food security in Greater Boston. Although their vision sometimes went outside the city limits, their primary focus was on inner-city neighborhoods such as the South End, East Boston, Jamaica Plain, Mattapan, Roxbury and Dorchester. While most interviewees represented a single government or non-government organization, six were also members of one, or both, of two government-based partnerships whose objectives are to improve the environmental quality of these communities, with urban agriculture accepted as one way of doing so. Site visits were also made to the city's two existing entrepreneurial urban agriculture operations. The small number of market farming examples in Boston, however, is not indicative of the large existing infrastructure from which these and future projects could emerge.

Entrepreneurial Urban Agriculture Projects

Re-Vision House Urban Farm

Fabyan Street in the Franklin Field section of Dorchester, one of Boston's poorest areas, is the site of the Re-Vision House Urban Farm, a notable matching of the benefits of city farming to an established social service mission. Since 1989, Re-Vision House (RVH) has served young (age 16-21) single mothers with little education and detached family connections, who are also affected directly or indirectly by substance abuse. Up to ten families are housed for an average stay of nine months in the shelter, with seven staying 1-2 years in the adjoining transitional house. Each mother is required to participate in some form of vocational or educational training. Recognizing the connections between child malnutrition and the combined effects of poverty, inadequate housing, and the lack of food security led RVH Director, Yvonne Miller-Booker, to consider linking her experiences in growing up on a farm to her social service objectives.

What resulted was a coordinated set of urban agriculture activities with a decidedly entrepreneurial bent, focused on both shelter residents and the surrounding community. When visited in May 1999, the Urban Farm consisted of three sites for food production—a small sideyard next to the shelter, a 1/2-acre city-owned vacant parcel across the street, and a three-story “bioshelter,” created by enclosing each of the south-facing balconies of the shelter house (*Appendix B, Figure 16*). The bioshelter housed tomato plants and the aquaculture systems in which tilapia fish were cared for by shelter residents. Vegetables were being grown in the sideyard and across the street in terraced growing beds. A newly-erected 16 x 80-foot, hoop-styled, three-season greenhouse was sited prominently along the street edge of the vacant lot, and used to grow seedlings and flower baskets (*Appendix B, Figures 17 and 18*). There was also an on-site beehive to produce honey.

The urban agriculture plans and expectations of RVH are ambitious. Its Urban Farm is at the center of a three-pronged strategy to: 1) create a community-supported market farm providing fresh produce, fish and flowers to shelter and neighborhood residents; 2) develop and implement a set of activities focused on nutrition education; and 3) build nutrition assessment and monitoring into the care of shelter families. A portion of the vegetables grown goes to shelter residents, with the families then selling the rest to friends and neighbors. The specific activities of the market farm include a weekly farmstand on Fabyan Street (with additional produce from a suburban organic farm), the growing of flower baskets and vegetable seedlings, and the production of tilapia fish for shelter residents and local restaurants. Produce is sold at the weekly farmers market in the nearby suburb of Milton, and at the Fabyan Street stand. The neighbors on Fabyan Street became quickly accustomed to the presence of a greenhouse and working farm on their street.

In the past year, the Urban Farm has begun to supply the high-end Icarus Restaurant in the South End with a mesclun salad mix. The arrangement has been successful enough for the restaurant to ask for more produce, and for other establishments to seek a similar

arrangement with RVH. Currently, the Fabyan Street site lacks the capacity to supply more restaurants, but the farm is looking to expand onto five acres of the former Boston State Hospital site nearby. In addition, an expanded aquaculture tank was built over the winter. Once running, the system can grow 800-1,000 fish. The major development since the May 1999 visit, however, has been the establishment of a community supported agriculture operation in partnership with the Drumlin Organic Farm in the suburb of Lincoln. The CSA has 32 members, half of whom are of low income and purchase shares at half-price (a nearby transitional house owns a share). In the future, RVH would like to expand the number of shareholders from within the immediate neighborhood.

The Re-Vision House Farm exemplifies the strategy of piecemeal funding seen in similar initiatives in other cities. As of mid-1999, grants totaling close to \$150,000 to support operating expenses, staff and interns, were received from several sources. These included the local Riley Foundation, EPA, through its Urban Environmental Initiative, and the city's Grassroots program, which dispenses CDBG funds for the physical improvement of open space projects. During the 1999 growing season, the farm manager was aided by an outreach coordinator, three half-time interns, consultants on greenhouse production and aquaculture, and shelter families. Since then, a former intern has been hired for the expanded intern and outreach coordinator position, and two more interns have been added. With regards to revenues, the Urban Farm is far from being self-sufficient. In July 2000, its manager hoped to earn a total of \$10,000 for the year, based on sales to that point—\$5,000 from the CSA, \$1,000 from the sale of seedlings, and \$1,000 from the Icarus Restaurant (at \$250 per month).

RVH is also involved in furthering urban agriculture in Greater Boston through hosting public presentations (such as an April 1999 seminar on rooftop/container gardening) and participating in a local alliance of urban agriculture practitioners.

The Food Project/DSNI Urban Agriculture Initiative

The Dudley Street Neighborhood Initiative (DSNI), is a nationally-recognized example of organization and empowerment within an urban community. Its core target area of over 500 acres is centered along Dudley Street and Blue Hill Avenue in Roxbury. Roughly one-half of its 22,000 residents are African-American, with the rest primarily Hispanics (25 percent) or Cape Verdeans (9 percent). Since 1984, DSNI has served as an umbrella organization of independent non-profit agencies dedicated to affordable housing, economic development, youth entrepreneurship and health issues among its multi-ethnic constituency.³⁰ DSNI is perhaps best known for being the only community organization in the United States to have gained formal powers of eminent domain, a right typically reserved for local government.

The vacant land situation in the Dudley neighborhood was acute at the time of DSNI's founding, due, in part, to subsidence caused by poorly-filled streambeds (a situation parallel to that in several Philadelphia neighborhoods). The 500-acre core held 1,300 vacant parcels, one-third publicly-owned. A smaller, 64-acre area of focused attention,

known as the Triangle, contained 30 acres of vacant parcels, split evenly between public and private ownership. While DSNI's constituent organizations have successfully developed many vacant lots into new housing over the years, preserving others for neighborhood greening continues to be of value. Since the mid-1980s, DSNI and its allied neighborhood associations have developed community gardens with the assistance of Boston Urban Gardeners (BUG) and the Boston Natural Areas Fund. In 1993, with considerable help from The Food Project, DSNI began producing food for market on a ½-acre, city-owned vacant site at Langdon and George Streets (*Appendix B, Figure 19*).

Established in 1991, The Food Project, headquartered in suburban Lincoln, Massachusetts, has successfully supported a variety of training and outreach activities centered on building individual capabilities and social connections among young people through organic food production and distribution. Its core activity occurs each summer, when sixty urban and suburban 14-16 year-olds (with the balance skewed toward inner-city participants) are selected for a highly-structured eight-week program described by one participant as being "like camp and work at the same time." Much of the farmwork occurs on its leased 21-acre site in Lincoln. Participants also travel to Roxbury to farm the Langdon Street site and a second, acre-and-a-half site established in 1998 at West Cottage Street and Brook Avenue, a few blocks away. In addition to the farm work, participants also prepare meals at homeless shelters and soup kitchens, which receive more than half of the produce grown by The Food Project, and regularly sell to the public at two farmers' markets in Roxbury. During the summer of 2000, The Food Project is hosting an open series of urban agriculture demonstrations on the West Cottage site, with presentations by the interns on organic, chemical-free food production, the risks of growing food in urban soils, and the importance of fresh food availability to low-income Boston neighborhoods.

Within DSNI, the idea of urban agriculture as a multi-dimensional vehicle for community organization took hold with the hiring of Greg Watson as Executive Director in 1995. With a wide-ranging background in sustainable development and agriculture—including a stint as the Massachusetts Commissioner of Agriculture—Watson presented the neighborhood with a range of options for how urban agriculture could fit within the already-established goal of DSNI to create an "urban village." A comprehensive approach to an urban food system was envisioned, including a network of community gardens, a community-supported farm, an aquaculture facility, one or more greenhouse/bioshelters, processing facilities, and a variety of marketing outlets, such as restaurants, grocery stores and farmers' markets.

Watson left DSNI in late-1999. However, DSNI's commitment to urban agriculture continues. The former Brook Avenue Garage was demolished in July 1999 to make way for the 10,000 sq. ft. Dudley Village Community Greenhouse, located equidistant to the two Food Project sites, which produced over 5,000 pounds of food in 1999. Various regulatory delays have pushed back the expected completion date of the greenhouse to early 2001. Once underway, commercially-grown crops will be grown throughout the

year for targeted high-end markets such as restaurants. Net revenues will be placed in DSNI's general community fund.

The Institutional Climate for Entrepreneurial Urban Agriculture

The presence of the non-traditional, community-oriented practice of entrepreneurial city farming in Boston, albeit small at this time, is not surprising. Since its urban renewal battles of four decades ago, the city has been an incubator for urban grassroots activism, resulting in strong community organizations and a level of neighborhood interaction with city government not found in most other cities.³¹ To accompany these struggles, the area's colleges and universities have provided individuals, programs and new ideas directed toward local neighborhoods most affected by forces outside of their control, such as suburbanization, urban renewal and, more recently, gentrification.

One legacy of the neighborhood activism born during the 1960s and 1970s is the presence of several organizations and coalitions seeking to improve the quality of urban life by providing opportunities for Boston's citizens to stay connected to the local ecology. These groups include the Boston Natural Areas Fund (BNAF), the Boston GreenSpace Alliance, the Massachusetts Audubon Society, and the New England Office of the Trust for Public Land. Their success has come from creating learning gardens in schoolyards, protecting urban sites and waterfronts having ecological significance, and in acquiring land titles on behalf of the city's many community gardeners. Consequently, those organizations that directly focus upon urban agriculture work within a broader context that actively links environmental protection with social betterment.

Today's Boston is experiencing a serious shortage of both affordable and market-rate housing, making it harder to argue for preserving vacant parcels as open space in residential neighborhoods. Mayor Thomas M. Menino has set the building of new housing units at all price ranges as a goal for his administration, including streamlining the process for developing vacant city-owned parcels (Flint 1999). Although Menino's ambitious 1999 goal of 2,000 new units of affordable housing was not met, local non-profit corporations, such as the Neighborhood of Affordable Housing (NOAH) in East Boston, and the Jamaica Plain Neighborhood Development Corporation, actively work to provide housing appropriate to their target neighborhoods. Also deemed appropriate in this process is the provision of some open space to accompany these new homes. However, Boston's community development corporations are, as a whole, far more focused on housing and economic development, to the point that the handful of local CDC staffers that work on community greening see themselves as operating out of the mainstream.

In some cases, the formal establishment of open space follows the earlier, often unauthorized, appropriation by local residents of vacant parcels owned by absentee landowners. Through these actions, the "taking" of vacant land by residents for their own use, in the face of strong pressure for development, becomes a political act. This display of empowerment represents, at a smaller scale, the same dynamic exhibited by Boston's

community-based non-profits, such as DSNI, who look to the racially-diverse, but economically-polarized South End as an example of what occurs when citizens are less than fully-empowered against development interests supported by City Hall (Medoff and Sklar 1994).

One cannot describe the climate for entrepreneurial urban agriculture in Boston without discussing community gardens, for they provide a perceptual, political and organizational foundation on which the ordered development of urban agriculture would be based. The evolution of the city's community gardens from a philanthropic effort to link the poor with land for gardening, to wartime food production, to a modern political vehicle for community organization and empowerment is described by Sam Bass Warner, Jr. in *To Dwell Is To Garden* (1987). The story begins in 1895 when a local charity, following Detroit's example from the previous year, established a "Committee for the Cultivation of Vacant Lots" that leased sixty acres of farmland near Franklin Park.

For those unable to serve in the First World War, gardening became a patriotic activity that continued after the Armistice and into World War II. In 1918, an estimated 3,000 gardeners were active in Boston. By the 1940s, with the widespread support of public and private institutions, more than 2,500 families were cultivating "Victory Gardens" on borrowed sites throughout the city, including on Boston Common. These gardens lasted until the end of the war, with the single exception of the Fenway Victory Gardens, which continues to use city-owned parkland at no cost through what Warner calls "the judicious courting of politicians" (p. 19) by the Fenway Garden Society.

By the mid-1970s, the unorganized appropriation (without permission) of vacant land for gardens, and the political experience gained in fighting "top-down" urban renewal, came together in Boston within a nationwide movement to organize community gardeners. Out of this came Boston Urban Gardeners, incorporated in August 1977 as the city's first coalition of urban growers. The organizers of BUG realized that the initiation, expense and future of garden sites was impossible without "processes that embrace both neighborhood and city-wide politics" (Warner 1987, p.30). BUG successfully practiced this belief throughout Boston and Cambridge until its March 2000 announcement that it would disband due to a lack of funding.

This willingness to associate in order to strengthen Boston's community garden movement led to the formation of one large coalition in 1994. Garden Futures, a partnership of nine separate non-profit organizations that works to permanently secure garden sites in Boston and offer management assistance, also promotes the idea of gardens as a vehicle for community empowerment. As in any effective coalition, its political strength is rooted in that of its member organizations. With the end of BUG, Garden Futures now includes four other local land trusts (including BNAF), the Massachusetts Audubon Society, NOAH, and Re-Vision House. Operating on a budget of \$100,000, and with financial support from The Boston Foundation, the Merck Family Fund, and private and public donations, Garden Futures has significant reach within the

gardening community. Together, its member organizations own or are affiliated with over half of the approximately 200 community gardens in Greater Boston.³²

An important point relevant to this study is that the political strength of community gardens in Boston does not automatically translate into support for entrepreneurial urban agriculture. The century of evolution that resulted in Garden Futures built upon the conventional idea of urban community gardening; that of individual gardeners of different ethnicities with typically low-incomes, who transform vacant lots into valuable neighborhood amenities, but who also consume what they grow and have little, if any, interest in selling. The interviews conducted for this study revealed differences of opinion over whether community garden organizations should support entrepreneurial urban agriculture.³³ The literature of Garden Futures, for example, emphasizes the recreational and social benefits of city gardening, as developed over the last century, and says nothing about using gardens to develop market enterprises within neighborhood economies. Any lack of outward support for entrepreneurial urban agriculture initiatives, however, does not result in a hostile climate for such projects.

The same recent history of environmental and neighborhood activism that fostered a strong community gardening movement in Boston—and the region's taste for coalitions—has resulted in other initiatives that could, in theory, support entrepreneurial urban farming along with conventional urban gardening. A vacant land management policy within city government represents one notable example. The Grassroots Program of the Department of Neighborhood Development (DND) has disbursed a portion of Boston's Community Development Block Grant allocation (in 1999, \$500,000 out of a total of \$28 million in CDBG funds) to support physical improvements to open space projects initiated by non-profit organizations, or by neighborhood groups partnered with chartered non-profits. Project sites must be either city-owned or owned by a non-profit, and be in neighborhoods where 51 percent of the population is of low or moderate income. Grants are awarded annually in amounts of up to \$150,000 for projects supported by neighborhood residents, that allow for their direct participation, and that visibly enhance their neighborhoods. Priority is given to open space projects that complement community housing initiatives. The use of Grassroots funds to build fencing, above-ground planting beds, sheds, arbors and other structures in traditional community gardens is common. Although over 60 community gardens have received Grassroots funding, the award criteria does not preclude grants for more entrepreneurial ventures. In fact, both Re-Vision House and the DSNI/Food Project farm on West Cottage Street have received Grassroots funds.

Non-profit environmental initiatives in Boston are eligible for funds awarded by two separate, but overlapping, partnership programs originating within the federal government. One, the Urban Environmental Initiative (UEI) is a program of the U.S. Environmental Protection Agency's New England Region, which operates in Providence, Hartford and Boston. UEI was born in 1994 out of the Green Spaces/Healthy Places Program, which, for EPA, represented a more proactive model of addressing public health and environmental justice issues within urban communities. Today, more than

twenty federal, state and city agencies, university departments, and community non-profits across Greater Boston partner through UEI to award grants targeted at outdoor and indoor air quality, reducing childhood lead poisoning and asthma, restoring urban wetlands, building community gardens (Garden Futures is a grant recipient) and fostering economic development through green industries such as entrepreneurial urban agriculture. To this end, in April 1999, UEI sponsored a workshop that brought both community garden and for-market city farming advocates together to share experiences and define the larger world of urban agriculture.

The other federal partnership, overlapping to a degree with UEI in terms of member organizations and objectives, is the Greater Boston Urban Resources Partnership (GB-URP). The multi-city URP model, mentioned in both the Chicago and Philadelphia accounts, is addressed in more detail in Section 7. Begun in March 1995, GB-URP now consists of over thirty participating agencies and organizations, including some already mentioned (DND, Garden Futures, BNAF, NOAH, EPA), the federal Departments of Agriculture, and Housing and Urban Development, the Massachusetts Department of Environmental Management, Roxbury Community College, and several public sector partners. GB-URP is currently administered by an employee of the Boston Department of the Environment.

An annual funding cycle results in GB-URP grants of between \$5,000-\$25,000, drawn from an annual allocation of \$265,000 provided primarily by USDA. Smaller contributions are made by EPA and the City of Boston. Each funded project must also secure a 100 percent match of cash or in-kind services to accompany the GB-URP grant. In addition to financial support, each project is assigned a Technical Assistance Liaison that collaborates with the sponsored community group to plan and implement the project as a means to build technical capacity within the group. The present commitment of GB-URP to urban agriculture is seen in the awarding of grants to a community garden along the Neponset River, a greenhouse/garden program for seniors in Roxbury, and improvements to the demonstration orchard at the Massachusetts Audubon Society's Boston Nature Center in Mattapan.

Urban agriculture activities in Boston, like those in Philadelphia and Chicago, receive support from local philanthropic foundations, such as The Boston Foundation, The Boston Globe Foundation and The Riley Foundation, the latter being one of the earliest and most dedicated supporters of DSNI, and a current funder of Re-Vision House. The amount of community garden and urban agriculture activity in Boston means that the largesse of these foundations can be strained by the number of separate funding requests they receive.

Finally, direct or indirect support of urban agriculture in Boston has been the objective of two separate coalitions. Formed in 1997, the Urban Agriculture Alliance, represented several of the "powerful individuals" (in the words of one interviewee) involved with urban agriculture locally. The Alliance initially sought to strengthen inner city community gardens, but also facilitates the desire of gardeners to grow food for market,

thus putting them at odds with the local community garden establishment. At the time of the May 1999 visit, the consensus among interviewees was that a lack of strong leadership, and the inability to reconcile different personal agendas, hindered the advancement of the Alliance as a support group.

Since then, another group, the Greater Boston Food System Coalition, has begun to address larger food-related issues through policy development and education. Just prior to the May 1999 visit, they and the Urban Agriculture Alliance had co-sponsored a workshop centered on identifying ways urban agriculture could receive increased support from state and local government. The Coalition (with a mailing list of close to seventy, representing growers, academics, state and local government, environmental groups and other non-profits) has, like similar efforts in Detroit and Chicago, set an objective of identifying key policy concerns related to local food security and to the food system that supports it. These would include those policies relevant to the setting aside of vacant land or parkland for urban food production.

Summary

Its long and rich history of community gardens suggests Boston as a future center of market urban farming. In the minds of some, however, the different approaches and skills needed for entrepreneurial urban agriculture differ from the social objectives of community gardening. This perspective may keep several key individuals from acting as advocates for the growing of food for market. It is more likely that an urban agriculture movement in Boston would emerge from several individual operations, like the Re-Vision House Farm, and become a presence within metropolitan-wide discussions of food security.

A second concern is the high demand for land in Boston caused by the shortage of housing, and by public pressure for city government to address the problem. More so than in Philadelphia and Chicago, local officials and for-profit and non-profit housing developers feel a responsibility to accommodate the growing desire to live in the city, and open space concerns are largely set aside. The success of open space land trusts, such as BUG and BNAF, established community gardens as a stable land use—when the land is permanently acquired on the gardener’s behalf. A likely scenario, however, sees an increase in the housing supply, especially the provision of affordable units, as the consensus priority use for Boston’s vacant land inventory in the foreseeable future.

Finally, the large number of Boston non-profits and governmental agencies committed to community greening and/or urban food security suggest that large and diverse coalitions be formed to advocate collectively. Without such coalitions, urban agriculture actors would have to fend for themselves in an atmosphere where groups with related missions compete for a limited amount of grant opportunities. The recent demise of BUG reflected its inability to establish a niche within these different agendas. To advance urban market farming in Boston, there must be broader acceptance of it among the community of environmental non-profits, along with continued governmental support.

Summary Observations Across the Three Case Study Cities

Specific differences characterize urban agriculture among Chicago, Philadelphia and Boston. Boston, the smallest of the three cities in terms of population, total land area, and the size of its vacant land inventory, has a strong tradition of community gardening resulting in non-profit land trusts owning many of the active gardens. It is the only city with an established neighborhood organization strongly committed to entrepreneurial urban agriculture as part of a strategic development plan for its target area. It is also the only one of the three experiencing a solid demand for vacant land to remedy a critical shortage of housing at all price ranges.

Chicago, in contrast, has a much larger vacant land inventory. It is the only one of the three cities to directly invest city money in purchasing land for community gardens. Entrepreneurial urban agriculture projects in Chicago are more diverse than in the other cities, including animal husbandry, public school-based and homeless assistance projects. Chicago's mayor, while quite supportive of grassroots greening projects as a means of community beautification, has not yet endorsed urban food production as part of his open space vision for the city.

Philadelphia, while resembling Chicago in the scale of its vacant land problem, has one unique and well-known greening organization acting as an aggressive supporter of entrepreneurial urban agriculture as a viable use of vacant land. It was also the only city with a community development corporation clearly and directly involved in a facilitative role with entrepreneurial urban agriculture.

That all three cities are the sites of entrepreneurial urban agriculture operations indicates that neither of the different contexts of Boston, Chicago and Philadelphia are outright hindrances to establishing such projects.

Section 6: Obstacles to Entrepreneurial Urban Agriculture

For all of its acknowledged benefits, the practice of urban agriculture, whether for-market or not-for-market, contains certain intrinsic obstacles. What follows is a discussion of these obstacles, based on responses from telephone and in-person interviews with individuals having varying degrees of experience with urban food production. The interviews were supplemented by recent empirical research into market urban agriculture (Feenstra, et al. 1999, Hope Wohl Associates 2000, Lawson and McNally, 1999). As described in Section 3, the interviewees were drawn from a wide range of groups: urban agriculture practitioners, community development actors, local and federal government officials, and representatives of open space land trusts, local food security groups, and philanthropic foundations. Each person was asked to identify specific obstacles to the practice of urban agriculture and how best to overcome them. The latter information is presented in Section 7. In presenting the problems and solutions regarding entrepreneurial urban agriculture, the interview findings are woven together with observations by the study team.

Obstacles to the general practice of urban agriculture fall into four broad categories:

- site-related
- government-related
- procedure-related, and
- perception-related.

Much of what is presented in the main portion of this section are general obstacles to urban agriculture practice, whether market or non-market. Additionally, since the idea of entrepreneurial urban agriculture as a community development tool is of central interest to this study, those obstacles specifically related to initiating and managing for-market ventures are discussed in the concluding part of this section.

Site-Related Obstacles

Just as rural agriculture is affected by the physical attributes of the land used for food production, so too is urban agriculture. In addition, the physical and political contexts of project sites themselves present obstacles to establishing and operating successful ventures.

Site Contamination

The toxicity of an urban site can be a primary obstacle to those forms of urban agriculture where food is grown in soil. All groups of interviewees expressed this concern, reflecting a general awareness that city farming is typically practiced on sites that may have been contaminated from past use. The underlying concern stems from the question of whether food produced on vacant inner-city land is safe to eat. In reality, the amount and type of contamination will vary from site to site, and often may not be severe enough to formally designate the site as a brownfield. Lead and cadmium are common remains from “clean” residential sites, while on former commercial sites, which may lie in close proximity to residential sections, different uses result in different combinations of residual contaminants. For example, automotive repair and refinishing shops leave behind metals and metal dust, solvents, paint and paint sludge, scrap metals, and waste oil, while dry cleaners leave spot removers and volatile organic compounds, such as chloroform (EPA n.d.).

Although soil contamination represents a likely contamination concern, airborne particulates can make contact with edible produce above ground. This necessitates further testing. The Greensgrow farm in North Philadelphia regularly tests its hydroponically-grown produce through the services of Pennsylvania State University. While no problems have been found as of yet, the situation in the blocks surrounding the Greensgrow site, where residential and industrial structures have been demolished, requires ongoing tests for airborne contaminants.

Although community gardens are often developed on what were once residential lots, larger urban agriculture ventures, especially for-market operations, may look to bigger industrial sites in order to produce to a larger scale. Such is the case with Greensgrow, operating on a site heavily contaminated with lead and zinc from its former use as a galvanized steel plant, and remediated by EPA prior to “cultivation.” Another example is Buffalo’s Village Farms, where an 18-acre greenhouse capped a bioremediated portion of the former Republic Steel processing site once polluted by diesel fuel.

There was some consensus of opinion about site contamination among those interviewed. It was generally agreed that, in certain instances, soil contamination can present too complicated and expensive an obstacle to allow cultivation on a particular site; this in spite of government efforts to facilitate brownfield reuse, as well as the growing body of research developing techniques for effective site remediation. If certain other methods of cultivation, such as raised growing beds or alternative growing mediums like hydroponics, are not appropriate, the site will be left to another use.

Thus, while brownfields and newer remediation techniques are currently receiving much attention in both the public and private sectors (Revkin 1998, Wright 1997), in practice, converting vacant parcels into sites capable of food cultivation can be costly, time-consuming and legally complicated. Such expenses of time and money can prove especially daunting to a small community group, a point made by several interviewees. There also seems to be no common understanding regarding standards for remediation. This puts urban agriculture practitioners in the position of having to maneuver between what they can control (such as the use of a safe growing medium, such as raised beds) and what they cannot (state and local health and safety standards and regulations).

Security and Vandalism

The perception or reality of vandalism is an unfortunate characteristic that hinders urban farming efforts. Many sites are fully visible along streets having a significant amount of car and foot traffic both day and night. Thus the chance for different forms of vandalism to occur always exists, especially under the cover of darkness. These can include pilfering vegetables, trampling on plants, damaging or stealing signs identifying the project, and disposing of garbage, drug paraphernalia, and empty alcohol containers onto the site.

In broad terms, practitioners interviewed generally considered vandalism more an irritant than deterrent. An urban farmer on Chicago’s South Side is aware that produce gets stolen out of the ground at the height of the growing season, but considers such incidents, however annoying, as coming with the territory. Yet, criminal activity around city farmsites can be serious. In Chicago, for example, one project was affected by gang violence surrounding its site, effectively ending its operation.

Lack of Long-term Site Tenure

A third site-related obstacle to urban agriculture is the difficulty individuals, groups or organizations managing projects have in securing tenure over property not owned outright. This is a common concern throughout the community gardening world (Kirschbaum 1998), and one often expressed by urban agriculture advocates interviewed for this study (although not mentioned by government officials). This insecurity of tenure is often the reason community gardening is brought to the attention of the general public. For example, gardeners and environmentalists loudly protested the threatened loss of garden sites in New York City during the Spring of 1999, when the Giuliani administration sought to auction off 112 community garden sites on city-owned property. The administration's motive was to gain revenue from the sale of these sites for development. In this case, the outcome was a fortunate one for community garden advocates, as all 112 sites were acquired by two open space land trusts, the New York Restoration Project, begun by entertainer Bette Midler, and the Trust for Public Land (Barry 1999). Despite this turn of events, the community garden organization, Green Guerillas, notes that approximately 600 existing garden sites in New York still lack permanency. A less fortunate story occurred recently in Philadelphia, where the one-acre urban farm begun and managed by Sea Change was taken over, with city support, by nearby Temple University for conversion into a parking lot (see Section 5).

As illustrated in these examples, the core of the tenure issue is that land used for urban food production is frequently in the hands of private landowners or public agencies that view such land usage as temporary. In some cases, advantageous leasing arrangements (such as rent payments of \$1 per year) are in place until arrangements are made to utilize these parcels more profitably, typically through development for other uses.

Government-Related Obstacles

The social and political complexities of the city mean that urban agriculture is affected by government control and regulation in different ways than conventional rural farming. Governmental obstacles to city farming activities are concentrated at the local level, while obstacles presented by state and federal governments are less direct. At all levels of government, however, a general disinterest in urban agriculture was found. Understandably, obstacles attributed to government were noted primarily by interviewees outside of government.

Local Government Impediments

Local government obstacles center around issues of policy and practicality (urban agriculture being a non-traditional land use), and attitude and ideology (whether urban agriculture represents the "highest and best" use of city land). Efforts by non-profits to assume ownership or formal access to vacant city-owned parcels for urban agriculture represent those situations where this obstacle is likely to be evident.

Urban agriculture projects can be stymied by conflicts among the different objectives of various municipal agencies having some control over the use and dispensation of vacant land. In Philadelphia, for example, the Vacant Property Review Committee (VPRC) is comprised of representatives of nine separate departments or agencies. An application to use a vacant land parcel for open space or community gardening may be deemed appropriate by one agency and inappropriate by another. Additionally, a non-profit seeking title to city-owned surplus property through the VPRC faces at least eight additional points of contact regarding the application. With final approval of the application by the City Council, property transfers can typically take as much as two years to complete (Philadelphia City Planning Commission 1995). This example serves to point out the inefficient management of vacant land in cities with high inventories of unused properties, along with the lack of a comprehensive vision of vacant land reuse.

A related political obstacle has to do with the general lack of support, or “local leadership,” for urban agriculture within city government. This could be the result of a narrow understanding of urban agriculture and its benefits, the perception of a limited constituency for city farming, or simply a focus on other civic priorities. A common wish of urban agriculture supporters is for local government officials to be less skeptical about their work. The view that concerns them is reflected in a statement made by an interviewee from a city planning agency who said that viable economic activities were what his city was looking for, and he doubted that city farming had such potential.

Factors such as these lead to a widespread, less-favorable, attitude among city government officials about food production as an appropriate use of potentially valuable land. With such an attitude, city government becomes “blocking, not facilitating,” in the words of one interviewee. This is the atmosphere in which public battles to save threatened community garden and urban agriculture sites are played out, often characterized by political maneuvering on all sides. The maneuvering of urban agriculture advocates may be facilitated by an awareness that negative attitudes towards urban farming are sometimes not consistent throughout local government. Pockets of support may exist within city agencies providing social services or promoting environmental objectives, or even among legislators themselves. Such is the case in Trenton, where members of the City Council were described as “each having their own world view” within which urban farming may or may not be valued.

Federal and State Government Impediments

Interviewees noted a similar lack of support for urban agriculture within other levels of government. These too were judged to reflect a negative or uninformed perception of urban farming, one biased by the entrenched view of agriculture as a rural, not urban, activity. At the federal level, urban agriculture practitioners noted the paucity of financial support from the Department of Agriculture, whose Community Food Projects program, while appreciated in concept, was viewed as having too small a budget to adequately meet the needs it seeks to address. In FY 2000, for example, the program will receive only \$2.5 million out of the \$120 million allocated to USDA’s Initiative for Future

Agriculture and Food Systems. Similarly, some proponents, attuned to the community-building possibilities of city farming, note the lack of direct support from the Department of Housing and Urban Development, except in certain cases such as Boston's Grassroots Program, that allows urban agriculture projects to be eligible for Community Development Block Grant (CDBG) funds through city agencies. Similarly, any possible support from EPA or the Department of Health and Human Services rarely, if ever, enters the discussion of federal support avenues.

The perception of agriculture as a rural, not urban, concern was also found within state government. In some states, there are signs of decreased investment in programs supportive of urban agriculture. Massachusetts is a case in point, as budget cutbacks have practically eliminated the role of the University of Massachusetts Extension in providing support and technical assistance to urban farming. In Philadelphia, although the Penn State Urban Gardening Program successfully works with close to 500 community gardeners annually, it is viewed as poorly-funded and otherwise not well-supported by the University.

Any state's perception of agriculture solely as a rural activity, if not prohibiting the direct marketing of urban-grown food, can affect the regulations governing such sales. Thus, urban growers in Boston find the Massachusetts laws relevant to the selling of their products confusing and open to different interpretations.

Procedure-Related Obstacles

Urban agriculture operations are difficult to initiate and maintain once established. A number of procedural obstacles were mentioned by urban agriculture practitioners, and by those with more than a passing knowledge of the subject. Most of these obstacles apply to all forms of urban agriculture, while others apply only to the extension of urban agriculture into for-profit endeavors. Specific procedural hurdles will differ among projects, depending on context and circumstance. This reinforces the improvisational nature of urban agriculture and serves as a warning against generalizing at too detailed a level.

Inadequate Financial Resources

Many procedural obstacles reflect the lack of financial resources for urban agriculture. In fact, the lack of a steady and consistent stream of outside funding may be the single biggest procedural obstacle to the continued advancement of urban agriculture. It is a common, almost defining, characteristic of these activities that they are run on very limited budgets. Although a community garden can be successful on a shoestring with help from volunteers and in-kind material donations, a limited budget can be an obvious deterrent to a market-based operation with greater expenses and less expectation of covering these costs through product sales. The 1999 University of California study of entrepreneurial community garden projects found that, on average, only between one-

quarter to one-third of total project expenses were earned back through market sales (Feenstra et al. 1999).

Urban agriculture project managers have become adept at combining funding from several sources. As mentioned in Section 5, Re-Vision House in Boston, a relatively small operation, received grants from no less than five separate public and private sources in 1999. The University of California study noted that 25 out of the 27 projects studied utilized grant funding. The most frequent source of grants is local government (through, for example, their channeling of federal Community Development Block Grants), with the federal government also being a common funder (through the USDA Community Food Projects program and the Job Training Partnership Act, among other sources) (Feenstra et al. 1999). Grants from local foundations, small donations from individuals and fundraising events were also common sources of outside support. Although this piecing together of financial support may appear to overcome the obstacle of limited funding, in practice, urban agriculture managers must expend large amounts of time and energy in identifying grant sources and submitting proposals. This explains why project self-sufficiency is a common objective of entrepreneurial urban agriculture.

Despite a natural tendency to look to the government for financial aid, few sources of public funding specifically designed to include urban agriculture are available. Those that do exist, such as the USDA Community Food Projects program, are not focused solely on city farming. The emerging constituency for urban agriculture suggests that there are some grounds for optimism about greater financial support coming from the federal government in the future. Yet, it will take time for USDA to articulate the place of urban agriculture within its current Community Food Security Initiative, or for any conjectural urban agriculture grant program co-managed by USDA and HUD to materialize.

The Need to Recruit and Retain Qualified Staff

A critical need of urban agriculture organizations is to find and retain qualified project staff to manage detail-laden responsibilities requiring specialized knowledge and experience. Moreover, in the case of low-income communities, project staff need to communicate and work effectively with residents at very basic levels of training and supervision. Urban growers, however, are typically low-paid, and often young people recently out of college, whose previous growing experience may likely have occurred on smaller rural farms—a quite different setting from the inner city. Although they may make up for this lack of experience with energy and enthusiasm, they can readily succumb to the pressures of community-based work, including long hours, multiple responsibilities, and the stresses of fundraising.

Inadequate Time

Better performance in urban agriculture ideally comes with experience. Consequently, projects involving staff and neighborhood workers with little experience can experience rocky beginnings. Some interviewees expressed concern that project managers may not

be given enough time to get the operation underway within the time frame of a start-up grant, or over the course of a fixed-term arrangement for the use of a particular parcel.

Small-scale Projects

Managing projects at a scale large enough to justify the investment in time and expense was noted as a concern. Urban agriculture is often located on small, residential-sized plots in the inner city. While the benefits of city farming can be attained in even small garden patches, making entrepreneurial urban agriculture successful may require a certain level of size and scale for which there are no commonly-accepted base standards. Nor may a desired amount of land be available in a targeted neighborhood.

Coordinating a Project Across Scattered Sites

This is a potential problem in residential neighborhoods where vacant parcels form a “missing teeth” pattern, meaning a mixture of buildings and vacant lots along the same block. The land available for a city farming operation in such an area may be forced to split itself across two or more sites. Even if the total area is adequate for the project’s intentions, fragmenting an urban agriculture project could result in managing each site separately. This may lead to certain inefficiencies, such as having to transport equipment from site to site versus duplicating equipment, arranging separate water provisions, or spending work time commuting from site to site.

Conflicts Among Partners

Organizations undertaking urban agriculture sometimes find it necessary to partner with other groups to access land, or obtain technical and financial support. No matter what the endeavor, any partnership over time is riskier because the partners’ agendas and objectives may differ considerably. Urban agriculture would seem to be particularly susceptible to such difficulties. In one example, Parkway Partners, the community garden agency in New Orleans, had an agreement with a local CDC to incorporate an urban farmsite within the CDC’s projected development of a vacant site near a hospital. Once the property became attractive to interested developers of health care facilities, however, the CDC backed out of its agreement with Parkway Partners in order to pursue other partnerships promising greater financial gain.

Lack of Sound Business Planning

Urban agriculture, whether non-market or for-market, is challenging in a number of ways, not the least of which is anticipating what may lie ahead, and establishing appropriate contingencies. Entrepreneurial urban agriculture ventures are small businesses like any other. If an initiating organization lacks a sound business plan, including careful estimates of expected costs and revenues, the project may court trouble down the line. These demands require special skills which not all project managers can be expected to have.

High Start-up Costs

Initial operating costs can present difficulties for non-profit initiators of urban agriculture that are typically strapped for funds. Significant start-up investments may be needed for such activities as site preparation and environmental remediation, greenhouse construction, and acquiring and installing kitchen and other processing equipment.

Losing Touch With Project Objectives

The investment in time, money and effort that entrepreneurial urban agriculture requires means that those undertaking such ventures do so with a focus on certain clearly defined objectives. It also means that, on occasion, the challenges of pursuing one objective may compromise the achievement of another, more important one. This was a finding of the recent assessment of the Berkeley Youth Alternatives Garden Patch in California reported in Section 4. The Garden Patch managers learned through experience that their mandated social agenda (the employment and entrepreneurial training of at-risk youth through the growing and selling of organic produce) was compromised by the parallel aim of making the project financially self-sufficient (Lawson and McNally 1999).

Perception-Related Obstacles

It is clear that many of the obstacles described so far are based upon uninformed or negative perceptions of urban agriculture. Although community gardens are not new to cities, the basic idea of city farming by for-profit or non-profit organizations is a novel one when compared to more conventional land uses. In addition, the image of working the soil is, for better or worse, loaded with cultural meaning. This, in turn, affects people's perceptions of the validity and worth of city farming.

A significant group of obstacles involve negative perceptions toward cultivating food within cities. Some individuals expressed concerns for the safety of produce grown on lots once filled with refuse and rubble. Others saw little economic payback to urban food production relative to the costs involved. Still others, African-Americans in particular, see in urban farming echoes of the slavery and sharecropping left behind in the migration of Southern blacks to Northern cities. Related to this is a significant perceptual gap across generations. Many young people in cities tend to look at gardening as the domain of older adults, an activity too boring and enervating to be of much use to them. In Trenton, for example, almost all of Isles's community gardeners are middle-aged or elderly, suggesting that few young gardeners will replace them in coming years.

A more encompassing negative perception is simply that agriculture does not belong in the city. Food production is seen principally as a rural activity, not an urban concern. This was mentioned previously as a significant reason for the lack of governmental support for urban agriculture. Some who favor programs to grow more food locally and regionally advocate for more supportive governmental action to create stronger and more direct linkages between farmers and urban consumers. They point to the perception of many that farming is an inappropriate use of city land.

A Special Set of Obstacles: The Limited Presence of Community Development Corporations in Urban Agriculture

An initial reason for undertaking this study was to explore the possibility that community development corporations might expand their agendas in an innovative way to encompass entrepreneurial urban agriculture. This approach, however, lost importance upon discovering that most community development practitioners interviewed lacked a basic interest in urban agriculture as a non-traditional CDC activity.³⁴ Regardless, assessing urban agriculture's economic development potential for CDCs remains an important objective of this study.

Community development organizations tend to be conservative in setting their agendas. They avoid activities seen as risky, while continuing with those that have been successful for them, such as affordable housing and small business development. Even those CDC representatives more open to the potential of entrepreneurial urban agriculture still raised a number of concerns about investing any of a CDC's limited resources in an untested and unknown activity. These opinions are based on present characteristics, capabilities and agendas of community development organizations, and not on how they could evolve and adapt to become future catalysts for urban food production. Once again, a negative perception of urban agriculture is formed by a pattern of smaller, more precisely defined roadblocks to its wider implementation.

Disinterest Within Conventional Community Development

A simple lack of interest is the major obstacle to the involvement of community development organizations with urban agriculture. Affordable housing remains their primary development activity, along with job creation and training, youth programming, and the provision of social services. In addition, accompanying the maturity of the community development movement is an increase in the riskier undertaking of commercial and retail development. In this context, food concerns are being addressed through efforts at re-establishing supermarkets in central city neighborhoods. Large grocery chains, such as Pathmark and Shaw's, have built new stores in low-income neighborhoods in Newark, Philadelphia and New Haven, often in partnership with government agencies, CDCs and local non-profits (Pothukuchi 1999). A new supermarket has the sort of multi-dimensional impact expected of successful community development—it represents a significant physical improvement, creates jobs, improves the availability of fresh and affordable food, and, if financed entirely or in part from the community, keeps neighborhood money within the neighborhood.

Familiarity and success with affordable housing and other economic development initiatives do not make them easier or less challenging with time. The effort involved in physically developing an urban site is difficult under any circumstances, so returns on the effort should match the expenditure of effort. Thus the experience of community development over the past thirty-plus years has created a general mindset that emphasizes brick-and-mortar developments which improve the community physically,

economically and socially. And while urban farming can also enhance a neighborhood in these three areas, it is difficult to imagine it having the same impact as physical construction. When suggested to community development practitioners, entrepreneurial urban agriculture was compared to activities having greater tangible effects, leading, understandably, to less interest in it.

Lack of Interest by the Community

Several interviewees mentioned the critical importance of having community residents buy into the idea of urban agriculture in their neighborhoods. Its many benefits do not necessarily result in an automatic attachment to city farming as an activity worth doing, especially if it is felt that a neighborhood's needs for jobs or more and better housing are more important. Community-based organizations claim to be sensitive to the wishes of its constituents. Thus, unless a CDC's staff hears of a legitimate desire from neighborhood residents or from members of its governing board to invest its limited resources in urban agriculture, it is unlikely to do so for fear of appearing autonomous and unresponsive to community needs. For example, one influential community member in Toledo was able to halt a CDC's plans to construct a fish and vegetable producing greenhouse on a former General Motors site, by convincing neighbors that housing was the property's appropriate use.

Limited Capacity to Practice Urban Agriculture

A third obstacle is the perception among neighborhood non-profits that they lack the practical knowledge and capability to successfully undertake urban agriculture. This, again, relates to a lack of direct experience with a non-traditional development activity. The concept of internal capacity, defined as the extent to which an organization is able to achieve its objectives, is important in studies of CDC effectiveness (Glickman and Servon 1998). This importance is seen in the difficult challenge facing CDCs in achieving often idealistic community goals within a constraining real world environment. A responsible development organization wants to be able to do what it promises the community it will do. Urban agriculture, even in its simpler forms, represents a special set of methodologies and techniques learned directly through experiences that such organizations cannot typically claim.

Low Economic Return

An emphasis on the bottom line among community development organizations leads to their concern that the benefits of entrepreneurial urban agriculture will not outweigh its costs. For example, the increased sophistication with which CDCs now deal with the mainstream financial world suggests a continued allegiance to the sort of returns to scale expected from housing or commercial development. This is not to say that CDCs ignore the "soft," less quantifiable benefits of community development, such as empowerment and neighborhood pride. However, the driving issue behind any marriage of urban agriculture with community development is whether the economic value of city farming is as satisfactory to the initiating organization (and its financial supporters) as its social

value may be to the community. As a staff member of one of the largest CDCs in the United States put it, “For-market food producing ventures in our area can’t beat the prices that supermarkets can offer. They won’t be able to make a profit for us.”

Research into the economic returns of for-profit urban agriculture concludes that most operations produce only modest revenues, even when subsidized. The 1999 University of California study of entrepreneurial market gardens found that 13 of the 23 operations reporting annual sales figures made less than \$10,000 and only three earned more than \$50,000 (Feenstra et al. 1999). Two of these three high-earning operations sold value-added products, which typically require additional investment in staff, planning and equipment. These figures seem insignificant when compared to the profits from a new supermarket, not to mention the spin-off effects of a supermarket to neighborhood business revitalization. The modest revenues reported in the California study, however, reflect the scale of operations initiated by small non-profits with little or no history of bricks-and-mortar physical development.

Overworked and Underfunded

Each of these obstacles reflect in one way or another the general observation that the typical CDC is small, overworked, and too poorly funded to adequately address the breadth of community needs. They try to pick up where government leaves off, and are often under political pressure from within the community to find the right balance among conflicting needs. Thus, job stress is common and staff turnover is high. Although some CDC interviewees were intrigued with the concept and potential of entrepreneurial urban agriculture, most had difficulties in seeing how their organizations could undertake such projects, given their already busy program agendas. In such an environment, adding urban agriculture to a community development agenda would need to be carefully assessed relative to other needs traditionally seen as more important, such as affordable housing.

Other Obstacles

A community economic development group willing to address these primary obstacles to entrepreneurial urban agriculture must face still others. Some—land contamination and acquisition, and the shortage of public funding—have been addressed in this section. Of those not mentioned, the present lack of successful models to emulate is an important obstacle. Community developers tend to depend heavily on information describing what has or has not worked in other situations. There are simply too few examples of successful urban agriculture businesses for them to learn from, and build genuine enthusiasm for the idea.

Partnership problems are of special concern as well. Community greening/ gardening groups are logical providers of the support and expertise that local development groups lack. While it is easy to imagine a partnership initiated through shared community-focused objectives, problems can occur later relative to planning and management roles, “turf” battles, and the possibility that the objectives of any partner may change over the

course of the arrangement. A special category of partnership problems relate to attribution, distributing credit where credit is due. This is of particular importance within low-income communities receiving different forms of support from a large number of sources.

Section 7: Overcoming Obstacles to Entrepreneurial Urban Agriculture

This study has discovered seventy entrepreneurial urban agriculture projects currently operating in the United States (see Appendix A). Adding to this group the much larger number of food-producing community and private residential gardens, where food is grown only for personal consumption, and it is clear that agriculture is digging deeper roots into the soil of American cities.

Yet formidable obstacles keep urban agriculture, especially for-market activities, from spreading more extensively. These obstacles were discussed in the preceding section under four headings—site-related, government-related, procedure-related and those based in negative perceptions of city farming. In this section, attention will turn to considering ways of overcoming the most prominently mentioned obstacles to entrepreneurial urban agriculture. In addition, a number of recommendations for action by important groups that could advance the cause of urban food production will be introduced. Although this section emphasizes entrepreneurial urban agriculture, some stated obstacles, and the suggestions offered to address them, apply equally to other forms of city farming, such as non-market community gardens.

While numerous practical obstacles stand in the way of successfully implementing and managing entrepreneurial urban agriculture on vacant inner city land, the practitioners interviewed for this study make it clear that many obstacles to an individual venture can be overcome. Surmounting them takes persistence, a certain amount of luck, and perhaps most importantly, the ability and willingness to be flexible and improvisational in working through obstacles within the highly fluid contexts in which projects are initiated and managed.

But other obstacles represent the broader sphere of public opinion and public policy, and these will significantly affect the future of urban farming. In this first year of the 21st Century, the entrepreneurial urban agriculture movement sees two directions ahead. The brighter path would lead to broader public acceptance, more project successes, steady growth in the number and diversity of projects, and a number of significant contributions to community development. The darker path would lead to minimal progress, more projects unable to survive, and a more widespread perception that such ventures generate few positive impacts on urban communities, and, therefore, are of only marginal significance. Currently, an important source of support for urban agriculture are community food security advocates, who are increasing in number and speaking with a collective voice that calls attention to the numerous benefits accruing from urban

farming. Yet, community food security, like urban agriculture, represents a very young movement only now beginning to be noticed by policymakers and the public.

What can be done to encourage support for entrepreneurial urban agriculture in this broader context? Its future depends in large part on the level of understanding and acceptance it can garner from key institutions—local governments, local foundations, community development corporations, neighborhood organizations, and key state and federal government agencies. Each of the three case studies revealed signs of some institutional support. Nevertheless, the interviews conducted for this study indicate that most representatives of potentially supportive organizations in the case study cities, as well as nationwide, are generally unaware of the benefits of such projects or are skeptical about their durability and lasting significance. This explains why entrepreneurial urban agriculture projects tend to gain little support from these key institutions. A critical entry point for advocates, then, is to convince the “doubting Thomases” that commonly perceived liabilities in practicing city farming are less significant than they may appear. At the same time, the positive community benefits that result must be illuminated more clearly.

What follows is a broad range of suggestions that address frequently-cited concerns about entrepreneurial urban agriculture. These suggestions could form the basis of a more receptive attitude on the part of groups holding the keys to greater success for urban market farming. They are drawn from the interviews conducted for this study, and from the investigators’ own ideas. A greater receptivity to the concept could direct these important groups to help nurture the future development of entrepreneurial urban agriculture. The final part of this section discusses specific actions each of these groups could undertake.

Suggestions for Addressing Commonly-Held Concerns

Certain impediments to entrepreneurial urban agriculture were mentioned more often in the interviews than others. Six are listed below. Each is paraphrased in strong language to represent a “devil’s advocate” approach. Ways of addressing each concern are then discussed. The final part of this section offers suggestions for local, state and federal governmental agencies, community development corporations and philanthropic foundations—groups that could play a more supportive role on behalf of city farming—to undertake. In addition, steps that its proponents could take to improve the climate for entrepreneurial urban agriculture are offered.

The six key concerns are:

- entrepreneurial urban agriculture projects cannot be sited on vacant city lots, because these parcels are too contaminated;
- entrepreneurial urban agriculture projects located in crime-ridden neighborhoods are undermined by considerable vandalism;

- entrepreneurial urban agriculture projects are not economically viable as profit generators, nor as operations seeking only to cover expenses, thus they are not worth initiating or supporting;
- entrepreneurial urban agriculture projects are run by people who, although energetic and committed, lack the necessary management and business skills to make such ventures successful;
- entrepreneurial urban agriculture practitioners operate too independently, and fail to work together to promote the potential and overall value of city farming;
- entrepreneurial urban agriculture projects represent a temporary land use, lasting only until “real” revenue-producing development occurs.

Entrepreneurial urban agriculture projects cannot be sited on vacant city lots because these parcels are too contaminated.

Minimizing the risk of growing food in urban soils is a goal of urban agriculture managers. A variety of methods are available to accomplish this. The construction of raised beds is a simple matter of building retaining walls of masonry or railroad ties, generally to a height of 18 inches or higher, then filling the bed with imported topsoil and amendments of humus or compost. Some entrepreneurial urban agriculture operations located on once-vacant land employ the raised bed method; examples include the Ivy Crest and Ginkgo Gardens in Chicago (*Appendix B, Figures 10 and 11*). An effective, low-cost (and colorful) alternative is the round plastic wading pools sometimes used in rooftop gardens (*Appendix B, Figure 12*). Other urban farms—Chicago’s 70th Street Farm (*Appendix B, Figure 8*), the Food Project/DSNI sites in Boston (*Appendix B, Figure 19*) and Philadelphia’s Philaberry—practice in-ground cultivation following careful soil preparation, by adding compost, for example, and periodic soil testing afterward.

For certain crops, such as tomatoes, lettuce and sprouts, that can grow in soil-free mediums, hydroponics or cultivation in flat plastic trays is appropriate. Although the technology has proven to be effective, constructing a hydroponic system can get complicated and involved, as seen in the Village Farms project in Buffalo, and, at a smaller scale, in the Greensgrow operation in Philadelphia (*Appendix B, Figure 13*).

The possibilities for soil-free growing mediums suggest using other alternatives to in-ground cultivation. The “cutting edge” nature of urban agriculture derives, in part, from its willingness to employ both traditional (greenhouses) and non-traditional (aquaculture, vermiculture, hydroponics, indoor growing) means of producing food at modest scales that are less land-dependent and can extend the conventional growing season into the colder months. Examples of indoor or greenhouse-centered operations include Growing Power/Farm City Link (*Appendix B, Figures 5 and 6*), the God’s Gang Worm and Fish Project in Chicago, Chicago Indoor Gardens and the planned Philly Farms mushroom facility.³⁵

The relative ease with which raised beds can be created, and the challenge of adapting the proposed activity to the capability of the site (such as deciding to grow non-edible plants, such as street trees or cut flowers), means that site contamination, while an issue of concern, is a surmountable problem. The bureaucratic complications and high costs involved in remediating a site can be avoided by simply choosing another, cleaner location. This represents a logical option in cities with an abundance of vacant parcels.

In areas that were once heavily industrial, however, the view that some former industrial sites are beyond remediation can carry over to less-contaminated residential or commercial sites. This is true in Newark, where the evidence of northern New Jersey's industrial past makes it difficult to make the case that not all vacant parcels in the city are highly toxic, and that safe and healthy food can be grown on at least some of these sites. In general, an increased knowledge of brownfields, of the current parameters of environmental remediation (such as flexible standards of cleanup), and of relevant legal issues allows for better decisions about whether or not to establish a food production operation on a particular site.

A longer-term vision guides current research into the properties of certain plant species to absorb soil contaminants, a process known as phytoremediation. This transforms the contamination issue into a relatively low-risk situation. EPA has formed a phytoremediation research consortium comprised of state and federal agencies and private corporations. Meanwhile, biochemists at the University of Pennsylvania are investigating the properties of one particular plant, *Arabidopsis thaliana* that allow it to efficiently absorb cadmium, arsenic and mercury from the soil of toxic sites (Jaffe 1999). Individual urban agriculture operations are poised to benefit from these investigations, Chicago's Growing Home project being one example.

Entrepreneurial urban agriculture projects located in crime-ridden neighborhoods are undermined by considerable vandalism.

Although vandalism, specifically theft, was mentioned as a problem by some project managers, few of the examples describe a condition so serious as to affect the practice of entrepreneurial urban agriculture.

Practical means of addressing vandalism include securing equipment in sheds, installing perimeter fencing and locked gates, with keys issued only to those involved with the project, and the immediate removal of graffiti. In addition, the pragmatic nature of urban farmers ensures that they will not become complacent towards errant behavior that can destroy a significant investment in time and labor.

Cultivating good relationships with neighborhood residents to gain and maintain their trust and support was mentioned as important in combating vandalism. In a number of cases, such as Sea Change in Philadelphia, the garden sites of the West Philadelphia Landscape Project, and the Taqwa Community Farm in New York City, residents developed a sense of civic "ownership" over a project site, either through direct participation in its creation or management, or by simply appreciating how the project

improved the look of the area. This tactic was used successfully by the Greensgrow owners, as evidenced in the desire of neighbors to tour the facility with their out-of-town guests. This feeling of neighborhood ownership also results in the well-known “eyes on the street” phenomenon, where the emotional attachment to a neighborhood amenity leads to heightened surveillance over it. The New Kensington CDC open space effort was deemed a success after neighborhood residents chased after an individual caught in the act of stealing a newly-planted tree from a vacant lot cleaned of garbage. The thief got away, but the tree was soon replaced.

Entrepreneurial urban agriculture projects are not economically viable as profit generators, nor as operations seeking only to cover expenses, thus they are not worth initiating or supporting.

The not-for-profit origins of most existing urban market farming operations should lead to a general expectation among the public that, unlike private sector ventures, they are not motivated solely by profits. But, on the other hand, urban agriculture need not be seen as throwing money down a hole. A reasonable goal is for a venture to set a revenue target that matches, or slightly exceeds, the costs of doing business; in other words, self-sufficiency. Reaching this goal would allow projects to be less-grant dependent, so that managers can spend less time writing grants and more time farming.

In general, the key to overcoming this concern lies in considering the returns to an urban agriculture investment as a combination of earned revenue and less-quantifiable social results. The prevalent research model documents and presents examples of existing entrepreneurial urban agriculture ventures, including revenue figures, while also touting other, non-monetary returns:

The economic development potential for these [entrepreneurial community] gardens *is modest, but important*. Successful projects create immediate employment opportunities in low-income areas. More important, they play a critical role in preparing low-income residents for better quality jobs over the long term. They do so by providing educational opportunities, developing leadership and life skills, instilling a sense of control, and in other ways, contributing to a higher quality of life. (Feenstra, et al. 1999, p. 34; italics added)

The Study’s findings of viable urban agricultural businesses suggest that ventures serving niche markets warrant further exploration, *even if most are marginally profitable at best...* Philadelphia does contain some key ingredients required for these ventures, namely the availability of vacant, unused land, the identification of viable urban agriculture business models, and the entrepreneurial spirit of a core group of organizations and individuals who support the growth of urban agriculture in Philadelphia. The development of select for-profit businesses could *serve as one of many options in City government’s plans for overall vacant land management*. A nearby market of restaurants and consumers seeking the freshest, highest-quality produce offers the potential for *new business and employment*

opportunities in Philadelphia's neighborhoods. (Hope Wohl Associates 2000, p. 18; italics added)

Analysis of the [BYA] Market Garden's current business approach *raises serious concerns about economic viability in light of training and labor costs and unstructured business planning.* Training takes extra time and money. At the same time, *the garden's small size limits the scale of production,* and the community services provided by the organization compete with business activities for staff time and resources. *While the Market Garden offers a model for linking teen job training to gardening,* it is a complex task to focus both on the needs of youth and market demands. (Lawson and McNally 1999, pp. 7-8; italics added)

In this approach, the social benefits of city farming (e.g., neighborhood beautification, improved access to fresh produce, job creation, community building, youth development, even the positive value of seeing growth every morning rather than decay) would not be ignored in its marketing. In essence, because the majority of projects are run by community-based non-profit organizations, one should not judge the worth of entrepreneurial urban agriculture on profitability alone.

Additionally, a basic lobbying strategy would seek to clarify the objectives and practices of urban agriculture beyond the "fuzzy" conception of it as an unconventional activity which many hold. A number of interviewees noted the importance of "packaging" urban agriculture in a manner that convinces others of its merits. Local and national media could play a significant role in promoting a non-traditional urban activity that is both photogenic and filled with human interest angles. For example, a significant vehicle for presenting city farming to the general public has been the occasional feature story (with photographs) in daily newspapers such as the *Chicago Tribune* (Anderson 1997), the *Buffalo News* (Meyer 1998) and the *San Francisco Examiner* (Seligman 1999). In October 1997, the *Philadelphia Inquirer* ran a series of articles on local urban agriculture projects and project initiators over three consecutive days (Goodman 1997). Projects with a strong youth development focus are especially appealing. The God's Gang Worm and Fish Project, Food From the 'Hood and Urban Herbals have each been the subject of a number of positive media stories.

Within a public policy framework, a clear and straightforward presentation of successful urban agriculture examples can only further its consideration by decision-makers, especially if data suggests that support for urban farming represents an effective public investment. As an example, recent research conducted at Rutgers University discovered that under certain conditions, the increased consumption of vegetables grown in Trenton's community gardens would save approximately \$500,000 per year in cancer treatment costs (Hamm, et al. 1999). Other research quantifies the economic and dietary benefits of urban farming activities that produce food for personal consumption (Blair et al 1991, Patel 1996).

The central importance given to urban agriculture and its economic potential by the Dudley Street Neighborhood Initiative in Boston is an example that can be advertised to other non-profit community developers. Former DSNI director, Greg Watson, had this to say in a May 1999 speech to the National Neighborhood Association:

A key part of our economic development strategy is urban agriculture. We envision ten acres of community farms, a 10,000 square-foot, commercially-viable greenhouse used to create community wealth, and growing value-added foods that reflect the cultural diversity and excitement of being in Dudley.

At the national level, organizations such as the American Community Gardening Association and the Community Food Security Coalition, are developing policy papers documenting the social and economic benefits of urban agriculture.³⁶ These reports are to be directed at those decision-makers, both in and out of government, positioned to grant more substantial and longer-lasting support to urban agriculture. In such a presentation, relevant indicators might include the amount of food produced (and the dollar amount of this food if bought in a supermarket), the number of jobs created, the health benefits of the food consumed, and the results of neighborhood surveys showing satisfaction with having an urban farm in the area. One could begin by looking to the relevant USDA-funded Community Food Projects as a data source for such packaging.

In summary, urban agriculture advocates are encouraged by the slowly increasing awareness of urban food issues among both government and the general public. They believe that negative perceptions of urban farming (over toxic sites, weak economic viability, etc.) can be overcome gradually by advertising its benefits, relying on quantified evidence whenever possible, and clarifying what the activity entails and how it is practiced.

Entrepreneurial urban agriculture projects are run by people who, although energetic and committed, lack the necessary management and business skills to make such ventures successful.

Some managers of non-profit entrepreneurial urban agriculture ventures come from farming backgrounds. Others have experience in community development or sustainable, environmentally-centered activities. The idealism and commitment of these individuals can sometimes overshadow their capacities as business managers. As such, some interviewees expressed skepticism about the ability of those running for-market operations to successfully manage them as businesses.

This concern is being addressed in several ways. The first is to hire people experienced in market agriculture who can juggle multiple responsibilities, and, especially in minority communities, “speak the language of the street.” The directors of SLUG and Growing Power/Farm City Link possess this mix of characteristics, and have functioned well in their multiple roles as farmer, administrator and communicator. Similarly, the New Kensington CDC land use manager is a long-time neighborhood resident with experience in nursery management and landscape construction. To keep an individual with such

qualities from being lured away by other opportunities is sometimes a challenge. One director of an urban agriculture non-profit retained an African-American grower by re-arranging the organization's budget in order to provide him with a higher salary. The grower not only had extensive horticultural knowledge, but related especially well to the homeless men hired to help with the growing and distribution of food. Urban agriculture organizations are now executing nationwide job searches over the Internet to increase the chances of finding competent managers.

None of these attributes, however, signify an ability to manage a business successfully, specifically, the direct marketing from which much urban agriculture revenues are made. This, then, becomes an area in which partnership or *pro bono* support is appropriate. For example, Food From the 'Hood's student managers were fortunate to receive volunteer advice from professionals in marketing and in the salad dressing industry. The Centro Agricola of Nuestras Raices, on the other hand, used grants from USDA and the Massachusetts Cultural Facilities Program to pay a consultant to prepare a professional business plan outlining operations, a marketing plan, development costs and financial projections.

In short, an organization planning to initiate an entrepreneurial project, if lacking staff capacity in business management, would do well to recognize that market urban agriculture is no different from other businesses. It needs a well thought out business plan showing direction, cost/revenue projections, and short- and long-term objectives.

Entrepreneurial urban agriculture practitioners operate too independently, and fail to work together to promote the potential and overall value of city farming.

Media accounts of urban agriculture, such as the newspaper articles cited above, tend to present the movement as a collection of independent efforts fending for themselves, often with focused, charismatic individuals at the helm. This is not a totally inaccurate picture. The day-to-day management of urban agriculture can be very time-consuming, leaving little time to network and work cooperatively with like-minded individuals and groups. Experience, however, has taught growers in several cities the importance of establishing good lines of communication. When local or national information is shared on topics such as grant opportunities and best practices, the cause of urban agriculture is advanced through cooperative, rather than autonomous, action.

One emerging approach involves networked "seed groups" of urban growers who advocate for urban agriculture in their respective local settings. Examples include the Detroit Agriculture Network, the Inner City Growers Association (Philadelphia), and Just Foods (New York City). The Detroit Agriculture Network (DAN) started in 1995 as a group of organizations involved in various aspects of city farming. Meeting over occasional potluck suppers to pursue common interests, DAN members envisioned vacant lots transformed into community gardens, neighborhood farms, and outdoor farmers' markets. In addition, community greenhouses would sell flowers, and grower cooperatives would sell Detroit-grown produce and other local products at farmers'

markets, restaurants and corner stores. In 1997, DAN secured a USDA Community Food Projects grant of \$180,000 to develop entrepreneurial projects as a component of an alternative food-based economic sector. Resulting activities include the neighborhood markets initiated through the Detroit Farmers Cooperative, and a community cannery located in a 4-H center enabling residents and organizations to process and can locally-grown food.

A practical problem facing these local networks is that the diverse nature of urban agriculture can make it difficult to merge the different interests of individual members into a single advocacy direction for the entire group. This issue confronted participants in Boston, as they debated whether to favor market production activities over those representing the tradition of non-market consumption by individual growers, typical of most community gardens.

A second type of local coalition, more comprehensive in scope, involves groups of food security advocates who meet regularly to survey local conditions and lobby for improvements in the availability of affordable, healthy, accessible, and culturally-appropriate food for an entire metropolitan population, and particularly for low-income people. Within these coalitions, examples of which exist in Hartford, Toronto, Los Angeles, Detroit, Chicago, Boston and Madison, Wisconsin, urban agriculture finds a ready niche amidst efforts to improve the quality of school lunches, anti-hunger initiatives, and efforts to lure supermarkets back to poor neighborhoods in central cities.

Entrepreneurial urban agriculture projects represent a temporary land use, lasting only until “real” revenue-producing development occurs.

It is important to dispel the prevailing notion that community gardening/urban agriculture is merely a temporary land use until “real” revenue-producing development can be arranged. Like the contamination issue, overcoming this concern involves either avoiding the issue completely (by concluding that a site is destined for development in the near future and looking elsewhere), or understanding the different avenues available to help non-profits secure permanent land access.

Some examples of city farming occur on land owned by individuals or institutions that see the benefits these activities provide. In these instances, long-term agreements with project managers for the use of their land have been established. But owning the land outright is clearly the best option for securing land tenure in most situations. Although the purchase of land for urban agriculture is possible, such action is infrequent due to the costs involved for lightly-funded community organizations.

Public land trusts can be an effective means of securing permanent sites for community gardens and entrepreneurial urban farms in the future. The value of land trusts is evidenced in each of the three case study cities. In Philadelphia, the Neighborhood Gardens Association (NGA), a land trust founded jointly by the Penn State Urban Gardening Program and Philadelphia Green in 1986, acquires existing gardens following their solicitation by the gardeners and a careful review of its characteristics by NGA. By

1998, the Association had acquired 23 garden sites. In Chicago, the innovative NeighborSpace land trust is a model for land use partnership between local government and neighborhood organizations. NeighborSpace acquires land for community parks, gardens and natural areas within the city. After two years of operation, NeighborSpace had assumed title to 52 sites throughout Chicago. Of these, only seven are used for food production, a result of community preference and not NeighborSpace policy. And Boston is in the forefront in securing community gardens through land trusts due to the efforts of Garden Futures. The collective track records of its component organizations makes Garden Futures an influential advocate for furthering the cause of community gardening in Boston (although, as in Chicago, food production is important but not the primary objective).

Placing community gardens under city ownership and management, as with the P-Patch Program in Seattle, is another solution. City ownership of land for non-profit city farming would be an extension of this approach. Doing this, of course, assumes that municipal governments become convinced of the value of urban agriculture in serving community development objectives.

Suggested Actions for Proponents to Advance the Cause of Entrepreneurial Urban Agriculture.

Addressing each of these six concerns presumes that advocates of entrepreneurial urban agriculture play an active and important role. In some instances, they would focus on changing negative perceptions related to site contamination, vandalism and inadequate staff capacity. In other instances, their efforts would be directed to broadening the terms of the debate, such as judging for-market city farms on their ability to generate multiple benefits, rather than solely on the grounds of whether they are financially viable. What follows are several recommendations directed to urban agriculture proponents, suggesting approaches to build greater support for market city farming among the public and certain important groups.

- As a starting point, urban agriculture advocates should have political savvy and the patience to work with and through a complicated bureaucracy. They should thoroughly understand the institutional framework for entrepreneurial urban agriculture, identify the supportive and potentially supportive organizations in and out of government, and try to tailor individual enterprises to the stated interests of these groups. In Trenton, Isles had its garden initiatives blocked by a conservative city council, despite having a well-known track record and the support of various city agencies. Isles addressed this problem by pursuing an effective political strategy—knowing the context and who one’s allies are, then using this knowledge to mobilize public support for its activities, sometimes through the media.
- Another approach would be to identify existing policy directions as avenues within which to insert entrepreneurial urban agriculture. One example is that

of Philadelphia, where the policy reports written to further the local vacant land debate (such as Philadelphia City Planning Commission 1995) contained openings for advocates of urban agriculture to enter the deliberations.

- City farming advocates should seek out grassroots non-profits who have had prior success in gaining government support for their initiatives, such as the Dudley Street Neighborhood Initiative, and its considerable control over development within a 1.5 square mile area in the Roxbury section of Boston. DSNI views urban agriculture as an integral part of its overall community organization strategy, and has established a partnership with The Food Project in Lincoln, Massachusetts to practice entrepreneurial urban farming on three separate sites with support from the city of Boston (see Section 5).
- A few local foundations, such as the Riley Foundation in Boston, Chicago's Driehaus Foundation and The William Penn Foundation in Philadelphia are currently supporting entrepreneurial urban agriculture through grants to individual projects. Urban agriculture proponents seeking philanthropic support should frame their proposals in a holistic manner emphasizing the ability of city farming to achieve a wide range of community assets. This reflects a belief that foundation support for urban agriculture would be more likely if ventures are set within a larger development context—as part of an overall city greening approach, for example—rather than standing alone as independent efforts seeking funds.
- A direct promotional tactic would involve creating video presentations of successful market urban farming operations nationwide. Interest would be stimulated by showing the more appealing images of city farming, such as the picking of ripe tomatoes, the making of value-added products, or the creation of compost from worm castings, an activity where youngsters typically play key roles. Local organizations are recognizing the value of documentary videos for recording the often-difficult process by which a particular community objective is attained.³⁷

Proactive Roles for Other Key Groups

This set of recommendations ends on an upbeat perspective, albeit an unlikely one to materialize at this time in history. This perspective presumes that key groups, like local, state, and federal government agencies, local foundations, and community development corporations, become convinced that urban agriculture—whether for-market or non-market ventures—makes sense. It further assumes that these groups would be willing to support such operations. The question, then, is what might they do to be more proactive on behalf of this nascent movement? The following recommendations try to answer that question by offering a range of actions each of these groups could undertake to nurture the continued growth of the urban agriculture movement, especially that part engaged in for-market operations.

Suggested Local Government Actions to Assist Entrepreneurial Urban Agriculture

Agencies within city government are uniquely qualified to facilitate entrepreneurial urban agriculture, especially if for-market farming is recognized as serving existing public objectives, such as vacant land management, neighborhood revitalization, or community development. Local government can support entrepreneurial urban agriculture in a number of ways:

- Incorporate urban agriculture in city comprehensive land use plans as a desirable civic activity helping to build a more livable community, and as a way to utilize vacant land. A provision in the local plan to this effect would help legitimize city farming. Seattle has incorporated community gardens into its comprehensive plan, and Madison, Wisconsin is in the process of doing the same in its land use plan.
- Amending city zoning ordinances to allow urban agriculture as either a permitted or conditional use in certain residential districts, and in non-residential districts where land is not heavily contaminated. Some cities, including Chicago and Philadelphia, also permit some animal husbandry in certain zoning districts.
- Recognize urban agriculture as an important element of a city's managed open space strategy. This could happen in Philadelphia, where the New Kensington open space pilot project, with the support of the city's Office of Housing and Community Development, incorporates alternative vacant land uses, such as community gardens. This project is expected to be replicated in other North Philadelphia neighborhoods.
- Promote research on the effects of growing food on urban sites. The Rutgers University study mentioned earlier (Hamm et al. 1999) which found that increased consumption of vegetables grown in Trenton's community gardens would save on health care costs is a recent example.
- Explore other avenues in a city's policy agenda within which to insert urban agriculture. In Philadelphia, policy reports written to further the local vacant land debate (Philadelphia City Planning Commission 1995, Philadelphia Office of Housing and Community Development 1996) contained openings for urban agriculture advocates to enter the deliberations through neighborhood planning. Another possibility would be to use urban food-related businesses as a way of aiding welfare-to-work programs by serving as a source of low-skill, living wage jobs, as witnessed at Greensgrow.
- Use non-profit organizations involved in urban agriculture in creating ways to achieve other municipal objectives. One idea tried in Chicago during the early 1990s was for the city to contract with a non-profit organization to serve as a vacant land maintenance agency. The contractor removed rubble, and generally kept the maintained sites "clean and green." Advancing this

scenario today, organic compost could ready these managed sites for farming by a partnership of residents and non-profit urban agriculture groups.

- Lend a receptive ear to a network of urban growers, if one exists. If not, city government could help establish such a network, and facilitate assistance from relevant agencies.

The fluid nature of local government can be an advantage or a problem. Because urban agriculture is not institutionalized within city administrations, support for it often comes from individuals lacking permanent tenure in their positions, such as city legislators and agency directors. These fluctuations suggest that supporters of urban agriculture can be removed from office, although non-supporters can also be replaced with others more sympathetic to the idea. Finally, long-range consideration is now being given toward changing the framework of public institutions to better address food as a more important component of the urban infrastructure, along with housing, education, transportation, etc. (Pothukuchi and Kaufman 1999, 2000). One longer range possibility, for example, would be to establish a city food department that would likely embrace urban farming as an appropriate mechanism for accomplishing its mandate.

Suggested Federal Government Actions to Assist Entrepreneurial Urban Agriculture

In theory, the federal government should have a strong interest in entrepreneurial urban agriculture, since its many dimensions coincide with a number of federal agency mandates, such as revitalizing cities and neighborhoods (Department of Housing and Urban Development), encouraging local farming (Department of Agriculture), improving nutrition and health (Department of Health and Human Services and Department of Agriculture), promoting environmental justice (Environmental Protection Agency), and creating jobs for youth (Department of Labor). In practice, however, urban agriculture is not well understood at the federal level and it is also weakly funded. Federal government officials who were interviewed, and who were more sympathetic to urban agriculture, operate, for the most part, at the margins of their respective agencies. Although they claimed support for their efforts up the line, they also admitted that urban agriculture was peripheral to the main policies of their agencies. Capitalizing on urban agriculture as appropriate to these federal mandates is a logical starting point for recommendations aimed at increased federal government support.

- USDA could increase its funding for entrepreneurial urban agriculture projects under its Community Food Projects (CFP) grant program. Established in 1996, USDA's CFP program is mandated to address several aims: 1) increase the accessibility of low-income people to more nutritious foods; 2) increase the self-reliance of communities in meeting their food needs; 3) develop innovative linkages between the for-profit and non-profit food sectors; and 4) *support the development of entrepreneurial projects.*

Given these objectives, it is clear that entrepreneurial urban farming fits within the program's mandate. CFP grants have gone to a number of organizations mentioned in this study. Among these are the Centro Agricola, the Isles Community Farm, and the Detroit Agriculture Network. Of the 71 entrepreneurial urban agriculture operations listed in Appendix A, 21 (30 percent) received CFP funds either directly, or indirectly through a sponsoring organization. The cumulative effect of successful for-market ventures funded by this program is the best advertisement for such projects to receive a greater share of the CFP grant pool. The CFP program could specifically recognize and provide targeted assistance to entrepreneurial urban agriculture, recognizing such projects as community assets that act in an environmentally-friendly way in using urban land productively.

- A second existing federal initiative of some assistance to urban agriculture is the Urban Resources Partnerships (URP) now in place in thirteen U.S. cities. Bringing together local, state and federal government agencies, local non-profits, the private sector and the university community, URP started with USDA seed money in four cities in 1994. These multi-agency groups fund projects that seek to improve social, economic and environmental conditions in urban neighborhoods.³⁸ Not only are projects funded, but the different partners aim to provide ongoing technical assistance, such as legal advice, soil testing, site surveying and environmental education. This provision of assistance directly to communities "puts a face" on governmental agencies often seen as distanced from the daily life of urban neighborhoods.

There are concerns with the URP model, including its uncertain future (the USDA seed money was for a five-year period ending in 2000), the relatively low level of funding, and the awarding of grants that may represent departures from the mainstream concerns of the core URP agencies. If the URP program continues, however, the value of for-market urban farming ventures should receive higher priority.

In addition to these two existing federal programs, urban agriculture could find support within other federal agencies:

- The Department of Housing and Urban Development could recognize city farming as an important community-building activity and support it more substantially through core programs like the Community Development Block Grant (CDBG) program, and its Enterprise and Empowerment Zone programs. CDBG funds currently support a small number of projects, such as the Centro Agricola. In addition, CDBG funds have been directed towards urban agriculture by certain city agencies, Boston's Grassroots program being an example. Although there is some awareness of urban agriculture within HUD, the agency could give it greater recognition as an activity fitting squarely within its overall mission to help revitalize cities economically,

socially and physically. Consequently, entrepreneurial urban agriculture projects are appropriate funding recipients under HUD's various program streams.

- To address environmental justice issues in low-income communities through urban agriculture, the Environmental Protection Agency could establish remediation standards for sites being considered for city farming. EPA could also provide grants to help project managers test soil conditions, typically an expensive activity for resource-poor community-based organizations, and continue its support of bioremediation research, such as that being conducted at the University of Pennsylvania mentioned earlier in this section.
- Given their complementary interests, USDA, HUD and EPA could advance the cause of market city farming considerably by creating pilot projects aimed at fostering successful urban agriculture ventures in a few cities. A pilot program could provide support for a range of activities. These might include management, marketing and budgeting training for urban agriculture staff; providing start-up capital to individual operations; supporting the activities of citywide farming networks; providing interested CDCs with incentives to form partnerships with knowledgeable urban agriculture groups; and encouraging university researchers to undertake studies directed at enhancing urban agriculture.
- Other federal agencies could be encouraged to appreciate how city farming can support their missions, and in turn provide some support for urban agriculture. In a relative sense, federal agencies like Health and Human Services, Labor, and Education are generally less aware of urban agriculture activities than are Agriculture, HUD, and EPA. But connections to these agencies can be drawn. HHS, for example, could recognize that city farming has clear health benefits by supplying low-income city residents with fresh, organic food. Given opportunities for inner-city residents to find employment in the entrepreneurial urban agriculture sector, the Department of Labor might see possible job linkages, particularly for teenagers and young adults from minority backgrounds. Encouraging students to learn about the food system and its impact on urban areas, to grow food in school gardens, and engage in value-added urban food processing ventures (as Food from the 'Hood and Urban Herbals have done) could be ways the Department of Education could connect and contribute to urban agriculture.

Suggested State Government Actions to Assist Entrepreneurial Urban Agriculture

Interviews conducted for this study indicate that state governments currently have much less connection to urban agriculture than federal and local governments. Yet the administrative branches of state governments are organized similarly to that of federal government. In other words, the linkages drawn between federal agencies and urban agriculture have parallels in state government. Most states, of course, have Departments of Agriculture with strong ties to rural food production. Such agencies, for example,

could initiate programs in support of for-market urban agriculture ventures. Other state government agencies are given responsibilities for administering community development, the environment, and health, labor, and education programs, many of which directly affect urban communities. State community development agencies could envision urban agriculture as a community-building activity with multiple benefits and support efforts to extend its reach within cities. Suffice it to say that many of the suggestions for federal government action in support of urban agriculture clearly resonate at the state government level.

The following recommendation addresses the fact that states also perform regulatory functions that can deter urban agriculture activity:

- Any state regulations complicating or prohibiting the sale of city-grown produce could be clarified or modified, thus facilitating direct market operations in low-income neighborhoods.

In addition, state governments can play a more supportive role concerning urban extension.

- It is important that the urban profile of state extension services continues to expand, so that valuable support services from skilled university outreach personnel can be more available to the city farming movement. Extension agents working for state land grant universities, in particular, should be encouraged to promote urban agriculture in cities. The examples set by Cornell University in New York City and the University of Georgia in Atlanta, described in Section 4, serve as good models for other state extension services.

Suggested Foundation Actions to Assist Entrepreneurial Urban Agriculture

National and local philanthropic foundations, such as the Pew Charitable Trusts, are focusing aggressively on alleviating conditions in the inner city. The capacity of foundations to offer greater support to urban agriculture, however, is dependent upon their seeing representative city farming activities through a broader perspective. Local and national foundations—and CDC financial intermediaries, such as the Local Initiatives Support Corporation (LISC)—are exploring comprehensive approaches to renewal in urban neighborhoods, specifically those approaches not concerned solely with affordable housing. Given the diverse agendas of local and national foundations, their “hooks” into city farming would likely differ. Some might be attracted to the food-based entrepreneurial character of urban agriculture as an economic development vehicle. Others might have a special interest in the benefits of city farming to at-risk youth, such as after-school employment or learning how the food they and others eat is grown and harvested. Other foundations might see in urban farming a different twist to the notion of urban land conservation and greening. Whatever a foundation’s interest, they clearly have a role as proponents and catalysts for urban agriculture.

- Foundations and community development financial intermediaries could promote creative open space management among CDCs which would include urban agriculture. The New York office of The Enterprise Foundation has joined with the Trust for Public Land and the Council on the Environment of New York City to form The Housing and Open Space Initiative to facilitate the preservation and imaginative use of open space within neighborhood-developed and managed housing. Entrepreneurial urban agriculture is seen as feasible within the proposed framework, especially if those benefiting from it are residents of the community-developed housing sponsored through the Initiative.

Suggested CDC Actions to Assist Entrepreneurial Urban Agriculture

Community gardens initiated and managed by small informal neighborhood groups (whether food-producing or not), and supported externally by local government and/or non-government partners, are a common occurrence in urban America. Market-oriented ventures, however, are far less common, due to their greater complexity, the special expertise and investment that these projects demand, and the general lack of awareness about entrepreneurial urban agriculture referred to throughout this report. The future prospects for entrepreneurial urban agriculture can be considerably enhanced were community development corporations, which undertake more comprehensive approaches to the social and economic redevelopment of low-income neighborhoods, become active as city farming “partners” or “doers.”

As previously mentioned, community development organizations feel a limited capacity to *initiate* urban agriculture. Others see them as appropriate *facilitators* of certain aspects of inner-city food production. Outside non-government organizations look upon local non-profit developers as having considerable experience in leveraging economic capital into disinvested areas, and as agents for comprehensive community change through their skills at organizing and mobilizing residents around certain social issues. These capacities could be redirected towards urban agriculture. Because of their energy and record of accomplishments, CDCs could be pivotal actors in a comprehensive strategy for improving the supply and accessibility of fresh produce to the inner city, a weak link in urban food security, and in making such efforts economically viable.

CDCs and other development non-profits interested in entrepreneurial urban agriculture would need to match the endeavor to its internal capacity, to the expectations of the community, and to the objectives of its financial supporters. If more CDCs become convinced that market city farming can be a revenue producer, that its financial backers (including foundations, LISC, banks and other private sources) are attuned to the idea, and that more local, state and federal seed money is available, how might they respond as urban agriculture catalysts?

- CDCs could use their prior experience at nurturing local microenterprises to develop neighborhood-based food businesses geared towards local markets.

In this respect, CDCs could employ their special skills at developing and managing small business districts and business incubator centers.

- CDCs could act as urban agriculture brokers. Since supermarkets represent a commercially-desirable food-related business, some CDCs have partnered with supermarket chains to re-establish large food markets in central city neighborhoods. As part of the development agreement, CDCs could contract with these new markets to preferentially stock the products of local urban agriculture. These products could include fresh specialty or ethnic produce; value-added food products, such as salad dressing or salsa; flower baskets; or tilapia fish, which is valued in Asian cuisine.
- CDCs could, through partnerships, provide urban agriculture actors with the necessary experience and contacts to ease their entrance and acceptance into particular neighborhoods. Both Greensgrow and The Food Project benefited from their relationships with NKCDC and DSNI, respectively. In Chicago, Heifer Project International actively solicited non-profit groups upon their arrival in the city through presentations that introduced Heifer to those unfamiliar with its work.
- Once market farms are established, CDCs could promote neighborhood “ownership” for these ventures by setting aside some individual gardening plots for use by neighborhood residents. This was the approach used by the 70th Street Farm on Chicago’s South Side and Sea Change in North Philadelphia. Urban farmers believe that establishing strong ties with their neighbors has lessened the chances for vandalism to occur. In addition, not only would neighbors get direct access to healthier food, but they would also develop greater neighborhood pride through the aesthetic improvement of parcels that once blighted the area.
- Finally, CDCs could utilize city farming as another way to engage at-risk youth. Such involvement has several benefits. It could provide youngsters with opportunities for developing good work habits, for gaining horticultural and business skills, and, in general, for giving direction to young lives that may see little hope in their futures. While the idea of not-for-market school-based food gardens is widespread, several established entrepreneurial ventures described in this report are also youth-centered, including Food From the ‘Hood, Cabrini Greens and God’s Gang in Chicago, The Food Project, Growing Power/Farm City Link, and the Atlanta Urban Gardening Entrepreneurial Program.

Section 8: Conclusions

Both *vision* and *reality* informed this study. The *vision* projects a scene where vacant lands in sections of American cities are transformed into bountiful food-producing areas managed by committed and energetic community organizations and neighborhood residents marketing some or all of the food grown for economic gain. The spirit of that

vision is captured in the comments of the following supporters of for-market urban agriculture:

Urban agriculture is on the upswing. The higher the profile of food projects, the better off we'll be. Growing food on city land gives you more respect for what you eat.

Try to imagine what it would feel like if there were food being grown all around here (an advocate said while looking out at blocks of abandoned city land). How the energy would change if people could get entrepreneurial training, and eventually go out and start their own urban farm or business.

Agriculture in all its variety can be an integral part of a city's revitalization.

Those who endorse such *visions* clearly hope to see entrepreneurial urban agriculture's now small footprint grow increasingly larger, both in cities with an abundant and modest supply of vacant, abandoned land.

This study, however, yielded a more sobering *reality* for entrepreneurial urban agriculture:

- City farming enthusiasts are far outnumbered by those who are skeptical about it or disinterested in it.
- Many for-market urban agriculture projects are underfunded, understaffed, and confronted with difficult management and marketing issues.
- Urban agriculture is not seen as the "highest and best use" of vacant inner city land by most local government policy officials who would like to attract "better" tax paying uses on this land.
- The conventional view is that food-growing is something that takes place and belongs on rural land. The idea of turning urban areas into areas where a viable food crop could be produced is still foreign to most people.

Yet this study also found some evidence of a more hopeful *reality* for entrepreneurial urban agriculture.

- A diverse array of market city farming ventures exist. Seventy entrepreneurial urban agriculture projects are currently underway throughout the country. Since this study was not designed to conduct an exhaustive search, it is quite likely that the number of such projects is even higher.
- Pockets of support for for-market urban agriculture ventures were found among a cadre of local and higher level government officials, non-profit community groups, and local foundation staff in several cities.

- People who live close to where food-growing enterprises are located in inner-city neighborhoods are generally positive about the value of such developments for their neighborhoods.
- Market city farming operations are beginning to tap into a small well of steady government and foundation sources to provide working capital for their early stages.
- A handful of entrepreneurial urban agriculture projects are beginning to show some profits. More of them are providing a variety of other social, aesthetic, health, and community-building and empowerment benefits.

In the final analysis, many American cities are still hard-pressed. City government leaders would like their middle class residents to stay instead of moving to the suburbs. They wish for more market housing and small businesses located on vacant land. They would like to see a strong back-to-the-city movement to help fuel revitalization of depressed neighborhoods. But the reality is that the middle class exodus is continuing for many of these cities, and the back-to-the-city movement is still not strong. It is true that some city vacant lands, because of their strategic location near the center of town or near a river or lake, will be attractive sites for future housing and business developments. Yet considerable land in these cities will likely continue to be vacant, unsightly, and unproductive.

Edmund Bacon, the renowned city planner of post-World War II Philadelphia, was quoted recently on the occasion of his 90th birthday, “We have to wake up to what we have in cities—lots of land that has been abandoned... We should be making more rational use of it” (DeWolf 2000). Bacon went on to say that he would like to see abandoned houses cleared out and suburban housing developers invited to rebuild the land. Bacon’s solution is one worthwhile alternative. There is another being championed by some hearty souls—i.e., using vacant land to grow food for the benefit of cities and their residents. This study has provided evidence that the nascent movement of urban agriculture, particularly entrepreneurial urban agriculture, is worth a more concerted try.

Endnotes

- ¹ A concurrent count by an advisory committee to Philadelphia Mayor John Street, however, listed as many as 54,000 abandoned buildings (Young 2000).
- ² The City Farmer website (<http://www.cityfarmer.org>) has been online since 1994, and is produced by Canada's Office of Urban Agriculture, a Vancouver-based NGO.
- ³ This critical obstacle to urban farming is covered in more detail in Section 6.
- ⁴ Community gardens are important to North American cities because of their social, physical, health and psychological benefits, including their potential for strengthening local food security. Although there is evidence of the market opportunities for community gardens (Feenstra et al. 1999, Lawson and McNally 1999), the great majority of community gardens are not entrepreneurial in nature. Consequently limited attention was given to traditional, non-market community gardens in this study.
- ⁵ One-third of the way through this study, an important departure was made from its initial conception. Originally, the third leg of the conceptual stool represented community development corporations (CDCs) – place-based non-profits typically associated with the creation of inner-city affordable housing and, to a lesser extent, with local economic development. It was initially assumed that CDCs might be able and willing to undertake entrepreneurial urban agriculture based on a perceived appropriateness to their broad mission of enhancing the quality of life in central city neighborhoods. In discussions with CDC directors and staff, however, it became evident that most of them were less open to the idea than was anticipated at the study's outset; this, despite the presence of large amounts of vacant land in the target areas of many urban CDCs. Consequently, the "third leg" of the study was broadened to encompass a wider array of urban organizations (CDCs among them) that would have much to say about whether urban agriculture ventures would materialize and thrive in the future.
- ⁶ These conferences included those of the National Congress of Community Economic Development (1998), the Community Food Security Coalition (1998 and 1999), the Northeast Sustainable Agriculture Working Group (1998), the American Planning Association (1999), the Agriculture, Food and Human Values Society (1999), and the American Community Gardening Association (1999).
- ⁷ The symposium's sponsors represented the breadth of organizational interest in entrepreneurial urban agriculture. In addition to the Pennsylvania Horticultural Society, they included The Urban Agriculture Network (a global research and resource organization based in Washington, D.C.), the Toronto Food Policy Council, the Farmers' Market Trust (a regional food security non-profit based in Philadelphia),

the American Community Gardening Association, the Village Farms hydroponic operation in Buffalo, and Clyde's (a Washington, D.C. restaurant).

- ⁸ Eighteen other existing or planned entrepreneurial operations are described in the case study accounts of Chicago, Philadelphia and Boston.
- ⁹ Those projects that have been visited include the Isles Community Farm, the Centro Agricola, the St. Mary's Urban Youth Farm, Growing Power/Farm City Link, and Annex Organics. A colleague of the authors in the University of Wisconsin-Madison Department of Urban and Regional Planning toured Village Farms in June 1999.
- ¹⁰ The gardeners themselves are primarily men who once farmed in Puerto Rico, and later became migrant laborers in the United States. A separate Nuestras Raices children's garden now provides them with the opportunity to pass on their skills.
- ¹¹ Nuestras Raices does maintain a close working relationship with Nueva Esperanza, a Holyoke CDC having a conventional agenda of housing development and neighborhood programs.
- ¹² Some of this material on Urban Herbals, and that of Food From the 'Hood, is drawn from case study research by Gail Feenstra, Sharyl McGrew and David Campbell (Feenstra et al 1999).
- ¹³ Current prices for Urban Herbals products are \$5.00 for an 12 oz. jar of Jammin' Jam, \$6.50 for a 12 oz. bottle of herbal vinegar, \$4.00 per 12 oz. jar of Bee Real Honey, and \$4.00 per 16 oz. container of Slammin' Salsa. Gift and combination baskets range from \$10 to \$49.
- ¹⁴ New Jersey's state capital has, like Holyoke, steadily lost population in recent decades. The estimated 1998 population of 84,494 represents a 19 percent decrease from thirty years ago.
- ¹⁵ Almost \$100,000 was provided by two funds targeted at South Central following the 1992 riots. Initial production and marketing assistance was provided by the founder of Bernstein's Salad Dressing, and by a public relations executive who eventually joined FFTH as a full-time staffer.
- ¹⁶ FFTH has appeared in *Newsweek* (cover story), *Business Week*, *The New York Times*, *Chicago Tribune* and *The Washington Post*. After a visit by the Prince of Wales, a van was donated to FFTH by the British government.
- ¹⁷ Income from Allen's market basket operation, primarily serving inner-city residents, goes to the farmers (including Allen) that organized the Rainbow Farmers Co-op. It is not considered a GP/FCL activity. The operation currently produces 300 food

boxes, sold at \$10 each, per week. A projected expansion could result in 1,000 boxes a week.

- ¹⁸ SAREP also sponsored the related study, *Entrepreneurial Community Gardens: Growing Food, Skills, Jobs and Communities* (Feenstra et al. 1999) cited elsewhere in this report.
- ¹⁹ These constraints included inefficiencies resulting from incremental site development, ill-conceived and undercapitalized efforts at producing value-added products, the lack of a cohesive marketing effort, an inability to consistently meet the quality demands of consumers, retailers and restaurants, and internal conflicts over priorities and objectives.
- ²⁰ Much of this material on Village Farms is drawn from prior research by Hope Wohl, under contract to the Pennsylvania Horticultural Society (Hope Wohl Associates 1999).
- ²¹ A June 1999 interview with a staff member of the Chicago Department of Planning and Development revealed that APD had inquired into the availability of 40-45 acre sites within Chicago, indicating their desire for a larger operation than the 35-acre Buffalo site.
- ²² One Annex Organics growing technique is termed “hybrid hydroponics,” combining some hydroponic technology with the soil base necessary to maintain organic certification.
- ²³ The Coalition is also considering farming a donated nine-acre site in rural LaSalle County, south of Chicago. The site, on which an old meteorological building had been located, was disposed of by the Federal government.
- ²⁴ Alison Meares Cohen, HPI’s project manager in Chicago, left in June 2000 to establish a Northeast HPI urban program that plans to initiate projects in New York City, Philadelphia and other cities. HPI’s Chicago programs will continue.
- ²⁵ These earlier interviews were arranged during trips to the Philadelphia area for reasons related to this study. The December 1998 visit followed a sustainable agriculture conference in New Jersey attended by several urban growers, while the February 1999 visit combined project interviews with a planning session for an urban agriculture symposium that was later held in March 2000.
- ²⁶ The technical name for Greensgrow’s hydroponic process is the Nutrient Film System. Major funding for its purchase and construction was loaned to Greensgrow by the Ben Franklin Technology Center (Hope Wohl Associates 1999).

-
- ²⁷ The recent drought, however, has necessitated attaching a hose to the fire hydrant on the corner.
- ²⁸ The WPLP vacant land report can be accessed over the Internet (<http://www.upenn.edu/wplp/plan/fmvacant.htm>).
- ²⁹ For example, the Trust organized The Future of Our Food and Farms Conference in December of 1999. This summit brought together a number of urban agriculture actors from throughout the Philadelphia region as part of a broader focus on hunger reduction and improved food distribution. A second summit is planned for November 2000.
- ³⁰ The story of DSNI's creation is told in *Streets of Hope: The Fall and Rise of an Urban Neighborhood*, written in 1994 by Peter Medoff, its first executive director, and Holly Sklar.
- ³¹ A current example of such collective action that may advance urban agriculture in Boston revolves around the little-used former site of the Boston State Hospital, the city's largest piece of undeveloped land. A group of urban agriculture activists are meeting in the summer of 2000 to lobby for city farming activities on 77 acres of the site.
- ³² The Boston experience of non-profits owning the land on which a sizable number of community gardens exist is unique among community garden organizations. In most cities, community gardens operate on land leased from either local government or private owners.
- ³³ This lack of enthusiasm for selling the produce of community gardens is also evidenced nationwide. A 1999 survey of members of the American Community Gardening Association ranked "entrepreneurial enterprises" ninth in importance out of ten garden-related issues.
- ³⁴ As noted in the examples of CDC-managed urban agriculture in Sections 4 and 5, and in Appendix A, there are some exceptions to this prevalent view.
- ³⁵ Sophisticated greenhouse operations are often found in Europe. One Danish eco-science company has developed a process where methane from local landfills is converted to electricity in its co-generation plant. This is then used to meet the energy needs of its food-producing greenhouses, with the extra electricity sold to the local utility.
- ³⁶ Both organizations have also devoted special attention to urban agriculture in their member publications (see Community Food Security Coalition 1999, and Kirschbaum 1999, 2000).

-
- ³⁷ In July 2000, the Museum of Fine Arts in Boston hosted a benefit showing of *D.I.R.T.: The Next Generation*, a video made by four teenagers documenting their summer with The Food Project. Another recent video, *Ours to Decide*, was made to record the two-year process by which the ownership of 35-acres of surplus state property in Madison, Wisconsin containing an existing community garden was transferred from the state government to a coalition of land trusts and a neighborhood council in order to develop an urban agroecology district with a community supported agriculture farm, edible gardens, a restored tall grass prairie and a cohousing development.
- ³⁸ In most cities, initial URP grants were relatively small (between \$5,000 and \$50,000). In recent years, many cities have begun awarding larger grants to fewer projects.

References

- Anderson, Jon. 1997. Fish farming takes root in city. *Chicago Tribune* (December 24).
- Bakker, Nico, Marielle Dubbeling, Sabine Gundel, Ulrich Sabel-Koschella and Henk de Zeeuw. 2000. *Growing Cities, Growing Food: Urban Agriculture on the Policy Agenda*. Zentralstelle für Ernährung und Landwirtschaft Food and Agriculture Development Centre.
- Barrs, Robert. 1997. Sustainable Urban Food Production in the City of Vancouver: An Analytical and Strategy Framework for Planners and Decision-Makers. Vancouver, B.C.: City Farmer, Canada's Office of Urban Agriculture. (<http://www.cityfarmer.org>)
- Barry, Dan. 1999. With Bette Midler's aid, a rescue for gardens. *The New York Times* (May 13).
- Blair, Dorothy, Carol C. Giesecke and Sandra Sherman. 1991. A Dietary, Social and Economic Evaluation of the Philadelphia Urban Gardening Project. *Journal of Nutrition Education* 23: 161-167.
- Boston Sunday Globe*. 1999. Dialogues: "We are at a crisis point, really." (May 9): E1, E3.
- Brown, Kate H. and Andrew L. Jameton. 2000. Public Health Implications of Urban Agriculture. *Journal of Public Health Policy* 21(1): 20-39.
- Chicago Rehab Network. 1993. *The Chicago Affordable Housing Fact Book: Visions for Change*. Chicago: Chicago Rehab Network.
- Chicago Department of Environment. 1997. *Greencorps Chicago 1997 Yearbook*.
- Clines, Francis X. 2000. Philadelphia's Star Rises, but Bell Tolls For a Neighborhood. *The New York Times* (July 24): A1, A15.
- Community Food Security Coalition. 1999. Special Issue/Growing Food in Cities: Urban Agriculture in North America. *Community Food Security News* (Fall 1999/Winter 2000).
- DeWolf, Rose. 2000. Bacon: Learn from our past. *Philadelphia Daily News* Special Series: The Future of The City. (<http://future.philly.com/inside/bacon.htm>).
- Eaton Leslie. 2000. In Syracuse, the Problem Is Too Much Housing. *The New York Times* (July 28): A23.

EPA, n.d. *Road Map to Understanding Innovative Technology Options for Brownfields Investigation and Cleanup*. Washington, D.C.: United States Environmental Protection Agency, Office of Solid Waste and Emergency Response. (#EPA 542-B-97-002)

Feenstra, Gail, Sharyl McGrew and David Campbell. 1999. *Entrepreneurial Community Gardens: Growing Food, Skills, Jobs and Communities*. University of California Agriculture and Natural Resources Publication 21587.

Flint, Anthony. 1999. Menino seeks housing solutions. *The Boston Sunday Globe*. (August 1): A26.

Friedrich, John. 1999. "What is Possible in Urban Farming? Learn From Cuba!" *Community Food Security News* (Fall 1999/Winter 2000): 13.

Frohardt, Katherine Elson. 1993. *Case Studies of Entrepreneurial Community Greening Projects*. Philadelphia: American Community Gardening Association.

Garnett, Tara. 1999. *City Harvest: The Feasibility of Growing More Food in London*. London: SUSTAIN.

Glickman, Norman J. and Lisa J. Servon. 1998. More than Bricks and Sticks: Five Components of Community Development Corporation Capacity. *Housing Policy Debate* 9(3): 497-539.

Goodman, Howard. 1998. A Tree Grows in Philly. *Hope Magazine* (October): 24-27.

_____. 1997. Sowing seeds of change: down on the farm in Philadelphia. *The Philadelphia Inquirer* (October 12-14).

Hamm, Michael, Matthew Griffin, Megan McGlinchy and Marty Johnson. 1999. Community Gardening, Vegetable Intake, and the Potential to Reduce Health Care Costs: A Case Study of Trenton, New Jersey. A paper presented at the joint meeting of the Agriculture, Food and Human Values Society and the Association for the Study of Food and Society, Toronto, Ontario.

Hope Wohl Associates. 2000. *The Feasibility of Urban Agriculture with Recommendations for Philadelphia*. Philadelphia: The Pennsylvania Horticultural Society.

Hough, Michael. 1995. *Cities and Natural Process*. London: Routledge.

Hynes, H. Patricia. 1996. *A Patch of Eden: America's Inner-City Gardens*. Whole River Junction, Vt.: Chelsea Green Publishing Co.

Jaffe, Mark. 1999. Growing a cleanser. *The Philadelphia Inquirer* (June 14): C1, C12.

Kaufman, Jerome. 1998. Chicago: Segregation and the New Urban Poverty, in Sako Musterd and Wim Ostendorf, eds. *Urban Segregation and The Welfare State*. London: Routledge.

- Kelley, Cameron and David Riggle. 1998. Growing jobs in the inner city. *In Business* (March/April): 24-26.
- Kirschbaum, Pamela R. 2000. Making Policy in a Crowded World: Steps Beyond the Physical Garden. *Community Greening Review, 2000* (American Community Gardening Association): 2-11.
- _____. 1998. Borrowed Land, Borrowed Time: Preserving Community Gardens. *Community Greening Review, 1998* (American Community Gardening Association): 2-11.
- Kromer, John. 2000. *Neighborhood Recovery: Reinvestment Policy for the New Hometown*. New Brunswick, N.J.: Rutgers University Press.
- Lawson, Laura. 1999. Lessons Learned from the BYA Garden Patch as an Entrepreneurial Training Program. Presented at the American Community Gardening Association Annual Conference, Philadelphia.
- _____ and Marcia McNally. 1999. *Rethinking Direct Marketing Approaches for Urban Market Gardeners in Low and Moderate Income Communities*. Berkeley: Berkeley Youth Alternatives and University of California Sustainable Agriculture Research and Education Program.
- Lifecycles. 1998. Urban Agriculture and Food Security in Canada: A Survey of Canadian Non-governmental Organizations. Cities Feeding People Report 25. Ottawa: International Development Research Centre.
- Martin, Ruth and Terry Marsden. 1999. Food for Urban Spaces: The Development of Urban Food Production in England and Wales. *International Planning Studies* 4(3): 389-411.
- McConnell, Darci. 1998. City may revive vacant-homes program. *Detroit Free Press* (June 11).
- Medoff, Peter and Holly Sklar. 1994. *Streets of Hope: The Fall and Rise of an Urban Neighborhood*. Boston: South End Press.
- Meyer, Brian. 1998. Bearing fruit: brownfields 'farm' produces first crop. *The Buffalo News* (April 16): 1A.
- Monroe-Santos, Suzanne. 1998. Recent National Survey Shows Status of Community Gardens. *Community Greening Review 1998* (American Community Gardening Association): 12, 17.
- Mougeot, Luc. 2000. Urban Agriculture: Definition, Presence, Potentials and Risks, in Bakker et al, *Growing Cities, Growing Food*.
- New Orleans *Times-Picayune*. 1999. Winning the war on blight. (November 8).
- PACDC. 1999. *Philadelphia Neighborhoods First: A Platform for Neighborhood Revitalization*. Philadelphia Association of Community Development Corporations.
- Panaritis, Maria and Peter Nicholas. 1999. Identifying potential trouble spots is a daunting task. *The Philadelphia Inquirer* (July 11).

- Patel, I.C. 1996. Rutgers Urban Gardening: A Case Study in Urban Agriculture. *Journal of Agricultural & Food Information* 3(3): 35-46.
- Peirce, Neal. 1999. The CDC regatta: landfall ahead? *Washington Post* (April 11).
- Pennsylvania Horticultural Society. 2000. *Managing Vacant Land in Philadelphia: A Key Step Toward Neighborhood Revitalization*. Philadelphia: The Pennsylvania Horticultural Society.
- Philadelphia City Planning Commission. 1995. *Vacant Land in Philadelphia: A Report on Vacant Land Management and Neighborhood Restructuring*. Philadelphia: City Planning Commission.
- Philadelphia Office of Housing and Community Development. 1996. *Vacant Property Prescriptions: A Reinvestment Strategy*. Philadelphia: Office of Housing and Community Development.
- Pothukuchi, Kameshwari. 1999. Neighborhood Grocery Stores: Alternatives to Supermarkets? *Community Food Security News* (Winter/Spring): 9.
- _____ and Jerome L. Kaufman. 2000. The Food System: A Stranger to the Planning Field. *Journal of the American Planning Association* 66(2) (Spring 2000): 113-124.
- _____. 1999. Placing the Food System on the Urban Agenda: The Role of Municipal Institutions in Food Systems Planning. *Agriculture and Human Values* 16: 213-224.
- Quon, Sonya. 1999. Planning for Urban Agriculture: A Review of Tools and Strategies for Urban Planners. Cities Feeding People Report 28. Ottawa: International Development Research Centre.
- Rauber, Paul. 1997. Cultivating Our Cities. *Sierra* (May/June).
- Revkin, Andrew C. 1998. For urban wastelands, tomatoes and other life. *The New York Times* (March 3).
- Rubin, Herbert J. 1995. Renewing Hope in the Inner City: Conversations With Community-Based Development Practitioners. *Administration & Society* 27(1): 127-160.
- Seligman, Katherine. 1999. Growth industry: Farming in The City. *San Francisco Examiner* (May 23).
- Shuman, Michael H. 1999. From Motown to Mootown. *Village Greenprints* (Institute for Economic Empowerment & Entrepreneurship, Village Foundation) Issue 1 (September): 10-11.
- Smit, Jac, Annu Ratta and Joe Nasr. 1996. *Urban Agriculture: Food, Jobs and Sustainable Cities*. UNDP Publication Series for Habitat II, Volume One. New York: United Nations Development Program.

- Smith, Graeme. 1998. Annex Organics' Rooftop Farming Business. Vancouver, BC: City Farmer. (<http://www.cityfarmer.org/rooftopTO.html>)
- Spillane, Michael. 1998. Higher Ground. *The Growing EDGE* 10(2) (November/ December): 27-30.
- John Todd and George Tukel. 1999. *Rebuilding Cities and Towns: Designing for Sustainability*. (citation from the website of the Dudley Street Neighborhood Initiative: <http://www.dsni.org>)
- USDA 2000. Community Food Projects Competitive Grants Program. (accessible through the United States Department of Agriculture website: <http://solomon.reeusedagov:80/crgam/cfp/community.htm>)
- Vidal, Avis. 1992. *Rebuilding Communities: A National Study of Community Development Corporations*. New York: Community Development Research Center.
- Ward, Richard C. 1997. To make communities out of vacant plots. *St. Louis Post-Dispatch* (October 5).
- Warner, Sam Bass, Jr. 1987. *To Dwell Is to Garden: A History of Boston's Community Gardens*. Boston: Northeastern University Press.
- Watson, Greg. 1999. Sustaining Community Power. *Shelterforce* (January/February): 20-23.
- Wright, James G. 1997. *Risks and Rewards of Brownfield Development*. Cambridge, Mass: Lincoln Institute of Land Policy.
- Young, Earni. 2000. Vacant or abandoned? Numbers don't add up. *Philadelphia Daily News* (April 25).
- de Zeeuw, Henk, Sabine Gundel and Herman Waebel. 2000. The Integration of Agriculture in Urban Policies, in Bakker et al, *Growing Cities, Growing Food*.

Appendix A: Current or Planned Inner-city Entrepreneurial Urban Agriculture Projects in the United States and Canada

One of the characteristics of the current state of entrepreneurial urban agriculture in North America is that it is in constant flux in terms of the number of individual projects underway or being planned at any given time. The following list is not meant to be inclusive of all the entrepreneurial urban agriculture projects that exist. It represents current or planned for-market food-producing ventures, most of which are located in low-income, inner-city neighborhoods, known to the authors as of July 2000. The majority of the listings are of individual projects, but the list also includes organizations and local partnerships that support a range of separate operations.

Of the 71 projects listed here, 25 are described in more detail in Sections 4 or 5 of this report. Except where noted, all are managed by non-profit groups. And to demonstrate the current reach of the federal government as an urban agriculture supporter, projects or groups that have received USDA Community Food Projects funding, either directly or indirectly, between 1996 and 1999 are noted by “#” and the award year.

This list was generated primarily through ongoing project research. Related studies completed between 1993-2000 (Frohardt 1993, Feenstra et al. 1999, Hope Wohl Associates 2000) were also drawn upon.

Northeast (including Ontario):

Baltimore *Baltimore Grows (# 1998)*

A multi-agency collaborative effort to establish market gardens in East and West Baltimore, and to link gardeners with potential markets.

Boston *The Food Project/Dudley Street Neighborhood Initiative (# 1996)*

Vegetable production and farmers market sales are managed by Roxbury youth partnering with suburban kids during summer breaks; *Section 5*.

Re-Vision House Urban Farm and CSA

A for-market greenhouse and aquaculture activity worked by pregnant and parenting teenagers, in partnership with a suburban organic farm; *Section 5*.

Buffalo *Community Kitchen/Community Kitchen Task Force*

A four-year pilot project utilizing a city-owned building to house an incubator for food-based microenterprises, some of which may process food produced in local community gardens.

Village Farms of Buffalo

The large private venture growing greenhouse tomatoes hydroponically on a former steel manufacturing site; *Section 4*.

Hartford Holcomb Farm CSA

This community supported agriculture project, located in suburban Granby, is operated by the Hartford Food System. It differs from most CSAs in dedicating one-half of its production to Hartford's low-income population, and reducing the cost of shares purchased by the non-profit organizations that distribute this harvest to them.

Holyoke, Mass. Centro Agricola/Nuestras Raices (# 1996)

Five community gardens, a greenhouse and a microbusiness incubator serving the local Puerto Rican community; *Section 4*.

New Britain, Ct. Urban Oaks Organic Farm

A new not-for-profit enterprise—structured similarly to a CDC—to operate in six greenhouses totaling 40,000 sq. ft. in central New Britain. Wholesale and retail sales of vegetables, fruits and herbs are expected to help achieve fiscal self-sufficiency after four operating years.

New Brunswick, N.J. Youth Farmstand Project

Sponsored by the Department of Nutritional Sciences at Cook College, Rutgers University and the Rutgers Cooperative Extension, this food security initiative provides entrepreneurial opportunities for high schoolers from New Brunswick's public housing sites by selling produce purchased from local farmers at inner-city food stands.

New York City The City Farms (# 1997)

The longer-range plans of this training and support partnership between the established non-profits Just Food and Green Guerillas, and the Cornell Cooperative Extension (Section 4), entail developing alliances between community gardens and small-scale food processing centers, thus making urban farmers more self-reliant. City Farms currently sponsors the Hamer-Campos and Taqwa Farms, and the New Perspectives Garden.

Hamer-Campos Organic Farm

Initiated by PULL (People United for Local Leadership) as a microbusiness incubator in Far Rockaway, Queens. One-half of the food produced is sold at a PULL-operated farmers' market.

New Farmers, New Markets

A program managed by Cornell Cooperative Extension to facilitate direct marketing by, among others, new immigrant farmers; *Section 4*.

New Leaf Program, Argus Community Inc.

Greenhouse and raised-bed plants are grown for market by the residents of a drug treatment program in the South Bronx as a pre-vocational work experience; products include herbs, hanging flower baskets and flavored vinegars.

New Perspectives Development Corporation Community Garden

A CDC-managed youth program farms a two-acre site in Brooklyn's Canarsie neighborhood. One section is worked by a Hispanic youth group that markets herbs and vegetables to restaurants and to a Saturday market.

Taqwa Community Farm

Over 90 families and local youth together practice hydroponics and vacant land farming on two acres in the Highbridge neighborhood of The Bronx, with their produce sold regularly at the Ogden Avenue Farmers' Market; *Section 4*.

Philadelphia Greensgrow Farms

A private venture growing high-end salad greens on a brownfield site accessed through a North Philadelphia CDC; *Section 5*.

Philaberry Farms

A small, private berry production & marketing venture located north of Center City; *Section 5*.

Philly Farms Mushrooms

A planned private venture to renovate an industrial building for state-of-the-art indoor mushroom production; *Section 5*.

Roots Gardening Project (# 1999)

A developing partnership between the Urban Nutrition Initiative and University City High School that employs students to market greenhouse-grown lettuce to a West Philadelphia restaurant; *Section 5*.

Village Community Tree Farm

A containerized tree production operation on a former manufacturing site; *Section 5*.

Portland, Me. Maine Farms Project (# 1996)

An economic development initiative of Coastal Enterprises, Inc., a statewide CDC, this multi-faceted project is developing mechanisms to improve food access among Portland's low-income population through community gardens and farmers' markets.

Providence City Farm

A ¾-acre certified organic farm and greenhouse in South Providence is the center of a multi-dimensional operation managed across several sites by the South Side Community Land Trust.

Rochester, N.Y. NENA/PTE Market Garden and Regional Farm Stand (# 1999)

A consortium of community non-profits plan to strengthen food security within a low-income neighborhood by establishing market gardens to produce fresh vegetables, establish a farm stand in Rochester's Public Market, and provide opportunities for youth entrepreneurial training.

Toronto Annex Organics/FoodShare

A recent merging of a small independent organic food producer with an established non-profit food agency; *Section 4*.

Trenton Isles Community Farm (# 1997)

A combination farm/greenhouse/CSA operation managed by an urban CDC on a suburban community college site; *Section 4*.

Washington, D.C. Urban Oasis/Community Harvest

Located two miles from the U.S. Capitol, this ½-acre farm employs public housing residents, homeless individuals and high school students to produce vegetables, herbs and flowers to residents of Anacostia currently lacking a full-service supermarket.

Southeast:

Atlanta Atlanta Urban Gardening Entrepreneurial Program

This project of the University of Georgia Extension employs youth in growing and processing of gourds and peppers as value-added products; *Section 4*.

Durham, N.C. SEEDS, Inc. (South Eastern Efforts Developing Sustainable Spaces)

This community gardening advocacy group manages a small for-market garden in partnership with a nearby substance abuse rehabilitation program. The operation has been scaled-back due to staffing problems and low revenues.

Knoxville Beardsley Farm Project, Knoxville-Knox County Community Action (#1998)

An urban farm located within a park in a low-income neighborhood will produce vegetables, fruits and berries, honey and demonstration grain crops. A local CDC is among the long list of partners.

New Orleans Parkway Partners (# 1999)

This quasi-public community garden organization facilitates informal selling by its gardeners at existing farmers' markets, and is establishing an open-air market within a 43-acre central city tract surrounded by four low-income neighborhoods.

Midwest:

Chicago Cabrini Greens

This youth-based project provides agricultural and horticultural employment and training at several garden sites; *Section 5*.

Chicago Indoor Gardens

The successful, privately-held sprout production business on the North Side; *Section 5*.

God's Gang Worm and Fish Project

A youth vermiculture and aquaculture program located within the Robert Taylor Homes on the South Side; *Section 5*.

Growing Home

A developing West Side brownfield project initiated by the Chicago Coalition for the Homeless; *Section 5*.

Heifer Project International Midwest Program

The first domestic office of this global non-governmental organization provides financial and technical assistance to community groups wishing to develop urban farms incorporating both plants and livestock. HPI supports Cabrini Greens, God's Gang and the Ivy Crest Gardens in

Chicago, and Farm City Link in Milwaukee. (A Northeast Program serving New York, Philadelphia and other cities was started in 2000.)

Ivy Crest Gardens

A project in the Lawndale neighborhood that intends to grow crops and duck eggs for market; *Section 5*.

Quincy Community Center Youth Garden

A partnership between a West Side community center and a downtown restaurant; *Section 5*.

70th Street Farm

A 1/3-acre market garden in the Englewood section of the South Side; *Section 5*.

Dayton Edgemont Solar Gardens and Farmers' Market

This successful resident-operated community market garden and collection of solar greenhouses was begun in 1980, making it among the longest-running examples of entrepreneurial urban farming.

Detroit Detroit Agriculture Network (# 1997)

Creating entrepreneurial projects as a component of an alternative food-based economic sector is one of the goals of this broad-based partnership, administratively located within the Hunger Action Coalition of Michigan.

Detroit

Farmers Cooperative Youth Program

Young African-Americans, ages 14-16, operate seven community gardens and five neighborhood-based markets in this program sponsored by the Farmers Cooperative and the Detroit Agriculture Network.

Howe Elementary School Kwanzaa Project

A pilot project co-managed with the Hunger Action Coalition and HealthyDetroit to produce and market barbecue sauce using Kwanzaa principles of cooperative economics.

Wirts Oats and Alfalfa Farm

Paul Wirts has cleared several abandoned lots in order to grow oats and alfalfa, and to raise rabbits, chickens, pigs and horses.

Madison, Wis. GroundWork CSA

A planning group is currently seeking a 2-acre site on which to establish a CSA business involving low-income women. The project is a response to recent changes in welfare policy, by providing women with opportunities to work and develop business skills.

Troy Drive Urban Agroecology District

A 35-acre site will integrate an income-generating CSA farm with a 5-acre community garden, edible landscaping displays, a prairie restoration, education in soil and multi-cultural gardening, and a co-housing development.

Milwaukee Growing Power/Farm City Link

Among this program's several entrepreneurial activities are a Youth Corps landscaping service, a market basket program serving inner-city residents, fee-for-training services, and a vermiculture business; *Section 4*.

Omaha City Sprouts North Omaha Community Food Project (# 1999)

Churches in Omaha's poorest neighborhood will help facilitate the direct marketing of sustainably-grown food by urban farmers.

St. Paul The Youth Farm and Market Project (# 1997)

This venture has brought young people directly into several neighborhood-scaled food systems through the production and marketing of produce.

Toledo Neighborhoods in Partnership Greenhouse and Fish Project

A planned CDC-managed operation utilizing a five-acre former General Motors plant site to produce hydroponic vegetables and tilapia fish through a sustainable, closed-loop greenhouse system.

West and Southwest:

Austin Sustainable Food Center (# 1997)

A two-acre urban farm on Austin's East Side with a greenhouse and livestock is the center of activity for this multi-faceted non-profit dedicated to food security and economically-productive food production.

Berkeley *BYA Garden Patch*

A market garden in West Berkeley farmed by at-risk teenagers; *Section 4*.

East Bay Asian Youth Center/Gill Tract Farm, Project Sunflower and Strong Roots

These separate, independently-run operations all employ and train young people, with the farm products sold through a CSA, farmers' markets and restaurants, respectively. Strong Roots also makes value-added products, such as salsa, salad dressing and jams.

Kona Kai Gardens

A private, for-profit venture producing specialty baby lettuce varieties primarily for high-end restaurants.

Spiral Gardens

Vegetables, herbs, medicinal plants, worms, and beeswax and honey are produced across three garden sites, and sold at farmers' markets and an on-site farmstand.

Denver *The Urban Farm at Stapleton Community Food Project (# 1996)*

This 1-1/2-acre certified organic farm supplies flowers and vegetables to a CSA targeted to low-income shareholders.

Houston *Urban Harvest, Inc. Food-for-Market Project (# 1997)*

Middle school youngsters sell produce to a community center cooperative and café, and also earn money building raised bed garden plots for backyard gardens.

Los Angeles *Food From the 'Hood*

The successful salad dressing enterprise with a national distribution, run entirely by Crenshaw High School students; *Section 4*.

Justiceville

A tiny, 1,000 sq. ft. plot at a transitional housing site for the homeless is used to grow herbs for sale to restaurants.

Vets Garden

This 14-year-old operation located on 13 acres on the grounds of the Veterans Administration Hospital in Brentwood represents employment and horticultural therapy to more than thirty of the hospital's patients. Vegetables, herbs and ornamental plants produced on-site are sold to

restaurants and at retail sites in the hospital and the local Federal Building.

Watts Growing (# 1996)

A program for community gardeners offering training in intensive farming practices, marketing and small business development.

Palo Alto East Palo Alto Garden

A project of Bay Area Action, this two-acre site grows and markets vegetables, herbs and flowers.

Phoenix Miracle Garden

The University of Arizona Extension manages this youth market garden that produces food for restaurants and farmers' markets, and crafts for local shops.

San Francisco St. Mary's Youth Farm and Urban Herbals (# 1998)

The San Francisco League of Urban Gardeners (SLUG) manages these two interdependent enterprises with a focus on teaching horticultural, landscaping and entrepreneurial skills to young people; Section 4.

The Garden Project

For two decades, current and former prisoners in the San Francisco County Jail have received horticultural job training (as well as life skills counseling and GED testing) through this successful program. A 12-acre site on the jail grounds in suburban San Bruno and a ½-acre site in Hunters Point/Bayview are used to grow organic produce and flowers for sale to Bay Area restaurants.

Wheat Grass Farm and Depot

A solo entrepreneur produces 350 flats of wheat grass sprouts per week out of her 3,400 sq. ft. backyard. Some of the wheat grass is processed into a fermented juice used to aid digestion.

Seattle Seattle Youth Garden Works Market Garden (# 1998)

This University District program has trained over 100 homeless and at-risk youths in gardening and horticultural techniques. A second site houses a greenhouse operation.

Tacoma Guadalupe Gardens (# 1997)

This 4-1/2-acre organic CSA farm in central Tacoma employs current and formerly homeless individuals through the Guadalupe House shelter. The

CSA is a component of the larger Tahoma Food System, as is a youth-based entrepreneurial program involving the production and marketing of produce and honey at a farmers' market.

Tucson

Southside Food Production Network (# 1998)

The Tucson Audubon Society, the University of Arizona and the Tucson Community Food Bank are among the partners creating a network of school, community and private backyard food gardens to produce for emergency food supplies and market sale.

Appendix B: Photographs of Entrepreneurial Urban Agriculture

Figure 1: Centro Agricola, Holyoke, Massachusetts



In May 1999, a vacant corner lot and an adjacent former tavern in central Holyoke were being transformed into a 600 sq. ft. greenhouse and a combination community kitchen/restaurant. The project's initiator, Nuestras Raices, hopes to eventually construct a plaza on the immediate corner reminiscent of those in Puerto Rican villages.

Figure 2: Urban Herbals, San Francisco



In keeping with modern marketing, the value-added food products of Urban Herbals—jams, vinegars, salsas, honey and gift baskets—are sold online or through mail order, alongside SLUG paraphernalia, such as hats, t-shirts and coffee mugs.

Figure 3: Isles Community Farm, Trenton, New Jersey



One of the underutilized hoop-style greenhouses belonging to Mercer County Community College now used by Isles along with five acres of MCCC farmland.

Figure 4: Food From the 'Hood, Los Angeles



Two types of all-natural salad dressing, low-fat Creamy Italian and no-fat Honey Mustard, are marketed under the brand name, “Straight Out ‘the Garden,” to 2,000 stores nationwide, with the profits returned to the student-managers as college scholarships.

Figure 5: Growing Power/Farm City Link, Milwaukee



In one of five 3,000 square-foot greenhouses, Farm City Link founder, Will Allen, displays trays of bedding and starter plants to visitors.

Figure 6: Growing Power/Farm City Link, Milwaukee



Another GP/FCL greenhouse contains ten three-tank aquaculture systems. The 55-gallon tanks were bought from a local car wash.

Figure 7: Annex Organics/FoodShare, Toronto



Organic sprigs of oregano and tarragon are harvested, packaged and sold to wholesalers from the FoodShare facility east of downtown Toronto.

Figure 8: The 70th Street Farm, Chicago



Neil Dunaetz grows organic vegetables on a 1/3-acre vacant parcel in the Englewood section of Chicago's South Side to sell at farmers markets and to a hotel restaurant. Since the photograph was taken, an 8-foot high chain-link fence was donated by the neighboring school for disabled children, visible in the background.

Figure 9: God's Gang Worm and Fish Project, Chicago



Brothers Marvin and Michael Gohlar hold up bags of worm castings produced from the 75 worm bins located in a basement of the Robert Taylor Homes on the South Side, and sold to the public as garden fertilizer.

Figure 10: Ivy Crest Garden, Chicago



The small, portable duck house seen in the left background is moved around the raised beds of this community farm in the Lawndale section on the West Side.

Figure 11: Ginkgo Organic Gardens, Chicago



Raised planting beds built of railroad ties and wood 2 x 8s contain the production beds of this small North Side farm run by volunteers to supply a food pantry and a restaurant staffed by the homeless.

Figure 12: Quincy Community Center Youth Garden, Chicago



Vegetables to be distributed to a nursing home or sold to a downtown restaurant are grown in plastic wading pools on those portions of this West Side site with high levels of lead in the soil.

Figure 13: Greensgrow Farm, Philadelphia



The distinguishing characteristic of this private operation is an extensive hydroponic system, in which small plugs of several different gourmet lettuces are grown in plastic rain gutters irrigated by water pumped from four 500-gallon reservoirs.

Figure 14: Village Community Tree Farm, Philadelphia



Rail commuters pass this two-acre tree farm and folk art park in North Philadelphia, a project of the Village of Arts and Humanities. Young white pines, bald cypress, white ash, river birch and locusts are among the 9,000 trees being grown. One of the mosaic sculptures dotting the former manufacturing site is seen in the foreground.

Figure 15: New Kensington Garden Center, Philadelphia



An important, and highly-visible component of the open space management plan created by the New Kensington CDC and Philadelphia Green is this centrally-located site for garden-related events, and the purchase of plants (seen here) and supplies.

Figure 16: Re-Vision House Urban Farm, Boston



Each of the south-facing balconies of this shelter for pregnant and parenting young women has been converted to create a three-story “bioshelter,” where shelter residents help maintain vegetables and fish.

Figure 17: Re-Vision House Urban Farm, Boston



A grant from the city of Boston’s Grassroots Program helped fund improvements to the vacant ½-acre parcel across Fabyan Street from the Re-Vision House shelter. The 1,280 sq. ft. greenhouse is sited along the sidewalk, next to the terraced planting beds seen in the foreground. A weekly streetside farmstand is set up under the large tree to the right.

Figure 18: Re-Vision House Urban Farm, Boston



Hanging fuchsia baskets and seedlings for transplanting by Boston’s community gardeners are grown for sale in the Fabyan Street greenhouse.

Figure 19: The Food Project/DSNI, Boston



The first of two food-producing sites in Roxbury is this 1/2-acre city-owned parcel on Langdon and George Streets in the heart of the Dudley Street Neighborhood Initiative core area. The second, larger Food Project site is six blocks away.

Appendix C: Project Informants

The following 122 people provided helpful information for this study, either on urban agriculture, the main focus, or other relevant topics, such as community development and vacant land/brownfields issues. The contacts were made between October 1997 and July 2000, and ranged from detailed, semi-structured interviews (either in person or over the telephone) to project site tours, to informal conversations.

Will Allen, Growing Power/Farm City Link, Milwaukee

John Ameroso, Extension Educator, Cornell Cooperative Extension, New York City

Lauren Baker, Annex Organics/FoodShare, Toronto

Rich Bale, Executive Director, SEEDS, Durham, North Carolina

Indira Balkissoon, Boston City Program Manager, Urban Environmental Initiative,
EPA Region 1

John Beaudry, Project Coordinator, Chicago Department of Environment

John Berg, City of Boston Department of Neighborhood Development

Leo van der Berg, Alterra, Wageningen Agricultural University, The Netherlands

Diana Bermudez, The Haas Foundation, San Francisco

Nico Bakker, ETC International, Leusden, The Netherlands

Robert Brandwein, President, Policy and Management Associates, Inc., Boston

Martin Caraher, Centre for Food Policy, Thames Valley University, London, England

John Carpenter, Jr., Department of Housing and Urban Development, Philadelphia

Patrice Carroll, Coordinator, Philadelphia Urban Resources Partnership

Amanda Cather, Urban Agriculture Program Manager, Re-Vision House, Boston

Stacey Chacker, Neighborhoods for Affordable Housing (NOAH), Boston

Bob Chapman, Community Development Advocates, Detroit

Meghan Chapple, Southeast Chicago Outreach, The Nature Conservancy Illinois Field Office

Mary Seton Corboy, Greensgrow, Philadelphia

Sean Cosgrove, Toronto Food Policy Council

Mary Culler, Department of Planning and Development, City of Chicago

Glenda Daniel, Openlands Project, Chicago

Tjeerd Deelstra, International Institute for the Urban Environment, Delft, The Netherlands

Kathy Dickhut, Program Director, NeighborSpace, Chicago

Mary Margaret Dike, Community Garden Program Coordinator, Parkway Partners, New Orleans

Thomas Dilley, Coordinator, Urban Resources Partnership of Chicago

Melodie Dove, Environmental Organizer, Concerned Citizens of South Central Los Angeles
Neil Dunaetz, 70th Street Farm, Chicago
Ken Dunn, Resource Center/Creative Reuse, Chicago
Shea Ennen, Operations Manager, Boston Natural Areas Fund
David Erickson-Pearson, Boulware & Associates, Chicago
Kelly Faddis, Urban Herbals Manager, San Francisco League of Urban Gardeners
Paul Farmer, former Planning Director, Minneapolis City Planning Department
Gail Feenstra, University of California Sustainable Agriculture Research and Education Program
Hope Finkelstein, Growing Power, Madison and Milwaukee, Wisconsin
Sunny Fischer, The Richard Driehaus Foundation, Chicago
Ron Friedman, Urban Agriculture Director, Isles, Inc., Trenton
Martin Galvin, University City High School, Philadelphia
Daniel Goldfarb, Growing Home Project Manager, Chicago Coalition for the Homeless
Carlos Gonzales, Roxbury Site Farmer, The Food Project, Boston
Pat Gray, Director, The Food Project, Lincoln, Massachusetts
Mike Groman, Community Greening Manager, Pennsylvania Horticultural Society
David Hacker, Hunger Action Coalition, Detroit
Gail Harris, Knoxville-Knox County Community Action Committee
Evan Hartman, Philaberry Farms, Philadelphia
Rona Heifitz, Executive Director, Food From the 'Hood Chicago
Elizabeth Heyer, Jamaica Plain Neighborhood Development Corporation, Boston
Zach Holl, Baltimore City Planning Commission
Don Holub, Philadelphia Green, Pennsylvania Horticultural Society
Alan Hunter, Urban Earth Project, Philadelphia
Gary Jastrzab, Philadelphia City Planning Commission
Gretchen Johnson, Community Garden Manager, Isles, Inc., Trenton
Rosalind Johnson, Executive Director, Sea Change, Inc., Philadelphia
Hugh Joseph, Tufts University
Kevin Kelly, Program Director, National Congress for Community Economic Development,
Washington, D.C.
Gerard Kolkman, Alterra, Wageningen Agricultural University, The Netherlands
Ken Kolodziej, KJK Associates, Philadelphia
Kathleen Kovacs, Executive Director, Neighborhoods in Partnership, Toledo
Norman Krumholz, Department of Planning, Cleveland State University

Hiroko Kurihara, Community Planner, East Bay Asian Local Development Corporation, Oakland
Tim Lang, Centre for Food Policy, Thames Valley University, London, England
Laura Lawson, University of California, Berkeley
Stuart Levy, Buffalo Economic Renaissance Corporation
Lenny Librizzi, Assistant Director, Open Space Greening Program, Council on the Environment
of New York City
Judy Lieberman, Urban Agriculture Program Manager, Re-Vision House, Boston
Carrie Little, Urban Farming Coordinator, Tahoma Food System, Tacoma, Washington
Tim Locke, Milwaukee Hunger Task Force
Tracey Loverock, Annex Organics/FoodShare, Toronto
Marc MacQueen, Massachusetts Community Assistance Partnership, USDA/NCRS
Suzanne Malec, Deputy Commissioner, Chicago Department of Environment
Paul Malvey, Director of Land Use Management, New Kensington Community Development
Corporation, Philadelphia
Bryce Maretzki, Pittsburgh Partnership for Neighborhood Development
Deborah McColloch, Deputy Director for Policy, City of Philadelphia Office of Housing and
Community Development
Alison Meares Cohen, Chicago Field Representative, Heifer Project International
Tom Melone, Massachusetts Office, Department of Housing and Urban Development
Duane Miller, Asset Manager, Eastside Community Investments, Inc., Indianapolis
Terry Mushovic, Executive Director, Penn State Urban Gardening Program, Philadelphia
Joe Nasr, The Urban Agriculture Network, Washington, D.C.
Mary Nelson, Bethel New Life, Chicago
Ali Noorani, Coordinator, Greater Boston Urban Resources Partnership
Andy Norman, Department of Planning and Development, City of Chicago
Mohammed Nuru, Executive Director, San Francisco League of Urban Gardeners
Paula Peebles, President/CEO, Renaissance Community Development Corporation, Philadelphia
Robert Pederson, World Health Organization, Copenhagen, Denmark
R. Duane Perry, Executive Director, Farmers' Market Trust, Philadelphia
James Petts, SUSTAIN, London, England
John Piotti, Director, Maine Farms Project, Coastal Enterprises, Inc.
Nina Planck, Wheatland Farmers' Markets, London, England
Nelson Rauch, CEO, ATDM, Holland, New York
Lori Roberts, Chicago Indoor Gardens

Paula Alcalá Rosner, Buffalo Economic Renaissance Corporation
Daniel Ross, Executive Director, Nuestras Raíces, Holyoke, Massachusetts
Paul Ruchinkas, Greater Dwight Development Corporation, New Haven
Eric Salus, Co-coordinator, Ginkgo Organic Gardens, Chicago
Sandy Salzman, Executive Director, New Kensington Community Development Corporation, Philadelphia
Julie Samuels, Community Outreach Coordinator, Openlands Project, Chicago
James Sanders, Jr., Executive Director, People United for Local Leadership (PULL), Queens, New York
Rick Sauer, Executive Director, Philadelphia Association of Community Development Corporations
Julia Schneider, New York Office, The Enterprise Foundation
Tom Sereduk, Greensgrow, Philadelphia
Trish Settles, Dudley Street Neighborhood Initiative, Boston
Ben Sharda, Garden Manager, Kansas City Community Gardens
Jac Smit, Executive Director, The Urban Agriculture Network, Washington, D.C.
Kate Smith, AUS Consultants, Moorestown, New Jersey
Anne Whiston Spirn, West Philadelphia Landscape Project, University of Pennsylvania
Floyd Stein, Atelier ISLY, St. Louis
Andrew Stone, Mid-Atlantic Region, The Trust for Public Land, New York City
Jill Swan, Co-coordinator, Ginkgo Organic Gardens, Chicago
Marsha Turner, Bethel New Life, Chicago
Bill Valocchi, Urban Renewal Supervisor, City of Trenton Department of Planning and Development
Wesley Walker, Program Officer, Chicago Office, Local Initiatives Support Corporation
Richard Wallace, Executive Director, Mon Valley Initiative, Homestead, Pennsylvania
Gerri Wang, The William Penn Foundation, Philadelphia
George Ware, Grower, Sea Change, Inc., Philadelphia
Bobby Watson, Taqwa Community Farm, Bronx, New York
Greg Watson, Executive Director, Dudley Street Neighborhood Initiative, Boston
Carol Wayman, Policy Director, National Congress for Community Economic Development, Washington, D.C.
Bobby Wilson, University of Georgia Cooperative Extension Service
Hope Wohl, Hope Wohl Associates, Bala Cynwd, Pennsylvania
Tom Wright, Director, New Jersey Office, Regional Plan Association, Newark

Paul Young, formerly of Woodlawn Park Development Corporation, Chicago
Henk de Zeeuw, ETC International, Leusden, The Netherlands