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**Urban Agriculture and  
Community Food Security in the United States:  
Farming from the City Center To the Urban Fringe**

**Prepared by the Urban Agriculture Committee  
of the Community Food Security Coalition  
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## Urban Agriculture and Community Food Security in the United States: Farming from the City Center To the Urban Fringe

### Introduction: The Quiet Revolution of Urban Agriculture in the United States

*“There is a quiet revolution stirring in our food system. It is not happening so much on the distant farms that still provide us with the majority of our food; it is happening in cities, neighborhoods, and towns. It has evolved out of the basic need that every person has to know their food, and to have some sense of control over its safety and security. It is a revolution that is providing poor people with an important safety net where they can grow some nourishment and income for themselves and their families. And it is providing an oasis for the human spirit where urban people can gather, preserve something of their culture through native seeds and foods, and teach their children about food and the earth. The revolution is taking place in small gardens, under railroad tracks and power lines, on rooftops, at farmers’ markets, and in the most unlikely of places. It is a movement that has the potential to address a multitude of issues: economic, environmental, personal health, and cultural.”<sup>1</sup>*

Michael Ableman

- In Santa Cruz, CA the *Homeless Garden Project* raises vegetables, herbs and flowers on 3.5 acres. Daily, 25 garden workers eat lunch freshly made from the garden’s produce. The remaining vegetables are sold wholesale, distributed to their community supported agriculture (CSA) subscribers, and donated to a soup kitchen and an AIDS project. Their estimated annual income from all sales, including dried flower wreaths and other crafts as well as fresh produce, is \$26,000.
- In Holyoke, MA, *Freshmarket Aquafarm* raises tilapia fish in tanks. The company projects a market goal of 100,000 pounds of live fish per year sold regionally through ethnic markets, fish markets, and groceries.
- In Buffalo, NY *Village Farms*, owned and operated by a New Jersey-based for-profit corporation, sold 7-8 million pounds of tomatoes grown off-soil on 35 acres of “brownfields,” contaminated industrial land, using hydroponic techniques and greenhouses.
- In Chicago, IL youth with the *Ivy Crest Garden Project* cleared away 3000 tires on nine

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<sup>1</sup>Michael Ableman, *Fatal Harvest* (The Institute for Deep Ecology), quoted in “Urban Agriculture: A Revolutionary Model for Economic Development” by Chris Lazarus, *New Village: Building Sustainable Cultures*, Issue 2, 2000, p.64.

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contiguous vacant lots to build an organic flower and vegetable market garden where 30 ducks provide pest control and fertilizer.

Across North America, city dwellers have increasing access to a variety of foods raised in all manner of urban sites. Urban agriculture includes greenbelts around cities, farming at the city's edge, vegetable plots in community gardens, and food production in thousands of vacant inner-city lots. Further, urban agriculture comprises fish farms, farm animals at public housing sites, municipal compost facilities, schoolyard greenhouses, restaurant-supported salad gardens, backyard orchards, rooftop gardens and beehives, window box gardens, and much more. Urban farming includes horticulture, aquaculture, arboriculture, and poultry and animal husbandry. The potential for food production in cities is great, and dozens of model projects are demonstrating successfully that urban agriculture is both necessary and viable.<sup>2</sup>

New citywide coalitions are emerging on behalf of urban food security. Health and nutrition advocates are joining with community gardeners, university extension services, emergency food distributors and faith communities. Community economic development organizers, as well as environmentalists concerned with urban waste reduction and recycling, see the potential in urban farming. A growing consumer demand for fresh, local and organic food in its turn creates new markets for urban food production.

With growing momentum in the last decade, individuals, organizations, communities, and governments have participated in a variety of creative efforts to develop the capacity to raise food in and around cities. Many of these efforts specifically address the needs of urban residents who are living in poverty, and consequently at grave risk for "food insecurity" – that is, threatened with hunger, poor nutrition, and frequent anxiety about not having enough to eat.

### **The Goals of this Guide**

*Urban Agriculture and Community Food Security in the United States: Farming from the City Center To the Urban Fringe* is prepared by the Urban Agriculture Committee of the Community Food Security Coalition to raise awareness of the ways that urban agriculture can respond to food insecurity. The document advocates for policies that promote small-scale urban and peri-urban farming, and thereby prepare the next generation of urban farming leaders. The task is to increase public knowledge and support, in order to transform urban agriculture "from its cottage industry status into a major instrument against hunger and poverty."<sup>3</sup>

The guide begins with an overview of the variety of forms that urban agriculture is

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<sup>2</sup> See Ruth Goldman, "Urban Agriculture: Back to the Future," GB-URP Connections, Spring 2000.

<sup>3</sup> Smit, Nasr, and Ratta, *Urban Agriculture Food, Jobs, and Sustainable Cities*. New York: United Nations Development Program, 1996.)

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taking in the United States, and the range of farmers found here, and addresses some of the positive impacts – current and potential – of urban agriculture on community food security. It also lists some of the challenges facing urban agriculture and suggests ways that these might be addressed. The guide outlines key policy changes that can further expand the effectiveness of urban agriculture. In the final section, a list is provided of additional contacts and resources for those who are promoting just urban food systems through urban agriculture.

**Urban Agriculture**

“The growing, processing, and distributing of food and other products through intensive plant cultivation and animal husbandry in and around cities.”

- Martin Bailkey and Joe Nasr<sup>1</sup>

**Community Food Security**

“All persons in a community having access to culturally acceptable, nutritionally adequate food through local non-emergency sources at all times.”

Mark Winne, Hugh Joseph, and Andy Fisher<sup>1</sup>

**I. Food Insecurity in U.S. Cities**

*“You mean, all this time I have been hungry and have sometimes had to go without food, and now I find out food grows in the ground?”*

A resident in the garden at Interfaith House in Chicago, IL<sup>4</sup>

As the twenty-first century begins and urbanization increases throughout the world, in the United States 80 percent of our population live in cities. This is in marked contrast to 100 years ago when 50 percent of Americans lived on farms or in small rural communities where they fed themselves with locally grown foods. As our urban population has grown, so too has the complexity of how to feed people who are so far removed from the actual production of foods.

The sheer tonnage of foods that must be transported daily to supply our cities’ residents is stunning. Our current food systems require vast resources for complicated distribution services to move food from where it is raised and processed to reach consumers in cities, with the average supermarket food item in North America traveling 1400 miles. With increasing globalization, our foods now travel even further distances than ever from all over the world. While many enjoy the advantages of this rich and nutritious array of foods, there are significant social, economic, public health,

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<sup>4</sup> Quoted in Emily Friedman, *Meanwhile Back at the Ranch*, (Health Forum Journal Nov/Dec 2000, p.6)

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and environmental costs to our food system.

The environmental costs of industrial agriculture include groundwater contamination, soil erosion, and loss of biodiversity. The social and economic costs of a globalized food system include the devastation of rural communities, with subsistence farmers among the poorest people on the planet, and significant levels of hunger amidst plenty, even in the cities of the developed world. The health costs of this system are seen in epidemic levels of obesity and diet-related diseases. These are some of the hidden costs of our corporate controlled food system.

Urban farming is an essential tool that addresses a number of these problems in innovative ways. Environmental stewardship is enhanced through urban agriculture's efforts to green cities. Economic development and community revitalization are also achieved through urban farming when neighborhoods take new pride in a community garden, when inner-city residents gain the ability to grow and market their own food, when inner-city farmers' markets provide new opportunities for entrepreneurs and commercial farmers. Individual health and a sense of empowerment and well-being are created when urban dwellers have access to local food and greater control over their own food system. Urban farming takes account of the real cost of food, and the real benefits from local and regional food.

### **Who Are the Food Insecure?**

One preventable consequence of our food system is hunger in the midst of plenty. An unacceptable number of Americans, including many children, do not get enough to eat on a daily basis. A USDA document on U.S. food security released in 2000 reports that even in the United States, where food is generally plentiful, safe, nutritious, and relatively inexpensive, 31 million Americans were food insecure in 1999, including approximately 12 million children.<sup>5</sup>

Poverty, in all its ramifications, is the root source of much food insecurity. In 2001, more than 31 million people (11.3% of the population) lived below the poverty line, meaning that if they were a family of four, they earned less than \$17,960 each year.<sup>6</sup> People who are living in poverty are likely also to experience food insecurity: children, inner-city residents, single parent female-headed households, people of color, people living with disabilities, the elderly, and farm workers. Each year in the past decade more and more families reported that they ran out of food and didn't have money to buy more. This represents one in ten households in the United States.

Hunger and homelessness rose sharply in major American cities in 2001, according to

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<sup>5</sup> *A millennium free from hunger*. 2000 U.S. National Progress Report on Implementation of the U.S. Action Plan on Food Security and the World Food Summit Commitments, p. 2

<sup>6</sup> The Federal standard of poverty for an individual (in real costs) is \$9,214. (Dept of Commerce Bureau of the Census for 2001)

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the Conference of Mayors' 27-City Survey. Requests for emergency food assistance climbed an average of 23 percent and requests for emergency shelter an average of 13 percent in the 27 cities surveyed. Over the same period, resources available for emergency food assistance failed to keep up with demand in most cities.<sup>7</sup>

### **Effects of Food Insecurity**

Food insecurity, whether related to actual food insufficiency, nutritional quality, or anxiety about a future lack of food, affects the quality of life of urban residents in far-reaching ways. Inadequate nutrition is clearly associated with school and work absences, fatigue, and problems with concentration. Hunger and poor nutrition are also linked to the increased incidence and virulence of infectious diseases, many of which--such as TB--are on the rise in US cities. Furthermore, the lack of a nutritious diet is a well-known risk factor for any number of chronic diseases such as diabetes, hypertension, and heart failure.

Even when cash is available to low-income urban residents, food is not always so readily accessible. Many supermarkets have closed or moved from the inner city due to complex market forces related to the increasing impoverishment of their clientele and the deterioration and depopulation of once vibrant communities. Unfortunately, it is not unusual for many remaining inner-city grocery and convenience stores to hike prices, even on basic foods. "A study in Detroit found that grocery stores near downtown and closer to lower-income neighborhoods charged on average 10 percent more than those on the beltway. Another study of all food stores in three low-income zip codes in Detroit found that only four out of five stores carried a minimal "healthy food basket" (with products based on the food pyramid)."<sup>8</sup> Low-income consumers have less food shopping choices than middle-income consumers across the country: they have fewer retail options, limited transportation options, and often face higher prices at chain supermarkets.<sup>9</sup>

Thus ironically, people on limited incomes in cities are likely to pay more for their food than wealthier shoppers in higher income neighborhoods. The range, freshness, and quality of foods are also often compromised in inner-city groceries, thus further limiting customers' maximal choices for nutritious and affordable meals. As the locus of poverty shifts to urban areas, an expanded urban agriculture program could build community food security by improving the quantity, quality, regularity and nutritional balance of food intake, thereby reducing hunger and improving nutrition.

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<sup>7</sup> Information on the U.S. Conference of Mayors 2001 Hunger and Homelessness Survey is available at [www.usmayors.org/uscm/news/press\\_releases/documents/hunger\\_121101.asp](http://www.usmayors.org/uscm/news/press_releases/documents/hunger_121101.asp)

<sup>8</sup> Personal communication; Kami Pothukuchi, Wayne State University, 2001

<sup>9</sup> Andy Fisher, *Hot Peppers & Parking Lot Peaches: Evaluating Farmers' Markets In Low-Income Communities* (Community Food Security Coalition, 1999) p. 6.

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## How Urban Farming Builds Food Security

What does small-scale farming contribute to food security in the United States? It provides a more adequate income to the farmers themselves, thereby diminishing their food insecurity. Local fresh vegetables and fruit can have twice the vitamins and essential micro-nutrients available from stale supermarket produce at the same price. Local and regional food is safer and more secure than the products of industrial agriculture that typically travel long distances. Urban agriculture produces a range of products well matched to the food needs and demands of diverse urban populations, thus assuring them of a more balanced diet. In addition, farming in the city conserves natural resources and contributes to a healthy environment for living.

## II. Urban Agriculture Builds on the Resources of Cities

*“To grow your own food gives you a sort of power and it gives people dignity. You know exactly what you’re eating because you grew it. It’s good, it’s nourishing and you did this for yourself, your family and your community.”<sup>10</sup>*

Karen Washington

Urban agriculture in the United States has been enriched by the skills and technologies of immigrant populations, from Japanese market gardeners in California to Italian urban gardeners in the Northeast. In addition, many inner-city communities are rich in social and environmental capital even while they are poor in economic resources. The urban agriculture movement, if it is supported and expanded, can build on this existing, but hitherto neglected or undeveloped expertise, social relationships, and the urban landscape itself.

Often some of the most vulnerable people in cities, such as the elderly and newly arrived immigrants and refugees, have years of experience in, and knowledge about, raising and preserving food. And many neighborhoods defy commonly held negative characterizations of urban life, exhibiting instead enduring bonds of reciprocity and trust that tide family, friends, church members, and whole communities over hard times. Local leaders are experienced in the complexities of church and neighborhood politics, and in the often frustrating relationships between low-income communities, social service agencies, and government. Such local leaders are frequently the first to recognize the potential contribution of urban agriculture to their community’s food security.

## Growing Food in Abandoned Inner-City Areas

The regenerative effect of urban agriculture is especially visible when vacant lots are

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<sup>10</sup> “Growing Food in Cities: Urban Agriculture in North America,” Community Food Security News (Special Fall 1999/Winter 2000 Issue p.10.)

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transformed from eyesores-- weedy, trash-ridden, dangerous gathering places--into bountiful, beautiful and safe gardens that feed peoples' bodies and souls. With increasing "sprawl" into the suburbs, the last twenty years has seen a common pattern of inner-city neglect in most cities across North America. For example, in the United States, "Chicago now has an estimated 70,000 vacant parcels of land. Philadelphia has 31,000, and in nearby Trenton, New Jersey, 900 acres--18 percent of its total land area--is currently vacant."<sup>11</sup> Between 1950 and 1990 in the U.S., abandoned lots in inner-city areas remained vacant for between 20 and 30 years in most cities. Failed businesses and homes were bulldozed, leaving relatively inexpensive lots without much economic potential, except, that is, for those lots that have become fruitful examples of urban agriculture. Even some of the 130,000 to 425,000 contaminated vacant industrial sites, or brownfields, that the General Accounting Office has identified, may be safely converted to agricultural purposes when properly redeveloped.<sup>12</sup>

### **Farming Other Unused Land in Cities**

Cities also have other sources of unused land that have been put into food production by advocates of urban agriculture. For instance, food gardens and orchards have been developed on land surrounding institutions such as schools and hospitals that once contained only landscaped plantings. Portions of city parks have also been converted. While open park spaces are traditionally regarded as recreational and aesthetic but nonproductive, urban agriculture provides an alternative use that is both aesthetic and productive. Public and private lands in vulnerable areas of the city, such as on steep slopes or flood plains, have been similarly transformed by urban agriculture endeavors using ecologically sound growing practices.

### **Reusing Waste Streams from Cities**

Portions of a city's waste stream can be transformed from a problem into a resource for sustainable development through urban agriculture. Urban agriculture reuses its waste and the waste of other sectors to produce food. For instance, using compost in urban agriculture reduces both the intake and the output in the resources stream, resulting in fewer resources consumed and less pollution. This in turn can make the city more ecologically balanced, and more resourceful (both literally and figuratively).

*"A sustainable future for cities would require a move towards technologies that transform waste into useful products rather than dump it. Urban farming can contribute to this process in several ways: by producing crops for human and livestock consumption, by composting and by processing wastewater for direct production and irrigation... Two hundred wastewater reclamation plants throughout the state of California save 759,000 cubic metres of fresh water*

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<sup>11</sup> Martin Bailkey and Joe Nasr, "From Brownfields to Greenfields: Producing Food in North American Cities," Community Food Security News, p.7.

<sup>12</sup> *ibid*

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*each day, with most of the treated effluent put into agricultural use.*<sup>13</sup>  
Smit, Nasr & Ratta

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These features of urban life--unused land and other readily available recycled resources, and community-based agricultural know-how, leadership, and solidarity-- can combine in creative ways to bring food to many tables while increasing the quality of urban life. Furthermore, urban agriculture can be an effective arena for the development of economic development through micro- and small businesses.

### **Rebuilding Urban and Peri-Urban Food Connections**

The full scope of urban agriculture appears if the city is seen in its relationships to the urban fringe and the surrounding region. Urban dwellers want local supplies of food to remain healthful, abundant, and accessible. This is far easier to do when suppliers, distributors, and consumers have the opportunity for more direct local relationships, as with urban and peri-urban agricultural endeavors that provide farm-fresh foods through community-supported agriculture, farmers' markets, restaurants, and educational and other institutions. Consumers can monitor the accountability of food producers, thus increasing the likelihood that food is raised in sustainable ways that do not harm the earth and the people who grow the food.

When consumers purchase locally-grown food, they can vote with their pocketbooks to support horticultural practices and labor relations that are more likely to be sustainable and just. This is unfortunately less likely with foods brought in from outside the urban and regional food system. In the industrial food distribution system with its hidden subsidies for transportation and energy, food travels on average 1400 miles to reach the consumer. In addition to these complex transportation costs, people are increasingly concerned about food raised and distributed through large-scale industrial systems of corporate food production. As governmental oversight of food production and processing decreases, public apprehension has increased in regard to a range of food safety problems – from e-coli contamination to the unknown consequences of foods containing genetically modified organisms.

## **II. The Potential For Growing Food In Cities**

*"I have always been into gardening. I love to work. I also believe that he who controls your breadbasket controls your destiny...I think one of the things we overlook is that if we have a garden, or we have a farm, or we're raising food, we need to go a little further and express that we're not just raising food, we're raising people. Everything starts with food. Life. Everything,"<sup>14</sup>*

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<sup>13</sup> Smit, Nasr, and Ratta, *op.cit.* pp. 186-187.

<sup>14</sup> *Community Food Security News (op.cit. p.10.)*

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Abu Talib, Garden Director

Urban agriculture is a significant economic activity, central to the lives of tens of millions of people throughout the world. There is ample evidence here and abroad, that the potential of urban agriculture for food security is very real. Only now is its full potential beginning to be tapped. The *United Nations Development Program* estimates that fifteen percent of food worldwide is grown in cities and this figure could be significantly expanded.<sup>15</sup>

Certainly urban agriculture has been an important factor for subsistence among city dwellers caught up in regional conflicts or in the throes of economic readjustment. When transportation lines to the countryside are disrupted or when consumers cannot afford to buy fruits and vegetables, gardens sometimes offer urbanites the only buffer against starvation.

In Russia, food production on large-scale rural farms fell by 40 percent since Soviet times, making the cost of food very high on the new free market. Many Russians have survived through access to dachas (small plots of land given to citizens), which produce 30 percent of the total food grown in the country and 80 percent of the vegetables.<sup>16</sup> Between 1970 and 1990, the number of Moscow families engaged in food production increased from 20 percent to 65 percent. This is one striking example of a powerful shift toward urban agriculture worldwide, especially in response to economic crisis. While Russia has begun once more to export grain in 2001, small-scale urban growing remains central to people's basic food security.

Even in less dire circumstances, urban agriculture presents considerable benefits. For instance, currently 14% of Londoners already grow some food in their gardens. It is estimated that Londoners could produce up to 232,000 tons of fruits and vegetables, or 18% of the population's daily nutritional needs.<sup>17</sup>

In the United States, a 1993 report estimated that one third (696,000) of the 2 million farms are located within metropolitan areas. These farms produced 35% of all crops and livestock sales.<sup>18</sup> At a time when rural farms are going out of business at an unprecedented rate in the U.S., the number of urban and peri-urban farms is actually increasing. In 1998, 15,700 new small farms were registered with state agriculture departments; most of these were located within suburban areas.<sup>19</sup>

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<sup>15</sup> Smit, Nasr, and Ratta, *op.cit.*

<sup>16</sup> *United Nations Sustainable Development Success Stories*, Volume 4.

<sup>17</sup> Tara Garnett, "Cityharvest: The feasibility of growing more food in London,"

(Sustain, July 1999). See also, Garnett, Tara. *Growing Food in Cities. A report to highlight and promote the benefits of urban agriculture in the UK.* (London: National Food Alliance, 1996.)

<sup>18</sup> Heimlich, R. and Bernard, C., "Agricultural Adaptation to Urbanization: Farm Types in the United States Metropolitan Area," (Washington, DC: USDA, Economic Research Service, 1993).

<sup>19</sup> Jac Smit, *USDA data*

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People are often surprised about how much produce can be grown on the small plots and acreages usually found in cities. Of course, yields depend on factors such as the weather, the amount of available land, soil conditions, seed species, the availability of a dependable water source, and the gardener's skill. But even given these constraints, the use of intensive methods of growing can maximize the efficiency of small-scale operations, as well as providing much of a household's yearly vegetable needs and nutritional requirements.<sup>20</sup>

Urban commercial gardens using raised beds, soil amendments, and "season extenders" such as row cover and greenhouses produce yields that are generally 13 times more per acre than those of rural farms.<sup>21</sup> This potential is well illustrated by *The Food Project* in urban and suburban Boston. Staff and volunteers annually raise more than 120,000 pounds of fresh vegetables on 23 acres. This produce is distributed to shareholders in their Community Supported Agriculture (CSA) project and to guests in Boston shelters and soup kitchens.<sup>22</sup> In addition to vegetables, urban agriculture includes the production of honey (beekeeping), worms for composting and soil amendments, poultry and eggs, fish, and meats such as rabbit, chicken and goat.

#### **IV. Who is Raising Food in Cities? From Backyard Gardeners to Commercial Growers**

*"Gardeners from Harlem to the South Bronx, to Wyoming, to Kansas City, we know who we are. We are forces of nature. We are sowing seeds of life, we are giving life to people in our communities, and that transcends everything. What we have in common is that we're trying to at least provide fresh food to people who need it. With all of our hands together, we are sowing these seeds of life. We can make a difference and we do."*<sup>23</sup>

Karen Washington

There are three broad categories of urban growers who contribute significantly to food security and raise the bulk of food involved in urban agriculture: **backyard gardeners, community gardeners, and commercial growers**. In actual practice, these categories overlap. For example, community gardeners may sell or barter some of their surplus at the peak of the season, or in another case, suburban backyard growers may decide to move into commercial activity in peri-urban farms.

Moreover, the categories may not encompass the entire range of people involved in urban agriculture. For instance, food is also grown in urban gardens maintained in therapeutic settings such as hospitals, senior citizen programs, drug treatment, and

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<sup>20</sup> For international examples, see Smit, Nasr & Ratta, *op. cit.* pp.162-163, 242-245.

<sup>21</sup> Heimlich and Barnard, *op.cit.*

<sup>22</sup> *Community Food Security News*, (Fall 1999 / Winter 2000) p.4.

<sup>23</sup> Karen Washington, *op.cit.* p.11.

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long-term care facilities. In addition, food is raised by children in school programs that incorporate gardening in many facets of the curriculum.

These three categories refer to location and purpose, not to who the farmers are. Urban farmers are as diverse as the population overall. In U.S. urban agriculture, women farmers, immigrant populations, and minorities play significant roles, as they do in urban farming worldwide.

**A. *Urban backyard gardeners*** are most apt to grow vegetables, fruits and edible herbs, often along with flowers, in plots around their homes. The term backyard gardener may be technically a misnomer since some people even garden on their decks, or on their apartment building balconies and rooftops. Good yields can be raised even in the simplest of containers. *Backyard gardeners* are not only growing plant produce to eat, but also they keep bees for honey and raise fish and small animals at their homes. In the neighborhood of Pilsen, the primary entry point for Mexican immigrants into Chicago, six women associated with *Heifer International* maintain hydroponic aquaculture systems built of recycled materials in their apartments. These systems provide up to 80 pounds of protein per family per year.

As many as one quarter of urban households in the United States have gardens. Many of these urban *backyard gardeners* are hobbyists who enjoy raising their own food to supplement their diets with seasonal harvests. Surpluses become preserved products and gifts for friends, neighbors, and co-workers. Cultivating hard-to-grow crops is a frequent incentive to garden. One of the contributors to this report has grown – in addition to the usual tomatoes – figs, grape leaves, and a range of Mediterranean herbs and vegetables.

In much of North America, while subsistence is not the immediate goal of such gardeners, in many cases the harvest from a backyard garden has stretched the food budgets of low-income families and their network of relatives and friends. There are indications that many more families would like to garden for this very reason. For instance, in Omaha NE two thirds of the participants in an inner-city extension nutrition education program reported recently that they ran out of groceries by the end of each month. 80 percent of these respondents reported that they would like a garden where they could grow fresh produce.<sup>24</sup>

In Portland OR, Dan Barker reports that it is difficult to keep up with the numbers of families waiting for the literal delivery of a raised bed garden to their backyards. Since its beginning in 1984, *The Home Gardening Project* has installed more than 1400 household gardens in disadvantaged neighborhoods of downtown Portland. New gardeners receive, free of charge, two or three 5' x 8' soil frames filled with organic soil.

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<sup>24</sup> Brown, K, "Public Health Implications of Urban Agriculture," (Journal of Public Health Policy. 21(1): 20-39. 2000).

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In addition, they are given seeds, starts, compost, a trellis, tomato cages, a cookbook, and at least two years of ongoing gardening advice. This program brings all that a low-income family might need--the soil, amendments, wood frame, seeds, and written guidelines for intensive growing--and constructs the garden on site. Bringing in fresh soil without disturbing the existing terrain obviates most concerns about soil quality, fertility, and toxicity.

**B.** The term, *community gardeners* refers typically to people who grow their produce on lots that have been divided into smaller plots of land for each household's use. These lots may be owned by the municipality, an institution, a community group, a land trust, or some other entity. Generally, each gardener keeps the production for himself or herself, for friends and family. Sometimes, community gardeners will all share the garden lot and the food that is produced there, or they will grow the food as a source of income. And sometimes, although more rarely, food is raised expressly to give away. This is the case with the community garden project, *Field of Dreams* near Milwaukee Wisconsin. There, volunteers have raised more than 45 tons of food (or 305,000 vegetable helpings) for local food pantries and soup kitchens.<sup>25</sup>

The *American Community Gardening Association* estimates that there are more than 6,000 community gardens in thirty-eight U.S. cities, including gardens on otherwise vacant lots and on land in public housing projects.<sup>26</sup> Of these, more than 30 percent, or 1853 community gardens, were started after 1991, reflecting the growing trend of interest in this model of community development that now encompasses some hundreds of thousands of gardeners.<sup>27</sup>

Depending on the size of the lot, there may be only a few families involved in a community garden. This is the case with the three families from Central America who garden in one of the pockets of community gardens associated in East Palo Alto, CA. On the other hand, some community gardens are very large and involve many gardeners. For instance, one community garden on county-owned land in Milwaukee accommodates more than 350 families, most of whom are low-income and a third of whom are Hmong immigrants from Southeast Asia.<sup>28</sup> 2,800 families (12,000 persons) are distributed among 500 community gardens in Philadelphia, PA.

As with backyard gardeners, most *community gardeners* expect only to supplement their food budgets. Nevertheless food budget savings can be significant. For instance, in the Milwaukee example above nearly half the community gardeners said they saved between \$101 and \$300 with the food they raised in their garden plots. In the

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<sup>25</sup> Lackey, JF & Associates, *Evaluation of Community Gardens*, University of Wisconsin Extension, 1998.

<sup>26</sup> Monroe-Santos, Suzanne, *Recent National Survey Shows Status of Community Gardens*, Community Greening Review, 1998. American Gardening Association.

<sup>27</sup> *National Community Gardening Survey*, June 1998, p.3 (ACGA.)

<sup>28</sup> Lackey, J.F. & Associates, *op. cit.*

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Philadelphia case, community gardeners reported an annual savings of \$700 per family.

Regardless of the amount of economic reward, community gardens provide access to significantly more vegetables (and often more nutritious ones) than many families would ordinarily get in their diets. In a study of 144 community gardeners with the *Philadelphia Urban Gardening Project*, for example, researchers found that “Gardeners ate 6 out of 14 vegetable categories significantly more frequently, and milk products, citrus, sweet foods, and drinks less frequently” than non-gardeners.<sup>29</sup>

Nevertheless, however important community gardens are, they comprise only a small percentage of urban farms. Of the ten million vegetable growers in the United States, only 300-400,000 are in community gardens, between three and four percent. The predominant form of urban farming comprises part-time, small-scale farmers who farm commercially or semi-commercially. This is the third and major category of urban growers.

**C. Urban Agriculture Commercial Growers** grow food for sale. Increasing numbers of individuals and organizations are exploring the opportunities offered by producing food in and around cities for market. Repeated agricultural censuses show that U.S. small farms, meaning those less than ten acres, are concentrated in urban counties, except in the Rocky Mountain States. Recent censuses indicate that the number is increasing as urbanization spreads. The suburbanization of cities – and more specifically the loss in density in most cases – facilitates the urban and peri-urban family farm. A survey by the *National Gardening Association* finds that there are more than ten million vegetable producers in the United States, with three out of five in urban census tracts. Just as strikingly, commercial urban agriculture produces 40 percent of the total American farm product on ten percent of the agricultural land.<sup>30</sup>

These entrepreneurs are responding to, among other trends, the growing desire of urbanites to buy fresh, preferably organically-grown, and nutritious produce grown close to their homes. More and more urban consumers are also looking for locally produced value-added food products, such as salsa and jams.<sup>31</sup> The growing urban market is also created by the greater ethnic mix of city populations, the increasing abandonment of inner-city areas by large supermarket chains, the phenomenon of urban sprawl, and the fact that Americans are eating much more in restaurants. Consumers are also turning increasingly to local and regional foods, whether in Massachusetts or Oahu.

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<sup>29</sup> Blair, D., Giesecke, C., Sherman, S., “A Dietary, Social and Economic Evaluation of the Philadelphia Urban Gardening Project,” *The Journal of Nutrition Education*, 23:161-167, 1991.

<sup>30</sup> USDA data from Jac Smit, *The Urban Agriculture Network*.

<sup>31</sup> Paul Rauber, “Cultivating Our Cities,” (Sierra May/June, 1997.)

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It is important to emphasize that in the United States - and particularly in its urbanized areas - many a farmer tills the soil and husbands his or her animals, poultry or fish on a part-time basis. In villages and towns, at the fringes of cities and within metropolitan areas (where eight out of ten Americans live), these part-time, small-scale farmers produce for the local market demand first, and secondly for the national market, on the weekend, after a day's work in a non-farm job, and often before dawn.

This kind of part-time farming, while risky, helps families to cover their needs. Items as varied as grass-fed lamb, blooming chrysanthemums, asparagus, culinary herbs, salad greens and ducks, delivered fresh at peak market demand, can cover a family's irregular costs. Part-time urban farming can be reflected in contrasting divisions of household labor. There are households where all active members are active farmers. In other cases, one member of the household is a full-time farmer, with other family members helping occasionally or seasonally. In other cases, none are full-time farmers. Part-time farming in urban areas is considerably more common than the census reports, since many small-scale farmers, who have another job in the family, do not register as a farm.

Typically, for-profit urban farmers are practical, high-energy individuals willing to take advantage of the significantly higher margin the urban farmer can sell to retail, over against the rural farmer. The successful urban farmer must have marketing savvy, and finding niches not served by the corporate food system. Successful urban farmers can help to address some of the problems with access to food in urban communities. For example, urban agriculture entrepreneurs frequently sell their products at local farmers' markets. According to the USDA, "the number of farmers markets has increased almost 50 percent since 1994."<sup>32</sup> These markets can be a boon to community food security, especially when they are located in low-income urban neighborhoods. This is the case with the Richmond, CA *Certified Farmer's Market* whose multiethnic vendors cater to a range of ethnic specialties such as fresh black-eyed peas.

Urban commercial growers also sell their produce and products wholesale to groceries and high-end restaurants, using their longer growing season to meet demand. In Philadelphia, one such farmer, Mary Corboy, is farming one block in an abandoned section of town for sale exclusively to inner-city restaurants, working closely with the chefs to determine the type of lettuce to plant. Far more common, however, is commercial peri-urban cultivation in the belt of farmland that rings most metropolitan areas.

In addition, the next few years may see the expansion of community supported agriculture (CSA) farms onto urban sites. Several CSA's have responded directly to food insecurity issues with experiments in making their shares available to low-income

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<sup>32</sup> Andy Fisher, *Hot Pepper and Parking Lot Peaches: Evaluating Farmers' Markets in Low Income Communities*. (Community Food Security Coalition, January 1999 p.1).

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households through such means as outside subsidies. Other urban markets for entrepreneurs are created with initiatives like the USDA *Small Farms/School Meals* programs that, with sufficient investment and national replication, could eventually reach unmet nutritional needs of schoolchildren. Similar farm-to-institution programs provide direct marketing opportunities for entrepreneurs to other institutional consumers such as hospitals and prisons. Some *commercial growers* have opened their fields to gleaning programs after they have harvested their crop for market; these programs provide low-income urban families with opportunities to pick what remains for their own use, increasing local food security.

Many inner-city urban agriculture projects require some form of subsidy-grants or non-profit status to be commercially viable, at least in their initial stages. Yet these same projects have multiple social benefits in terms of job training and community outreach. It is common, for example, to find an urban farming operation where inner-city youth learn a range of job skills that they can later apply elsewhere. The Los Angeles, CA *Food From the Hood* program is a company that is owned and managed by students from Crenshaw High School. Their line of salad dressings is sold to 2,000 stores nationwide, and the company has “spawned ‘sister’ programs in Ithaca, NY and in Chicago, IL.”<sup>33</sup> The student-owners of *Food from the Hood* have earned college scholarships generated from company profits.

Although the number of commercial agriculture operations inside city limits is lower than those in the urban fringe, important lessons have been learned from inner-city farms. One significant lesson is that trying to maximize earned revenues while maintaining a strong social agenda presents significant challenges, since each objective alone demands energy, focus, and creativity. Other lessons from urban agriculture entrepreneurs are strongly positive, especially in the area of horticultural innovations such as the use of season extenders (e.g. row cover, cold frames, etc.), raised bed intensive gardening, and aquaculture.

### **Profile**

#### **Heifer International’s Urban Agriculture Programs in the U.S.**

The potential contribution of urban livestock to food security in North America has been supported by the Heifer International (a 56-year old international development organization). Since 1996, this organization has provided assistance to nine community groups in Chicago IL and Milwaukee WI who are raising a variety of livestock for food and sale. One such program is located on Chicago’s South Side at the Robert Taylor Homes, the largest public housing project in the United States, with more than 20,000 residents on over 92 acres. In the midst of this gang-dominated environment, a resident-run youth group has constructed a vermiculture and aquaculture system in the basement of one of the Robert Taylor Homes high-rises where they currently care for

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<sup>33</sup> Jerry Kaufman and Martin Bailkey, *Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States*. Lincoln Institute of Land Policy. 2000 p.15.

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more than 100 pounds of worms and two barrels of tilapia fish. In the planting season worm castings are used as a soil additive in their market garden and packaged for sale to city gardeners. Every seven months fish are harvested and eaten by the participating youths' families. In another site, youth and adults have joined together to reclaim for food production an abandoned lot and illegal dumping ground. There, ducks are integrated into the operation for pest and weed control. They also supply eggs to participating families.<sup>34</sup>

## V. Challenges Facing Urban Agriculture, and Responses to these Challenges

### **The Power of Community Organizing**

*“Whether a community is faced with the challenge of cleaning up an abandoned lot in their neighborhood, fighting a local polluter or creating economic opportunities in their downtown area, community organizing is a means by which those affected by an issue are able to participate in the creation of solutions.”<sup>35</sup>*

#### Growing Communities Curriculum

In order to meet their commitment to food security, urban agriculture growers and their supporters have had to respond creatively to a number of complex challenges. This section reviews some of the main challenges that urban agricultural activities encounter, and for each of these challenges, provides some of the responses that have helped counter them.

### **Urban Agriculture Knowledge and Skills**

Urban growers may lack the knowledge and skills in production, processing and marketing that bring about successful yields. Resources to solve these problems include:

- Metropolitan areas have Extension services in place
- A number of non-profit urban agriculture projects in cities offer public educational series and on-site demonstrations
- The USDA Community Gardening Coordinator in each state may provide the impetus for supporting urban-based outreach curricula
- Special training activities for trainers have focused on urban agriculture concerns
- Local media have featured columns and shows that highlight information about horticultural tips and small business practices
- School gardening programs at all levels--from pre-school to university - have successfully provided youth with training opportunities

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<sup>34</sup> Alison Meares Cohen, *“Urban Livestock: People At The Center,”* Community Food Security News, p.15, plus additional information from the author.

<sup>35</sup> Growing Communities Curriculum: Community Building And Organizational Development Through Community Gardening (ACGA: From the Roots Up Program, 2001, p.1)

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## Costs of Growing and Marketing

Low-income families spend one-third and more of their income on food. Good-quality fresh food with high levels of vitamins and protein is worth subsidizing. Urban agriculture produce in general costs the same as imported or rural produce, but the challenge is to make sure that this food is made accessible to low-income consumers. Some mechanisms for this include:

- The USDA food stamp benefits, including the WIC Farmers' Markets Nutrition Program and the Seniors Farmers' Markets Nutrition Program, have expanded consumers' purchasing power.
- Some inner-city community supported agriculture (CSA) programs are focusing specifically on lower-income customer's needs
- Some farmers' markets have fostering the production of staple crops such as beans and kale to complement the emerging trend of high-end, high-return market gardening by part-time entrepreneurs.

## Start-Up Costs

Entrepreneurs and community and backyard gardeners have start-up costs that can be an obstacle to folks on limited incomes. Responses to this problem include:

- Tool banks, including donations of surplus tools, offer gardeners the option of borrowing tools or renting them for a low fee.
- Foundation and government "seed" grants provide much-needed funding for individuals and organizations.
- Banks and government-funded redevelopment plans have provided micro-credit to growers.
- Gardening supply businesses, nurseries, and seed companies donate their wares.
- Community kitchens, offered by churches, schools, and other organizations provide access for food preservation and small-scale value-added production projects.
- Crop or harvest loans, crop insurance, liability insurance, and equipment loans can assist the beginning urban farmer.

## Land Tenure Challenges

Many involved in urban agriculture do not own the land they use to grow food. Without title or three to five year leases, they risk losing their investment when the land is taken for other purposes. Creative solutions to this problem include the following:

- Land trusts successfully secure urban and peri-urban land parcels for agricultural purposes
- Conservation easements are used to delineate environmentally vulnerable lands that then can be used for agriculture
- Communities develop inventories of surplus properties that lead to the inclusion of

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agriculture in subsequent plans for the land.

- Many urban growers have been able to write medium-to-longer-term leases allowing them to plan for the future
- Many forms of urban agriculture are mobile and/or require little investment, and thus are well suited to shorter-term or more uncertain leases
- Some urban agriculture sites are maintained under usufruct arrangements. This means that growers have the legal right to use public or private land as long as they maintain it well.

### **Seasonality Limits**

In many climates, food production in cities is seasonal and thus not dependable as a year-round source of food security. Many urban residents have limited knowledge and access to facilities for preserving foods that they grow. Creative solutions include:

- Urban growers are innovators in the use of season extenders such as greenhouses, hoop houses, cold frames, etc.
- Unused buildings and parts of buildings (e.g. basements) have been converted for indoor activities: mushroom and worm production, fish tanks, sprouts, etc.
- As mentioned above, community kitchens offer space for canning and other food-preserving activities.
- Extension officers, other urban agriculture educators, and the media can focus on how to preserve food, often featuring elderly community members with expertise in this valuable information.

### **Access to Markets**

Growers often find it difficult to market their locally-grown foods to groceries, restaurants, and institutions because of wholesale distributors' monopolies. Responses to this challenge include the following:

- Food buying clubs and cooperatives are popular ways that allow consumers to pool their orders to take advantage of wholesale prices and preferences for local food producers.
- "Buy-local" campaigns fostered by business councils and government development agencies support local food production enterprises.
- Culinary trends such as the "slow food" movement are influencing consumer choices that favor foods prepared with care by locally-owned restaurants using locally-raised produce.
- Universities and non-profit organizations can provide market growers with data about consumer preferences, market niches, etc.

### **Health Challenges**

Urban farming, provided it produces, stores and distributes food in an ecologically

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sound and sustainable manner, can supply much more healthful food than is offered by industrial agriculture and supermarket chains. Fresh fruits and vegetables, free-range poultry, and grass-fed lamb are a source of health for urban consumers, and also respond to concerns regarding excessive use of antibiotics for animals in factory farms, and the inhumane treatment of animals in the dominant food system. However, there are particular health challenges connected to farming in the city. For example, urban soils can be contaminated with heavy metals such as lead. Measures to counteract this include the following:

- Raised beds with imported clean soil and compost have been successfully placed on top of questionable soils, enabling farmers to produce healthful food.
- Lead abatement initiatives have raised public awareness of the problem and removed polluted soils.
- Using mulch can reduce air-borne exposure to questionable soils in some cases.
- Low-cost soil testing and subsidies have enabled low-income gardeners to know their level of risk and seek appropriate solutions.
- Phyto-remediation (using plants to take up metals from the soil) has great potential to assist with lead abatement.
- Sheltered production methods have been used in urban agriculture to avoid contact with the soil and air by providing alternative production sites in contaminated areas (e.g. greenhouses, indoor production, hydroponic growing mediums, etc.)

### **Urban Agriculture and the Environment**

By incorporating the principles of low-impact development, smart growth, and sustainable urbanization, urban agriculture can contribute to maintaining open space and biodiversity within the urban fabric. A city that promotes urban agriculture can have green space that pays taxes rather than costing taxpayers money. Along with these powerful environmental benefits, there are environmental concerns related to growing food in cities. One of these concerns is that there is little regulation about the use of pesticides used in urban agriculture that may affect food safety. Measures to overcome this problem include:

- Campaigns against pesticide use led by public health professionals, government officials, and the public have led to phasing out the use of some pesticides such as diazinon.
- Extension support for Integrated Pest Management (IPM) has contributed to public awareness of non-chemical and organic alternatives to dangerous pesticides.
- Growing public interest in food safety and ecology has promoted the use of appropriate technologies and approaches such as permaculture.
- Communities can develop regional composting facilities to avert wastes from area landfills: work on this is being done in the Austin, Texas area.

### **Vandalism and Crime**

Although the risk has not proved great, there continues to be concern about vandalism

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and crime in urban gardens. In response to this:

- Urban growers have cultivated good relationships with neighbors and law enforcement, finding that the best protection for their crops is a “human fence.”
- The presence of weekend and part-time urban gardeners can even deter crime, providing “eyes on the street.”
- Caution and common sense have proved to be invaluable resources, leading to such practices as fencing the urban garden, locking tools in a toolshed, cleaning up debris and other unsightly spaces in the garden, planting less popular crops closest to sidewalks, and choosing garden sites that offer greater protection for crops and growers.

## VI. Policy Changes to Support Urban Agriculture

*“Annex Organics breaks every rule of conventional farming. The cultivated area is miniscule compared to any country farm. The inputs required are almost as minimal. They have no refrigerator and no delivery truck. Yet here on an industrial rooftop, previously not considered worthy of anything, there’s a thriving business, run by youth without any major start-up costs or bank debts. And it can spread. On urban industrial rooftops all over North America there are jobs to be had – new, challenging, cutting-edge jobs that can pay a fair wage. ‘In August, at harvest time, this whole roof is a sea of green...The bees are buzzing about, the tomatoes are ripe and beautiful...That, to me, says it all.’”<sup>36</sup>*

Real Food For A Change

Policymaking takes place at many levels, including: the community, foundation board rooms, city councils, state legislatures, business networks, professional associations, and the federal government. Food policy councils are emerging in cities and states to coordinate policy initiatives, research, education, and events that build community food security, including through urban agriculture. In the following section, policymakers are invited to support these basic concerns of urban agriculture and translate them into concrete policy proposals. This outline can serve as a guide for policymakers who seek to offer cities – and especially their urban core – greater food security and the benefits of urban greening.

- **Support infrastructure for increased urban food production, processing, and marketing**
  - ! Support significant community-based infrastructure for urban growers such as tool banks with food growing equipment and supplies, community kitchens and other shared processing facilities, farmers’ markets, community supported

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<sup>36</sup> Wayne Roberts, Rod MacRae and Lori Stahlbrand, *Real Food for a Change* (Random House of Canada, 1999, pp. 137-138.)

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- agriculture ventures, funding streams, technical service providers, and urban extension agents.
- ! encourage farm-to-institution approaches for direct marketing of local products that offer healthy food choices to schools (including *Head Start*), hospitals, prisons, and businesses, while creating economic opportunities for urban growers and related industries.
  - ! Expand the *WIC Farmer's Market Nutrition Program* and the *Seniors Farmer's Market Nutrition Program* so that all states provide support for buying fresh produce at farmers' markets
  - ! Link training and welfare-to-work work programs for unemployed people to opportunities in urban food-related businesses as a source of living wage jobs.
- **Extend to urban growers appropriate farm-related services and opportunities.**
    - ! Government, banks, land-grant universities, and private businesses need to tailor their offerings so that urban growers as well as rural farmers also have access to such benefits as start-up capital, credit, crop insurance, horticultural and financial advice, soil testing, markets, subsidies, tools, and inputs such as seeds and soil amendments.
    - ! While the needs of urban farmers are in certain cases similar to those of rural farmers, in other cases they are different and require special services. Policymakers can work with representatives of community gardening and urban farming organizations, as well as food policy councils, to meet these needs (see above, *V. Challenges Facing Urban Agriculture*.)
  - **Support initiatives that convert idle and under-used urban lands and other resources for raising food, and preserve farms on the urban fringe.**
    - ! Encourage land tenure schemes such as land trusts, leases, eminent domain, and allied policy initiatives. Securing long-term commitment for community gardens, entrepreneurial farms, and other urban agriculture ventures is imperative to ensure the horticultural, social, and economic value of the endeavor.
    - ! Incorporate urban agriculture in city land use plans as a desirable civic activity that improves the quality of urban life, food security, neighborhood safety and environmental stewardship. Zoning ordinances need to enable rather than prohibit the development of appropriate agriculture in residential, industrial, business, and open space zones.
    - ! Amend building codes so that they reflect the actual structural contingencies of rooftop gardening.
    - ! Convert some of the public lands in urban parks, and around municipal buildings, schools, public housing, hospitals, etc., to food production with plantings of fruit trees, edible landscaping, and vegetable gardens.
    - ! Provide support and access to public waterways for raising fish in cities (aquaculture) as an inexpensive high-protein food.

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- ! Enhance municipal support for composting solid waste with door-to-door collection of organic material, on-site composting facilities in urban agriculture projects, public education programs and advice,
  - **Promote and develop urban food growing training activities.**
    - ! Organize a web of training activities in a variety of settings, including schools, colleges, health care facilities, and continuing education programs in order to improve the knowledge of current growers and motivate potential new growers.
    - ! Offer school-based programs that integrate nutrition and gardening in order to raise awareness about the connection between healthy food choices and locally-grown fresh produce.
    - ! Two key concepts to promote are Primary Agriculture Education for all, and Secondary Food System Assessment, including mapping of the food system.
  - **Sponsor and publicize research on the horticultural, social, and economic factors that contribute to successful urban agriculture projects.**
    - ! Fund research on such basic topics as the most appropriate crops to grow in urban areas; community-based leadership development for urban agriculture and community food security; the economics of financial incentives to growers and consumers; urban soil remediation demonstrations; policies to expand urban agriculture within low-income communities and utilize the food-growing skills of immigrants and minorities; develop campaigns to utilize local and regional food; expand production and markets for ethnic foods; publicize the health benefits and health care savings from increased vegetable consumption by urban growers.

### **Conclusion: Realizing the Potential of Urban Agriculture**

Constraints on urban agriculture have prevented farmers and consumers from realizing its full potential in the United States. The policies and actions outlined above, as well as others, will help to promote urban agriculture as a powerful instrument for building community food security and increasing economic development in U.S. cities. Urban agriculture worldwide shows us best practices and policy changes that can help us in the United States, as well as problems and difficulties we can learn from.<sup>37</sup> This guide is a tool for community organizations and food security networks to use in their work with local, state and regional governments, as well as with federal agencies, to expand urban agriculture in the United States, and develop a more just and sustainable food system.

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<sup>37</sup> Smit, Nasr & Ratta, *op.cit.* pp. 236-255.

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## VII. Resources and References for Further Study and Action

### Selected Urban Agriculture Resources

National Gardening Association, (NGA)

100 Flynn Avenue

Burlington VT

Phone: 802-863-1308

Attn.: T. Schulz

Among other programs, NGA has a grants program for youth gardens

American Community Gardening Association (ACGA)

100 20<sup>th</sup> St. N

Philadelphia, PA 19103

215-922-1508

Attn.: Sally McCabe

web site: [www.communitygarden.org](http://www.communitygarden.org)

ACGA has a fantastic leadership development program, *From the Roots Up*; an annual conference (New York City in 2002); a guidebook on starting community gardens; and an always interesting annual newsletter, *Community Greening Review*.

The Urban Agriculture Network (TUAN)

8209 Fenton Street, Suite 4

Silver Spring, MD 20910

301-495-9222

Attn.: Jac Smit

[www.urbanagriculturenetwork.org](http://www.urbanagriculturenetwork.org)

TUAN will be publishing a revised edition of its groundbreaking study, *Urban Agriculture: Food, Jobs, and Sustainable Cities*, to be released in 2002, and including more extensive information on urban agriculture in the U.S.

City Farmer

801-318 Homer Street

Vancouver, BC V6B 2V3

Attn.: Mike Levenston

City Farmer's website [www.cityfarmer.org](http://www.cityfarmer.org) is a veritable plethora of information on urban agriculture worldwide.

The Community Food Security Coalition

P.O. Box 209

Venice, CA 90294

Phone: 310-822-5410

email: [cfsc@foodsecurity.org](mailto:cfsc@foodsecurity.org)

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website [www.foodsecurity.org](http://www.foodsecurity.org)

Attn: Andy Fisher

The CFSC has comprehensive programs and publications on community food security.

## Publications

### *A. Urban Agriculture and Community Food Security*

Abi-Nader, Jeanette, Dunnigan, Kendall, Markley, Kristen. 2001. *Growing Communities Curriculum: Community Building and Organizational Development through Community Gardening*. American Community Gardening Association. From the Roots Up Program. (A comprehensive guide to creating and strengthening community garden organizations.)

Ableman, Michael. *Agriculture's Next Frontier: How urban farms could feed the world*. Utne Reader. November-December 2000.

Adeyemi, Abiola et al. 1997. *Urban Agriculture: An Abbreviated List of References and Resource Guide*. Beltsville, MD: USDA, ARS, National Agricultural Library.

Berman, Laura, 1997. *How Does Our Garden Grow? A Guide to Community Garden Success*. Toronto: FoodShare Metro Toronto. (contact to order: phone: 416-392-6653, email: [fdshare@web.net](mailto:fdshare@web.net))

Brown, K. *Public Health Implications of Urban Agriculture*. Journal of Public Health Policy. 21(1): 20-39. 2000.

Feenstra, Gail et al. *Entrepreneurial Community Gardens: Growing Food, Skills, Jobs and Communities*. 1999. University of California Agriculture and Natural Resources Publication 21587. (Assesses the ways in which entrepreneurial or market gardens enhance economic development in their local communities.)

Fisher, Andy. *Hot Peppers and Parking Lot Peaches: Evaluating Farmer's Markets In Low Income Communities*. Community Food Security Coalition. 1999.

Frojmovic, Michel. 1996. *Urban Agriculture in Canada: A Survey of Municipal Initiatives in Canada and Abroad*. Cities Feeding People Series, Report 16. Ottawa, Canada: IDRC.

Hynes, Patricia H. A Patch of Eden. 1996. *America's Inner-City Gardeners*. Vermont: Chelsea Green Publishing Company.

Joseph, Hugh, Mark Winne, and Andy Fisher. 2000. *Community Food Security A Guide to Concept, Design and Implementation*. Community Food Security Coalition

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Kaufman, Jerry and Martin Bailkey. July 2000. *Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States*. A research study funded by the Lincoln Institute of Land Policy, Cambridge, MA. (Studies 70 entrepreneurial urban agriculture projects in U.S. cities, explore obstacles, discusses ways to overcome these.)

Kiefer, Joseph & Kemple, Martin. 1998. *Digging Deeper: Integrating Youth Gardens Into Schools and Communities*. Montpelier, VT. Common Roots Press/Food Works - in partnership with the American Community Gardening Association. (A beautifully illustrated resource for teachers, kids and community people.)

Koc, Mustafa et al. 1999. *For Hunger Proof Cities. Sustainable Urban Food Systems*. Ottawa, Canada: International Development Research Center. (The first book to fully examine food security from an urban perspective.)

Nelson, Toni. *Urban Agriculture: Closing the Nutrient Loop*, in *WorldWatch*, Vol. 9, No. 6, November 1996.

Smit, Jac, Ratta, Annu, and Nasr, Joe. 1996. *Urban Agriculture. Food, Jobs and Sustainable Cities*. New York: United Nations Development Program  
(A comprehensive study of urban agriculture internationally.)

USDA. *A Millennium Free From Hunger*. U.S. National Progress Report on Implementation of the US Action Plan on Food Security and World Food Summit Commitments. 2000.

Valen, Gary L. 2001. *Local Food Project: A How-To Manual*. The Humane Society of the United States (Available via phone: 202-452-1100, web site: [www.hsus.org](http://www.hsus.org))  
(An effective guide to starting your own food project, including urban growing.)

Wohl, Hope. 2000. *The Feasibility of Urban Agriculture with Recommendations for Philadelphia*. Philadelphia, PA: The Pennsylvania Horticultural Society/Philadelphia Green.

Zimmerman, Stephanie. *Sowing Seeds of Hope*. *Organic Gardening*. January/February 2000.

## B. Intensive Horticulture Strategies

Jeavons, John. 1995. *How to Grow More Vegetables, Fruits, Nuts, Berries, Grains, and Other Crops Than You Ever Thought Possible On Less Land Than You Can Imagine*. Berkeley, CA: Ten Speed Press. A book brought to you by Ecology Action (Willits, CA, phone: 707-459-6410, or e-mail: [bountiful@zapcom.net](mailto:bountiful@zapcom.net)) (A classic on biointensive farming.)

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Olkowski, Helga and William. *The City People's Book of Raising Food*. Emmaus, PA: Rodale Press Inc. 1975.

Bartholomew, Mel. *Square Foot Gardening*. Emmaus, PA: Rodale Press. 1981.

### *C. Urban Animal Agriculture*

Cohen, Alison Meares. Reflections on Three Years of Urban Agriculture: HPI's Chicago Urban Program. August 23, 2000. Heifer International. Internal paper.

Meares, Alison. "Cows in the City or Urban Agriculture", In *The Exchange*, No. 86, January-March 1997.

### *Contacts on farm animals and sustainable agriculture:*

Heifer International  
P.O.Box 808  
Little Rock, AR 72203/USA  
Phone: 1-800-422-0474

The Humane Society of the United States  
2100 L Street, NW  
Washington, DC 20037  
Phone: 202-452-1100  
Web site: [www.hsus.org](http://www.hsus.org)

### II. Websites

[www.foodsecurity.org](http://www.foodsecurity.org)  
[www.cityfarmer.org](http://www.cityfarmer.org)  
[www.idrc.ca/cfp](http://www.idrc.ca/cfp)  
[www.ruaf.org](http://www.ruaf.org)  
[www.communitygarden.org](http://www.communitygarden.org)  
<http://gardening.usda.gov/>  
[www.growingformarket.com](http://www.growingformarket.com)  
[www.tuan.org](http://www.tuan.org)

### III. Federal Funding Sources for Urban Agriculture and Food Security Projects

The USDA Community Food Projects Program (CFP) offers competitive grants for meeting the food needs of low-income communities with locally grown food.

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The following have also supported urban agriculture as a response to community food security:

HUD/Community Development Block Grants (CDBG)

EPA/Environmental Justice, Education, & Innovative Communities grant

Dept of Labor/Job Training Partnership Act

USDA/ Food and Nutritional Education Program and SARE grants

Dept of HHS/Community Food and Nutrition grants

Americorps and Vista Volunteers

Dept of Justice/Weed & Seed program

The Dept. of Education and the National Science Foundation have provided funds for school-based programs.

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### **VIII. Note on Authors**

Katherine Houston Brown is founder of City Sprouts, an inner-city garden and food security project in Omaha, Nebraska.

Martin Bailkey teaches at the department of Urban and Regional Planning at the University of Wisconsin, Madison.

Alison Meares-Cohen is Northeast Program Manager of Heifer International.

Jac Smit and Joe Nasr direct The Urban Agriculture Network in Washington, DC.

Terri Buchanan served as executive director of The Sustainable Food Center, Austin, TX (recently merged with Austin Community Gardens).

Peter Mann is international coordinator for WHY (World Hunger Year).