

THE PROMISE AND THE PITFALLS OF MUNICIPAL
POLICY FOR URBAN AGRICULTURE

By

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A thesis submitted in partial fulfillment of the requirements for
the degree of

Master of Science

(Conservation Biology and Sustainable Development)

at the

UNIVERSITY OF WISCONSIN-MADISON

2009

Acknowledgements

In the course writing this thesis, I have incurred many debts of gratitude: to the people that have furnished me with the bulk of the information about municipal policies and to those mentors and friends who offered guidance and ideas.

In particular, I would like to thank the city officials and non-profit staff whom I interviewed for the creation of the case studies. They were generous with their time and their willingness to share their knowledge.

I am grateful to my graduate adviser, Professor Harvey Jacobs for his wise feedback and continuous support, to Professor Stephen Ventura for his guidance and to Professor Alfonso Morales for our many conversations that helped me to develop my ideas.

Marcia Caton Campbell with the Center for Resilient Cities offered me the chance to do this research, and to share it with the City of Milwaukee and helped me to make sense of the field of urban agriculture policy. Greg Rosenberg invited me to participate in the Madison Urban Agriculture Ordinance Workgroup and inadvertently helped me with this thesis in our several conversations about urban agriculture policy. Martin Bailkey, Jerome Kaufman, and Heather Stouder also connected me with resources and offered guidance.

I would also like to thank the friends that helped me to think about and edit this thesis. There are too many to name, but I am particularly grateful to Peter Boger, who was an enormous help with editing and Christopher Anderson and Tony Anderson, who offered their thoughts, feedback and moral support throughout the entire process.

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I. Introduction

The new millennium has been marked by unprecedented globalization and innovations in biotechnology. Perhaps paradoxically, interest in locally produced, organic food has been rapidly increasing. There is an array of activist food movements, including the Slow Food movement, the Community Food Security movement and the Fair Trade movement, which advocate for safe, sustainable and justly produced food. Several non-fiction books about the food system have been bestsellers in the past five years, and in 2007 “locavore” was the *New Oxford American Dictionary* word of the year (Oxford University Press Blog: <http://blog.oup.com/2007/11/locavore/>). In the United States, the interest seems to have been spawned by a combination of increased environmental concern, the economic downturn, and disillusionment with the increasingly globalized food system, both for reasons of diminished food quality and access.

It is worth stressing the element of backlash. There is a strong element of social critique and social re-envisioning in the new food movements, not just with regard to food, but also with regard to the kinds of lives we live, how our institutions should function, how happiness should be defined, and how wealth should be distributed. While there is a great diversity in the radicalism of local food proponents, some of the more radical authors capture the visionary element that many others seem to be attracted by. For instance, *Continuous Productive Urban Landscapes* (Viljoen & Howe, 2005) proposes a vision of urban green belts that fully integrate community gardens

with extensive community green space and have the capacity to produce a significant portion of a city's food. The first chapter of the book *Avant Gardening*, about community gardening in New York, covers topics from utopian socialism to the alienating effects of global capitalism, and advocates for community gardening as the best available remedy for today's social ills (Wilson & Weinberg, 1999).

Because the new food movements have such a strong social element, they address urban geographies and rural-urban connections more directly than conventional approaches to agriculture that emphasize rural food production. Therefore it seems unsurprising that many of the people interested in more sustainable and just food systems have become interested in urban agriculture. "Urban agriculture" as a term is used in various ways. It can be used specifically to mean intensive urban farming or it can be used broadly to mean any kind of food production, processing and distribution in and around cities, including everything from street vendors to canning plants to backyard gardening. For the purposes of this thesis, urban agriculture will be defined as *food production in cities, through plant cultivation or animal husbandry, and the processing and distribution of that food*. By this definition, urban agriculture includes home vegetable gardens, orchards, community gardens, school gardens, roof gardens, market gardens, urban farms, aquaculture, greenhouses, animal husbandry as well as

urban farm stands, Community Supported Agriculture (CSA) and farmers' markets that sell produce from urban sources in urban areas.¹

Urban agriculture is seen by grassroots organizers as a way to improve the environmental sustainability of cities, to foster community development, to address public health problems, and to address urban inequities. It is not just citizens who are interested in urban agriculture. Municipal governments throughout the U.S. and Canada are actively trying to support urban agriculture by incorporating it into their comprehensive plans and zoning codes, as well as creating funding streams for projects. In addition to the aforementioned benefits, city governments see urban agriculture as a way of managing vacant land and alleviating poverty, which are major concerns, particularly for cities that were badly hit by deindustrialization in the 1980s or by the recent foreclosure crisis and economic downturn. Even for a thriving city, increasing green space can be a means of branding a city and increasing property values.

The Community Food Security (CFS) movement is particularly active in promoting urban agriculture in the U.S. The CFS movement emphasizes the importance of local self-sufficiency and social improvement, working from the grassroots up. It is sometimes contrasted with the older, entitlement focused anti-hunger movement,

¹ I am leaving aside peri-urban agriculture, because the policies used to support it largely involve farmland protection and the control of urban sprawl, which is a separate issue from the kinds of policies that one uses inside cities, where property values are higher, and available land tends to be in brownfields.

which emphasizes the importance of federal programs and focuses narrowly on hunger alleviation (rather than including sustainability or community development) (Allen, 1999; Bellows & Hamm, 2002). In spite of the grassroots focus of the CFS movement, it is difficult to create meaningful infrastructure for urban agriculture without funding, land and a favorable regulatory regime. Therefore, while urban agriculture remains a primarily local issue, it is addressed through a combination of bottom-up and top-down approaches. In many cases, municipal government, non-profit organizations and private citizens work together on urban agriculture projects. However, the goals of CFS advocates are not always harmonious with the interests of municipal governments or the constraints on those governments. In addition, there is a diversity of communities and individual citizens in any city. The interest that one group has in urban agriculture may not always accord with the interests of other groups in the city.

In large part, the shape that urban agriculture takes is constrained by the policies and programs that a city sets up. While citizens and activists can be critical in bringing the issue of urban agriculture to the attention of municipal governments and even in shaping the course of municipal policy on the issue, their future opportunities can be constrained as well as expanded by the eventual policy framework.

In other words, there is great promise in municipal policy for enabling and facilitating urban agriculture. At the same time, as this thesis will describe, the very fact of creating supportive policy has pitfalls: it takes some control from the grassroots, and influences

what projects are most likely to happen and how citizens can most easily get involved.

In addition, when a city makes regulations to govern some practice, it must legislate assuming that the practice can become widespread. In doing this, it both legitimates and restricts practices that were previously vague in their legal status.

The object of this thesis is to look at the policy and programs of a select group of U.S. cities that are known for the support and consideration that they have given to urban agriculture and to explore the different policy regimes that are created through these municipal decisions.

This introduction offered some definitions of urban agriculture and community food security. Chapter Two will develop these with some examples of contemporary urban agriculture as well as a history of urban agriculture and the Community Food Security movement. The chapter also reviews the literature on the benefits of urban agriculture and the barriers that prevent it from becoming more widespread, and includes a general discussion of policies that municipal governments have implemented that are supportive of urban agriculture.

Chapter Three presents three case studies of cities that have significant but distinct planning, programming and organizational support for urban agriculture. The case studies are preceded by a description of the methodology used for the case studies. The case study cities are Portland, Oregon; Chicago, Illinois; and Boston, Massachusetts. The

case studies cover the policies and programs that the cities have in place that shape the institutional climate for urban agriculture in those cities.

Chapter Four is the analysis and conclusion, which addresses what the cities share in their approaches and intentions and also how they differ. Policies and programs will be considered in light of the possible benefits of urban agriculture (as discussed by those in the CFS movement and others), to see what kinds of urban agriculture different regimes are likely to foster (market gardens, home gardens or community gardens), what kinds of benefits may result, and what benefits have been foregone. Benefits may be foregone either because of a lack of resources (e.g. a dearth of available land), because some barriers have not been removed (e.g. unfavorable zoning) or because benefits directly conflict and there are trade-offs involved. When trade-offs are involved, city policy can end up legislating certain choices across a city, and this thesis will examine those choices.

II. Literature Review

The Many Forms of Urban Agriculture

What is urban agriculture? In the introduction, I defined urban agriculture for the purposes of this thesis as *food production in cities through plant cultivation or animal husbandry and the processing and distribution of that food*. This definition can encompass a great number of activities: many that are currently being done, and many that have yet to be conceived. Below are several examples of current urban agriculture projects that demonstrate the range of activities encompassed by this definition.

One of the most striking examples of community gardens can be found by wandering New York's Lower East Side, where there are about 20 community gardens within a five-block radius, many of them significant neighborhood hang-outs with benches, paths and public art. Many contain allotments, where individuals garden small plots. The gardens were created by the largely Latino community in vacant lots during the 1970s and 1980s. In the 1990s, several of New York's community gardens, including some from the Lower East Side, were auctioned off by the city to developers, but due to a combination of public pressure, legal action and philanthropy, many of them were saved (Elder 2005, Ferguson 1999). Now, most of New York's community gardens are protected through the Green Thumb program in the Department of Parks and Recreation. The Department runs more than 600 gardens, serves over 20,000 city

residents and employs eleven staff members (Green Thumb Web site:

<http://www.greenthumbnyc.org/>).

In Milwaukee, Wisconsin, two urban agriculture organizations are getting a great deal of press and recognition: Growing Power and Walnut Way. Growing Power is a non-profit started by Will Allen, who has since won a MacArthur Grant for his efforts. The headquarters of their organization is a two-acre farm in Northern Milwaukee and it also has farms on the outskirts of Milwaukee and in Chicago. The urban operation includes the cultivation of many varieties of vegetables and greens in greenhouses and hoop houses, worm composting, aquaponics (a system that integrates hydroponic plants and the raising of fish), beehives, livestock (hens, rabbits and turkeys), an anaerobic digester and a store. The organization runs education and internship programs for youth, and sells their produce through a CSA and farmers' markets, and also to restaurants and institutions. (Growing Power Web site: http://www.growingpower.org/our_farms.htm. Also see Royte, 2009).

Walnut Way is a land trust run by Larry and Sharon Adams in a largely African American neighborhood that was hit hard by the industrial disinvestment of the 1980s and 1990s. The organization runs gardens on vacant properties, maintains a house that serves as a community center, rehabilitates houses, and runs the "Gardens to Market" internship program, where neighborhood teenagers farm the lots of participating neighbors. A portion of the produce grown in a backyard is set aside for the resident,

and the rest is sold at farmers' markets. The income from the sales is used to help pay for stipends and training for the teenagers (Walnut Way Web site: <http://www.walnutway.org/>; Dobkin 2008).

In Chicago, Growing Home is a business that uses farming as a means of providing job-training for ex-offenders and those who have been homeless. They run an urban farm at Wood St. in Englewood, an urban garden on the property of a Catholic Worker shelter and a farm in Marseilles, Illinois. The produce in the urban farm is grown mostly in hoop houses (Silverman, 2009; Growing Home Web site: <http://www.growinghomeinc.org/>).

In many cities, people garden on their home lots or in the yards of relatives or friends. Garden clubs and networks help gardeners to share information. The movement, Food Not Lawns, has local chapters around the country, from California to Kansas to Vermont, which organize potlucks and seed swaps, and make resources available for home vegetable gardeners (Food Not Lawns Web site: <http://www.foodnotlawns.net/>).

One example of an urban agriculture project that integrates entrepreneurial elements with education programs and community gardening is the Troy Gardens in Madison, Wisconsin. Troy Gardens is an affordable housing development, owned by the Madison Area Community Land Trust, which was developed as a Planned Unit Development in cooperation with the State of Wisconsin (who owned the land), the City of Madison and

the Center for Resilient Cities (a conservation land trust, formerly the Urban Open Spaces Foundation). The site includes 30 units of mixed-income housing, a nature preserve, community gardens and a five-acre farm. The produce from the farm is sold through farmers' markets, a CSA, and several local grocery stores (Campbell & Salus, 2003; Troy Gardens Web site: <http://www.troygardens.org/aboutftg.html>).²

A History of Urban Agriculture from the U.S. Perspective

There is an extensive history of urban agriculture in most cities in the world. In some parts of the Third World urban agriculture provides the bulk of urban food.³ In England workers during the Industrial Revolution managed collective allotments, and in the late nineteenth century government-run allotment garden programs began in England and spread across Northern Europe. Today, Europe retains this long-standing tradition of allotment gardens (Warner & Durlach, 1987). In the U.S., there have been waves of interest in urban agriculture, often corresponding to economic downturns. However, as Laura Lawson (2005) makes evident in *City Bountiful: A Century of Community Gardening in America*, each time there has been a push to expand urban gardening, the motivations have been different, and there are corresponding differences in the types of gardening that are promoted. In the 1890s, an economic downturn gave rise to the Potato Patch program, created first by the City of Detroit and then copied by other

² For more detailed cases see Myers, 2008; Kaufman & Bailkey, 2000, pp. 10-54; and Hess 2005.

³ Mougeot, 2005 offers several perspectives on urban agriculture around the world as a significant food source.

municipal governments. To address poverty in a way that was also seen to promote self-sufficiency, health and good morals, municipalities encouraged land speculators with vacant land at the city periphery to allow the unemployed to farm the land temporarily. City funds were spent on land preparation and those who participated in the program sold some of the produce and kept the rest for home consumption. In addition to gardens to address poverty and unemployment, school gardens were started as an educational tool and as a way of introducing rural elements to the city.

At the turn of the twentieth century citizen reformers were also concerned with the aesthetic benefits of urban gardens, as part of the City Beautiful movement. Garden clubs organized the beautification of vacant lots, and promoted home gardening. War gardens, in the form of home gardens and community gardens, became widespread during both World Wars, and gardening was encouraged by both federal and local governments as a patriotic activity that would free up food for American troops abroad (Lawson, 2005, Warner & Durlach, 1987).

During the Depression, relief gardens were created, usually by local governments and charities, as a way to occupy and feed the unemployed and poor (Lawson, 2005). The war gardens of World War II were known as “victory gardens,” and at the high point of victory garden production in the U.S., victory gardens were responsible for 44 percent of the nation’s fresh produce (Warner & Durlach, 1987).

After the War, much of the land that had been used for victory gardens was developed for more profitable uses and it was not until the 1960s or 1970s that urban community gardening took off. With the onset of urban depopulation and disinvestment, land became available, and several cities began land banking vacant land for future development (Warner & Durlach, 1987). Through a combination of grassroots organizing and institutional programs (esp. municipal) designed to find more attractive uses for vacant land, the community gardening movement was born (Warner & Durlach, 1987). Interest in urban greening and community gardens persisted throughout the end of the twentieth century, although the real estate boom of the 1990s led many cities to sell off community garden lots to private developers, often in the face of public outcry (Lawson, 2005). The beginning of the twenty-first century has seen a new expansion of urban agriculture in many cities, with more farmers' markets, CSAs, community gardens and home gardens. As I write, seed companies are finding their stocks depleted by an upsurge in demand (Higgins, 2009).

Academics and those involved with food policy speculate about why gardening (and urban agriculture more specifically) has become so popular of late. Many believe that the recession is a factor, and, indeed, according to a survey on home and community gardening in the U.S., 62 percent of respondents said that the recession was at least something of a factor in motivating them to garden (Butterfield, 2009). Other factors, like food safety and quality, also seem to play a role. According to the report, the five most cited reasons for gardening are "to grow better tasting food," "to save money on

food bills,” “to grow better quality food,” “to grow food that I know is safe” and “to feel more productive” (Butterfield, 2009:9).

This interest is arising at a politically favorable time. With the foreclosure crisis, many cities are contending with vacant lots, and development pressure in most cities has declined. Moreover, those interested in sustainability, environmental justice and localism often see urban agriculture as a positive and feasible action to promote. The Community Food Security (CFS) movement includes all of these trends, and has been particularly active in starting urban agriculture projects. The Community Food Security Coalition has helped those involved in urban agriculture with networking tools, reports and resources.⁴ Even though not everyone promoting urban agriculture would identify as a member of the CFS movement, most appear to have interests that are compatible with at least part of the CFS agenda. For these reasons CFS is a useful lens through which to look at contemporary urban agriculture. In the following section, I will give a brief history of the CFS movement and a review of the literature on community food security.

⁴ See the Community Food Security Web site: <http://www.foodsecurity.org/>

The Community Food Security Movement

The U.S. government has considered hunger alleviation a responsibility since the Great Depression (Lipsky and Thibodeau, 1990). Internationally, the right to food was declared a human right after World War II (United Nations, 1948: Article 25). As international and national institutions began to address hunger, they have focused on production, by encouraging the spread of the green revolution and by initiating agricultural subsidies. They have also addressed food consumption through entitlement programs, such as international aid and (in the U.S.) federal entitlement programs like food stamps and welfare (Allen, 1999).

During the 1960s and 1970s, there was an increasing interest in community development activity from the grassroots. Additional pressure towards local responsibility built as funding for entitlement programs was cut during the 1980s and 1990s, and as problems associated with poverty continued to rage, particularly in inner cities, which were suffering from the decline in manufacturing, and the flight of the wealthy and middle classes to suburbs. While many food banks and soup kitchens began to fill the gap in hunger-alleviation that entitlement programs had left, those in the Community Food Security movement emphasized the importance of sustainability and community self-sufficiency (Allen, 1999; Anderson & Cook, 1999; and Bellows & Hamm, 2002; Winne, 2008).

The movement has been further strengthened in the U.S. by federal funding. In 1996 Community Food Empowerment Act was passed, allocating \$16 million in grants for community generated food projects. At the same time, the National Community Food Security Coalition was formed (Allen, 1999).

One commonly cited definition of CFS is “a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance, social justice and democratic decision-making,” (Bellows & Hamm, 2002: 35). As this statement suggests, CFS has ties to larger progressive movements.

It also implies a degree of localism, promoting the idea that consumers should consume food more locally, and that food systems should be governed by more local (rather than national or transnational) decision-making. Kloppenburg et al. (1996) discuss the “foodshed” as the unit that should define our food system. A foodshed, is defined by largely regional “streams of foodstuffs running into a particular locality, their flow mediated by the features of both natural and social geography.” (Kloppenburg, 1996: 40).

Anderson and Cook (1999) suggest that the CFS movement is comprised of three primary and sometimes overlapping groups: nutritionists and educators, who are mainly concerned with individual health; sustainable agriculture advocates, who are

concerned with environmental sustainability and the viability of small farming operations; and anti-hunger and community development advocates, who are concerned with addressing hunger and poverty. Gottlieb and Fisher (1996a and 1996b) discuss how CFS can be seen as a subset of environmental justice. They suggest that the environmental justice movement is divided between those who want more fair siting of public “bads” and those who seek to minimize public “bads” and increase public good altogether. Urban agriculture can be used for the latter purpose. Some of those interested in CFS identify with all of these agendas, but Anderson and Cook point out that there are sometimes trade-offs or ambiguities. For instance, a self-perceived community with a shared culture may not always map easily onto a spatially defined “local” community. Similarly, “culturally acceptable” foods may include foods that cannot be produced locally or that are luxury items.

Patricia Allen (1999) compares the CFS and anti-hunger movements and suggests that even if the mission of community food security progresses, there will still be a need for the measures that the anti-hunger movement advocates. She points out that a community focus does not always ensure the best interests of all individuals in the community, for instance, if there are marginalized individuals or if certain viewpoints are overrepresented in decision-making. She suggests that by over-emphasizing community self-sufficiency, CFS advocates are in danger of undermining federal entitlement programs that play an important role in individual food security.

It is interesting that in spite of their emphasis on localism and citizen-driven activity, CFS advocates promote proactive urban agriculture policy, usually at the municipal level, recognizing that policy change is necessary to overcome prior unfavorable zoning and the expense of acquiring urban land. Frequently, citizens involved in the CFS movement influence policy by raising the issue and then getting involved in the policy process, often with the facilitation of city officials and planners.⁵ Municipal governments all over the U.S. are beginning to examine what they can do to support urban agriculture, and otherwise plan for the food needs of their constituents.

The Benefits of Urban Agriculture

Even as more and more people are participating in it, urban agriculture can seem paradoxical, coming from a worldview which sharply dichotomizes the natural and the man-made (Pincetl, 2007). One could argue that for reasons of efficiency, and to contain sprawl, it makes sense to focus on the countryside when it comes to agriculture, and to focus on development and densification in cities. However, the hybrid nature of urban agriculture means that it can have benefits both for nature and for people. The benefits of urban agriculture can be roughly categorized as health benefits, community benefits, economic benefits and environmental benefits.⁶

⁵ See Wekerle, 2004 for a discussion of how food justice movements get involved in the planning process. See Campbell, 2004 for a discussion of how planners can encourage good food policy by bringing together stakeholders.

⁶ For an extended discussion of the benefits of urban agriculture, see Brown et al., 2003 and Viljoen & Howe, 2005.

Health Benefits

The health benefits of urban agriculture are mostly related to improved access to produce, opportunities for outdoor exercise, and the psychological benefits of working with plants. Gardens, CSAs, and farmers' markets can be a significant source of nutritious food, particularly in urban "food deserts," places where there are few supermarkets or grocery stores that sell fresh produce. Food produced through urban farming and gardening also tends to involve a minimum of pesticides, providing a low-cost alternative to conventional produce. In addition to its role as a food source, gardening is an opportunity for outdoor exercise, and because it is not strenuous, it is a particularly good opportunity for children, the elderly and others with limited mobility. Research also suggests that working with plants can improve mental health and even be psychologically therapeutic.⁷

Community Benefits

There are many community benefits from urban agriculture, and these tend to be the *raison d'être* of many neighborhood groups and non-profits involved in urban agriculture. Urban agriculture has the potential to bring people together. People of diverse ages and backgrounds may work together in community gardens or encounter each other at farmers' markets. In neighborhoods with an abundance of vacant land,

⁷ For a detailed review of the known health benefits of urban agriculture and gardening, see Bellows et al., 2003.

organizing urban agriculture projects can be a way of organizing and beautifying areas as well as decreasing crime. It can be an opportunity for those without incomes to make a material contribution to their families. Urban agriculture can also be a source of culturally significant foods⁸ that are not available in typical grocery stores.⁹

Also encompassed within community benefits are educational benefits. Many urban agriculture projects have an explicit education mission, running youth internship programs, nutrition education, job training programs, or hosting class trips. Many cities have school garden programs where portions of schoolyards are used for gardening as an educational tool.

Economic Benefits

Urban agriculture can be an expensive proposition, particularly when it comes to land, water and soil. However, there are many, particularly in the U.S., who are beginning to see urban agriculture as a potential source of income for organizations and neighborhoods. Entrepreneurial urban agriculture, such as urban farms, gardening supply stores, farmers' markets and CSAs can be a source of income. Community groups and non-profits—such as land trusts that manage gardens and farms—or

⁸ Typically foods that are part of a traditional cuisine but are difficult to find in most stores.

⁹ For a discussion of social capital generated by community gardens, see Foster 2006. Warner & Durlach (1987) provide a detailed description of how communities of different ethnicities garden in Boston in Part III of their book, *To Dwell is to Garden*.

markets may also provide employment. In addition to directly providing jobs, urban agriculture can also provide opportunities for job training.

In addition to the employment benefits, urban agriculture can be an appealing use of vacant land and yards, improving the aesthetic of a neighborhood and deterring crime. It can lend a neighborhood character and foster community institutions that may expand into other domains of neighborhood improvement. Community gardens that replace vacant lots also have been found to increase surrounding property values (Been & Voicu, 2006). By decreasing the costs of vacant lot maintenance, crime prevention, and by improving health, urban agriculture can save cities money. Moreover, if it contributes to neighborhood revitalization and increased property values, or if it helps the city to brand itself and attract green businesses, urban agriculture can potentially generate more revenue for cities.

Environmental Benefits

Environmental benefits of urban agriculture can overlap with economic benefits when it promotes environmental goods that the city would otherwise have to provide separately.

There are several kinds of environmental benefits of urban agriculture. At a large (national or international) scale, urban agriculture can be a low-input alternative to conventional agriculture, and because the food grown in a city tends to be distributed

locally, urban agriculture mitigates the amount of fuel and energy involved in bringing food into the city from afar. In addition, urban agriculture provides opportunities for growing a greater diversity of crops, since food production in gardens and urban farms tends to be geared towards tastes at the scale of the individual or the neighborhood, rather than what will be most profitable on a large scale.¹⁰ By improving urban environments, urban agriculture can help make cities more appealing, luring people away from less sustainable suburbs.

Finally, urban farms and gardens confer many of the benefits that other open spaces do: they absorb storm water, decrease the urban heat island effect, and improve air quality. By using food scraps and leaves for compost, or by feeding food waste to livestock, city waste may be reduced (van Hemert & Holmes, 2008; Deelstra & Girardet, 2000; Brown et al., 2003).

Barriers to Urban Agriculture

Citizen interest and technical knowledge are important prerequisites for the success of urban agriculture. However, even where there is high demand for urban agricultural activities, there are several common barriers to urban agriculture that prevent

¹⁰ For a discussion of environmental benefits of local food, and particularly urban agriculture, see Halwell, 2002.

community garden plots, urban farms, farmers' markets and CSAs from expanding as much as they might. These include primarily financial and policy barriers.¹¹

Financial Barriers

The primary cost for urban agriculture, particularly food production, tends to be land acquisition. Even vacant land in cities tends to be expensive unless special lease or purchasing arrangements are made with the landowner. This barrier sometimes leads to "guerilla gardening," or the use of land on which the gardener has no legal claim. Such gardens tend to be vulnerable if the landowner objects to the use or chooses to develop the property. However, it can be difficult and expensive to acquire urban land or even to lease it.

In addition to the issue of land access, there can be problems with urban land. For instance, it may have contaminated soil. A study looking at the effects of soil contaminated with lead shows that lead tends to concentrate more in the roots and shoots of plants and less-so in the fruits. This means that to grow greens and root vegetables, it is important to find uncontaminated soil or find methods of minimizing the effect of contamination on food. Such methods can include raised beds, container gardens,¹² or site remediation (Finster, 2004). All of these involve at minimum the cost

¹¹ For an extended discussion of barriers, see Brown et al., 2003.

¹² For instance growing plants in plastic wading pools.

of uncontaminated topsoil or compost. Adding water access can be costly, and even once a site has water access, the cost of water can be significant (Helphand, 2009). Site development can also involve costs, for fencing, sheds or greenhouses.

Policy Barriers

Even if an individual or organization has the financial wherewithal to garden or farm, there may still be policy barriers to urban agriculture. After access to land, the biggest barrier to urban agriculture that municipal governments can address is the regulatory climate. There are many zoning regulations common to most municipalities that stymie urban agriculture, for instance those that require all lawn vegetation to be below a certain height or that do not include community gardening as a permitted use in open spaces. Often farms with on-site sales are only allowed beyond the city limit and farmers' markets and vendors are limited in where and when they can sell.¹³

In many cases regulations that are unfriendly to urban agriculture may be unintended consequences of a regulation that was intended to serve another purpose. For instance, limitations on the amount of area on a residential lot devoted to a home occupation may have been instituted to prevent people from having large workshops or factories on

¹³ For a discussion of regulations and policy recommendations relating to markets and street vendors, see Morales & Kettles, 2009.

their properties, but they also technically prevent citizens from selling produce from their gardens through a CSA.

Urban Agriculture and Municipal Government

City governments around the country have begun to examine ways to foster an expansion of urban agriculture. Governments have begun to make efforts to incorporate urban agriculture into the comprehensive planning process and zoning code revisions, to create food policy councils and municipal community garden programs, and to allocate funds and land to urban agriculture.¹⁴

Perhaps in response to these developments, and in part to encourage them, urban planning professionals and scholars have begun to consider and write about food planning and policy as a neglected and promising component of the planner's responsibility. In 2007, the American Planning Association (APA) published a policy guide on community and regional food planning. For the APA, regional food planning includes planning that promotes alternative local food production and distribution as well as more effective systems to distribute conventionally produced food so as to benefit "economic vitality, public health, ecological sustainability, social equity and

¹⁴ For a discussion of how cities can promote health, sustainability, justice and cultural diversity through planning, see American Planning Association, 2007. For a discussion of how cities promote the use of vacant land for open space, see Bailkey, 2003. For an inventory of state and local policies related to community gardens, see Schukoske, 1999 and Planning for Healthy Places, 2009a. For examples of strong urban agriculture policy, see True Consulting Group, 2007: Appendix A; Hess, 2005; Raja et al., 2008; Zimble, 2001 and Pothukuchi et al., 2007.

cultural diversity” (APA, 2007: 2). The APA makes a series of recommendations for planners, which include conducting assessments of urban and regional food systems, considering food production and distribution as part of planning (comprehensive planning, zoning, transportation planning, etc.) and creating partnerships with farmers and other organizations. They also suggest, creating city-sponsored nutrition education and gardening programs, promoting the institutional buying of local food, and offering technical assistance related to sustainable food systems for businesses.¹⁵

What Cities Do

Several cities have explicitly incorporated urban agriculture or community gardens into official plans. For instance, in their comprehensive plans, Madison, Wisconsin, and Seattle, Washington, both suggest that there ought to be one community garden per a designated number of households. Milwaukee, Wisconsin has urban agriculture advocates on almost every committee for its comprehensive plan revision process. The Office of Environmental Quality in Kansas City, Missouri included a detailed set of recommendations to promote urban agriculture in its Climate Protection Plan (City of Kansas City, Missouri, 2009). In addition, several cities have open space plans that incorporate community gardens. These include Boston, which devotes a chapter to its community gardens plan.

¹⁵ Other articles with policy recommendations related to urban agriculture include Balmer et al., 2005; Born et al., 2006; Brown & Carter, 2003; True Consulting Group, 2007; Herrera & Mendenhall, 2005; Biehler et al., 1999; Hess & Winner, 2007; Planning for Healthy Places, 2009a and 2009b; and Pothukuchi et al., 2007.

Some cities have been addressing zoning barriers to as well, reducing regulatory barriers to certain forms of urban agriculture and making them permitted or conditional uses in many districts. For instance, Milwaukee has a permissive definition of urban agriculture, defined through two categories, the “raising of crops or livestock” and “plant nursery or greenhouse.” These uses are permitted in all residential and industrial districts, but not in commercial districts (Milwaukee Code of Ordinances).

Some cities have specifically created urban gardens zoning, which has the potential to contain certain activities that might cause a nuisance and to make the land tenure more secure. Both Cleveland, Ohio and Boston have a specific urban agriculture district. Cleveland’s *Urban Garden District* offers an expansive definition of urban gardens with some limitations to control potential nuisance. Community gardens and market gardens are the main permitted uses, and on-site sales are allowed, along with greenhouses and hoop houses. However, building height and expanse are limited (Cleveland Zoning Code, Chapter 336).

Some cities have official food policy councils that bring together stakeholders in the food system to research food-related needs and possible solutions and to advise city government (Pothukuchi & Kaufman, 1999; Dahlberg, 1994).¹⁶

¹⁶ Some food policy councils operate at the county or state level and some are run by groups that are independent of any government but inform policy.

Frequently cities take an even more proactive approach, running programs, organizing networks, and creating funding streams for urban agriculture projects. Cities like New York, Portland and San Francisco have significant community gardens programs run through their Parks departments. Some cities, such as Boston and Madison use federal Community Development Block Grants for the development of community gardens.

Since land is typically the greatest expense for urban agriculture, it is significant that many cities also donate or lease vacant land to land trusts. One of the most innovative methods for doing this is the land trust NeighborSpace, which the City of Chicago helped to create. The city donates land to NeighborSpace to be used for community gardens and allocates funding to the organization for garden development, insurance and coordination.

III. Urban Agriculture in Three U.S. Cities

Methods

Studies and reports on urban agriculture policy typically showcase particular programs or ordinance language from a variety of different cities. Such examples of best practices are useful for policy-makers and advocates when they are looking for models for particular programs. They are also useful for envisioning what types of policy options are available. However, the institutional environment that shapes the way people can grow and sell urban produce in a given city is typically defined not by a single program, but by an array of planning decisions, government agencies, programs and funding sources, as well as the geographic, cultural and economic context of the city.

This more comprehensive view of municipal urban agriculture policy is important for policy-makers and advocates who are involved in comprehensive food planning, or who want to expand urban agriculture in their city rapidly and effectively. The impetus for this case study research came from Milwaukee's latest comprehensive planning process. City officials wanted to integrate food into every part of the plan and the author was asked to report to those involved in the planning process on what other cities have been doing with respect to food policy.

In order to get at this more comprehensive picture, a case-study methodology was adopted. Case studies were constructed through a combination of municipal document

review and interviews with city officials and staff from urban agriculture non-profits. Information about programs and policy as well as interviewees' qualitative observations were collected to construct the narratives about municipal policy.

Documents reviewed included zoning code, comprehensive plans, program descriptions on city Web sites, and press releases and news articles.

Interviews were conducted between February and July of 2009 and were approximately 45 minutes long, enough time for qualitative reflection as well as an inventory of programs and policies. Four to five interviews were done for each city, enough to get a fairly complete inventory of policies and programs, and to observe the tone of urban agriculture policy in each city, though not enough to get a complete picture with the perspectives of all players and departments involved.

On the Choice of Cities

The cities chosen for this research have all actively created programs and made planning decisions that are conducive to urban agriculture. The cities also have active citizen interest in urban agriculture, as well as a vocal community of urban agriculture advocates. Beyond these similarities, the cities were chosen because of their differences in approach, geography and land use patterns.

Portland, Oregon, is famous for its approach to planning, and it has a well-organized, city-run community gardens program, as well as a full-time food planner. It also has many opportunities for home gardening, since much of the housing stock consists of single-family homes. At the same time, it has minimal vacant land, and emphasizes densification, which leads the city to be careful about how it uses its limited vacant land (For discussion about Portland's approach to planning with geographic, political and historical context, see Abbott, 2001).

Chicago, Illinois has a less coordinated approach to urban agriculture policy, but it has a number of programs, personnel and funding streams available for urban agriculture projects in the city. In contrast to the other municipalities, the City of Chicago does not take a pro-active approach to urban agriculture. However, it provides support for citizen-initiated projects and has lenient zoning regulations. As a result, most food producing activities tend to be initiated by activists, non-profits, and community organizations. At the same time, Chicago has an abundance of undeveloped vacant land, which means that land access is less of a barrier there than it is in Portland or Boston.

Like Portland, Boston, Massachusetts has little available vacant land, but unlike in Portland, there is a dearth of opportunities for home gardening, since much of the housing stock is apartments or triple-deckers. Boston is proactive and multi-pronged in its approach to urban agriculture. At the same time, many of its efforts are coordinated

between departments. It also offers an excellent example of urban agriculture friendly zoning.

The urban agriculture policy in each case is discussed along several dimensions. Each of these deserves a brief explanation:

Zoning

Zoning defines what uses are allowed in different parts of a municipality. Typically, the major components of zoning are districts (a.k.a. zones) and uses. For each district, a number of uses are “permitted” (although they typically require a permit), some uses are “conditional,” which means that the use may be allowed, though the criteria for permitting are more strict, and some uses are “forbidden.” For instance, for a *Low Density Residential* district, uses such as single-family homes may be permitted, workshops may be conditional, and factories may be forbidden. There are also frequently specific setback and design requirements for a given district. A district may be mapped onto many sections of the city, and all of the lots with that zoning must adhere to the conditional and permitted uses of the district.

Urban agriculture, usually mentioned as *agriculture*, *gardens* or *community gardens*, may be either a use within a district, or a distinct district. For instance, in Portland, *Agriculture* is a district, and several lots on the city’s periphery are zoned only for

agricultural uses, such as plant cultivation. At the same time, there is an *Open Space* district in which agriculture is a permitted (but not the sole) use.

To make matters more complicated, cities sometimes create overlay districts. Overlay districts are additional to existing zoning and are usually used to encourage a certain kind of neighborhood character or to address environmental concerns. For instance, an overlay district may be added in a neighborhood zoned “low density residential” that borders a river, to require additional setbacks from the river to prevent flooding. In Boston, there is a smart growth overlay district which permits activities, such as intensive urban agriculture, that would not normally be permitted in the underlying districts.

For the purposes of this thesis, livestock ordinances are mentioned under zoning, even though they are frequently separate from the zoning ordinance, and typically apply to the city as a whole.

Institutions and programs

“Institutions and programs” is a catch-all category for programs that support urban agriculture, including city-sponsored grants and programming. It also includes staff positions within city-government that work on issues that overlap strongly with urban agriculture, such as food planning or community gardens.

Planning and Reports

This category includes any municipal plans that mention urban agricultural activities as well as reports on urban agriculture-related issues that the city has been involved with. These tend to be documents articulating a vision and setting benchmarks for some aspect of the city, be it land use planning, open space planning, food planning or climate policy. These are rarely binding, but can give a sense of how the city views the place of urban agriculture and what it considers to be its commitment.

Projects

“Projects” are like programs, but they include mostly ad-hoc projects as well as events and agreements that are one-time actions by the city, rather than a long-term program requiring sustained commitment. Examples include the selling or leasing of land to an urban agriculture non-profit.

Under Consideration

Several interviewees mentioned policy changes or projects that are being considered or that are currently being developed by members of city government. Given the recent interest in urban agriculture in these cities and the recent federal stimulus package, it is likely that there will continue to be many policy changes related to urban agriculture over the course of the next several years.

Introduction to the Cases

It is difficult to make generalizations about cities' policy approaches, since all of the cities in this thesis have created a number of programs that are run through several agencies. This is not surprising, given that urban agriculture sits at the intersection of environment, open space, economic and community development, and health, and each of those issues tends to have a corresponding agency within city government. However, several patterns emerged over the course of the research.

All three city governments are trying to increase opportunities for urban agriculture in their cities and have at least one staff person who is very well informed and interested in the topic. All are willing to devote significant effort and funding to various programs. However, there are also some differences. Portland has done a great deal of planning with explicit reference to food and urban agriculture. At the same time, it has done much less than the other cities to make land available to new urban agriculture projects.

Portland has several successful programs run by the city, including the community garden program through the Department of Parks and Recreation, a community garden in front of City Hall, and technical assistance programs for gardeners. There is not a great deal of opportunity for large urban agriculture projects, although there are some exceptions. At the same time, there is probably more opportunity for participation in

urban agriculture in Portland than in any of the cities because so many people live in single-family houses and can garden in their yards.

Chicago is the least coordinated in its approach to urban agriculture, with different departments and sometimes different bureaus running independent programs without much communication. The city has not done much to articulate a vision for its food policy and to the extent that it has, that vision is not integrated into the planning of city agencies that work on issues related to food. Urban agriculture is used primarily as a tool to facilitate the objectives of particular departments, such as creating attractive open space or promoting public health. Chicago also takes an approach that requires projects to be initiated by community leaders. The city does not go out of its way to initiate new urban agriculture projects but it has created a number of mechanisms whereby enterprising community groups can be connected with the resources they need to start a project. Chicago has created a climate friendly to the many entrepreneurial urban agriculture projects that are springing up all over the city, even though it can sometimes be difficult for an ordinary citizen to get involved with gardening.

Like Portland, Boston takes a proactive approach to urban agriculture, and it has taken some steps in the way of crafting a vision for urban agriculture (in particular for community gardens). It has more food-producing community gardens than the other cities, as well as several urban farms. It has zoning language that is used to legitimize

and protect food production as a form of open space, and it has a well-funded system for developing vacant land into gardens and other urban agriculture. While there are projects going on in several departments, there appears to be a lot of communication. In addition, the current mayor, Thomas Menino, is interested in gardens and food issues, which creates a climate in city government in which staff feel encouraged to pursue ideas to expand urban agriculture.

Case Study: The City of Portland, Oregon

Introduction

Portland is a mid-sized city in the Willamette Valley of Oregon. The population, based on a 2008 estimate is 557,706.¹⁷ It has a much longer growing season than the other cities in this study, with mild winters and a lot of rain. Portland has an institutional structure different from those of many other U.S. cities, one that emphasizes densification for the city and agriculture for the periphery of the city. This would seem inconducive to agriculture in the city. At the same time, Portland is an environmentally, and even a food-conscious city, and there is strong citizen interest in local food and urban food production within the city (Cohen, 2009).

¹⁷ Portland, Oregon on the U.S. Census Web site:

http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&geo_id=01000US&_geoContext=&_street=&_county=Portland&_cityTown=Portland&_state=04000US41&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=010&_submenuId=population_0&ds_name=null&_ci_nbr=null&q_r_name=null@=null:null&_keyword=&_industry=

More than in the other cities discussed in this thesis, Portland's approach towards urban agriculture appears deliberate and coordinated. There is an active Portland/Multnomah County Food Policy Council, which has produced several reports related to urban agriculture. Until recently the primary government program that promotes urban agriculture has been the Community Gardens program through the Department of Parks and Recreation. The program has a long history, committed leadership and a great deal of citizen participation and interest.

There has been less success with supporting new urban agriculture projects, in particular making land and funding available. In part this is due to a lack of available land (Cohen, 2009), and perhaps also because there is a great deal of urban agriculture going on in private yards. Portland is largely comprised of single-family homes and, with a culture that is food-aware and outdoorsy, many citizens cultivate home gardens and keep livestock.

The city supports home gardening—intentionally through educational programs and perhaps unintentionally through permissive zoning. In addition, the city is trying to be supportive of rooftop gardening and aims to expand its municipal composting program. The city's educational programs are run by a food policy and program manager. The manager also works to implement some of the recommendations from reports relating to urban agriculture. These include efforts to make more land available for community

gardens and other urban agriculture through investigation of city and county-owned lands, coordination between city agencies and communication with non-profits.

In terms of its zoning, Portland focuses basically on two kinds of food production, which it treats very distinctly. One is food production for profit, which is seen as primarily a rural and semi-rural activity. The other is community gardens for open space in dense urban areas, which is seen primarily as a recreational or educational resource. In part, this distinction between rural and urban uses reflects the larger vision that the region has of the relationship between rural and urban land. Although there is more integration between the city and its rural surroundings than in many metro areas, there is also more specialization.

What Portland has Done to Support Urban Agriculture

Zoning

- Favorable zoning
- Livestock ordinance (last revised 2008)

Institutions and Programs

- Community Gardens Program, includes use of city land and leasing of private land for public gardens (since the 1970s)
- Creating school gardens
- Farmers' Markets coordination

- City composting program for businesses (1998)
- Portland and Multnomah Food Policy Council (since 2002)
- Creation of Food Policy and Programs position (2005)
- Merging of the Bureau of Planning and the Office of Sustainability

Planning and Reports

- *Diggable City* report (2005-2007)
- “Growing Portland’s Farmers Markets” report (2008)
- *Climate Action Plan* with food policy recommendations (2009)

Projects

- Bureau of Environmental Services 50-year lease for Zenger Farm (Begun 1999)
- Garden education through Urban Growth Bounty classes (2009)
- City Hall Better Together Garden (2009)

Under Consideration

- Incorporation of food issues into the Portland Plan (comprehensive plan update)
- Removing barriers to rooftop gardening
- Incorporating community gardens into affordable housing developments
- Expanding community garden plots
- Expansion of composting program, building a nearby composting facility
- Gardening in unimproved streets

Portland is known in planning circles for having one of the only regional governments in the U.S. The regional government, Metro, encompasses several counties in the Portland area. Metro oversees some regional infrastructure (including waste management and transportation), manages some natural areas and public amenities, keeps records, and helps to shape the land use vision for the region. Metro is responsible for the “urban growth boundary” that rings the city of Portland, constraining development and sprawl (Oregon Metro Government Web site: <http://www.metro-region.org/>). There is an emphasis on densification in the city’s planning approach, and most of the vacant lots in the city’s possession are slated for specific projects (Cohen, 2009). Beyond the urban growth boundary, agricultural uses are encouraged. Portland is in the Willamette valley, which is a major food-producing region.

Perhaps in part because of its proximity to agriculture, residents of Portland are interested in local food. The city has 16 farmers’ markets (Oregon Farmers’ Market Association Web site: <http://www.oregonfarmersmarkets.org/directory.html>) and many CSAs. Over 60 percent of residents live in single-family homes, and many residents garden in their yards.¹⁸ The city also runs an extensive community gardening program. There are 32 community gardens in Portland that are run by the city (Pohl-

¹⁸ Portland, Oregon Web page on the U.S. Census FactFinder Web site:
http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&_name=Portland+&_state=04000US41&Submit.x=14&Submit.y=16&_county=Portland&_city

Kosbau, 2009). In all, these gardens contain 1,300 plots, and feed an estimated 3000 people. There is great demand for community gardening: about 1000 residents are on the waitlist for a plot (Cohen, 2009).

The City of Portland has permissive zoning for urban agricultural activities, including community gardens as a permitted use in many zones and no restrictions to prevent home gardening in single-family residential districts. The city allows limited chicken keeping without a permit and other livestock with a permit. The city has also made a deliberate effort to encourage urban agriculture and access to local food. In addition to its community gardens program, the city created a staff position for someone who specifically deals with food policy and programs for the city. The city runs programs focused on community gardens and training for gardeners. The city has leased some land to organizations for urban farming projects, usually those that have an educational or social mission. However, it does not do as much as cities like Chicago, Milwaukee, or Philadelphia to make new land available for urban agriculture, apart from city-run community gardens. Portland also charges urban agriculture operations normal city rates for water, which is a significant barrier to new projects. For instance, Zenger Farm spends over \$2000 per year on water (Kuehler, 2009).

The City of Portland has what is referred to as a “weak mayor” government structure, and city commissioners have a good deal of powers (Cohen, 2009). The Bureau of Planning and Sustainability deals with comprehensive planning, zoning and also

programs to address climate change, energy, green building, green jobs and sustainable food issues (Bureau of Planning and Sustainability Web site:

<http://www.portlandonline.com/bps/index.cfm?c=28534>).

There are several other departments responsible for activities related to urban agriculture, and for each of the departments urban agriculture serves a different purpose. For Portland Parks and Recreation, which runs the Community Gardens program, recreation and health are primary concerns. The Bureau of Environmental Services has leased land for projects that help with storm water infiltration. The aims that the Bureau of Planning and Sustainability offer for urban agriculture resemble those of the CFS movement, supporting “local, sustainable agriculture, economic development in the region and access to healthy, culturally appropriate food for all residents” (Sustainable Food Policy and Programs Web page from the Bureau of Planning and Sustainability Web site:

<http://www.portlandonline.com/bps/index.cfm?c=41480>).

Zoning

Portland treats agriculture as a use category, which is permitted in only a few districts.

Agriculture is defined as:

- A. Agriculture includes activities that raise, produce or keep plants or animals.
- B. Accessory uses include dwellings for proprietors and employees of the use, and animal training.
- C. Examples include breeding or raising fowl or other

animals; dairy farms, stables; riding academies; kennels or other animal boarding places; farming; truck gardening, forestry, tree farming; and wholesale plant nurseries. D. Exceptions. 1. Processing of animal or plant products, including milk, and feed lots, are classified as Manufacturing and Production.... 3. Plant nurseries that are oriented to retail sales are classified as Retail Sales and Service...(Portland Zoning Code, Section 33.920.500)

Agriculture is permitted in the *Residential Farm/Forest* district and the lowest-density single dwelling district. It is also permitted in all industrial districts. It is a conditional use in the other low density single-dwelling residential districts and in some of the denser commercial (but not office) districts. It is forbidden in all other commercial districts and in higher density residential districts. Outdoor markets are permitted in all commercial districts, but nowhere else (Portland Zoning Code, Chapters 33.100-140).

In addition to the *Agriculture* use category, there is a Parks and Open Areas use that explicitly includes community gardens. It is defined in this way:

Parks and Open areas are uses of land focusing on natural areas, large areas consisting mostly of *vegetative landscaping* or outdoor recreation, *community gardens* or public squares. Lands tend to have few structures. B. Accessory uses may include club houses, *maintenance facilities*, *concessions*, caretaker's

quarters, and parking. Examples include parks... *and land used for grazing that is not part of a farm or ranch...*(Portland Zoning Code, Section 33.920.460)
(Emphasis added)

The *Parks and Open Areas* use is permitted in all commercial districts and industrial districts as well as in high density multi-residence districts (Portland Zoning Code Section 33.110.235). In the low density multi-residence districts, *Parks and Open Areas* is a conditional use and it is a limited conditional use for all single-dwelling residences. However, gardens are explicitly allowed for all types of residential units (Portland Zoning Code, Chapters 33.110-140)

There is an *Open Space* district, in which agriculture is a permitted use and *Parks and Open Areas* is a limited/conditional use. Zenger farm is mostly within this designation. It is a commercial urban farm that is owned by the city and run by a non-profit with a 50-year lease from the Bureau of Environmental Services (Zenger Farm Web site: <http://www.zengerfarm.org/about-the-farm>). This is one of the few cases in which the city has formally arranged for a non-profit to farm city land. The project was initiated because the area was slated to be protected as a buffer for storm water entering Johnson's Creek (Kuehler, 2009). The area had been farmed previously and several farmers approached the city and worked out an arrangement with the Bureau of Environmental Services that includes stewardship of wetlands combined with farming

and selling food through farmers' markets and CSA shares as well as using the farm as an educational resource for the neighborhood and the city (Kuehler, 2009).

The city's zoning explicitly allows farmers' markets and other outdoor produce vendors, but limits the length of time that they are allowed to exist. They fall under the temporary use, *Seasonal Outdoor Sales*. This use is allowed twice a year for five consecutive weeks at a time in most residential zones, and for up to a month at a time in commercial, central residential and industrial zones (Portland Zoning Code Chapter 33.296). While these regulations could be a significant barrier to farmers' markets, particularly in a city with such a long growing season, the regulations are not enforced because there have been no complaints, and the city's approach to zoning enforcement tends to be responsive. At the same time, Debbie Cleek mentioned that a zoning revision might be warranted, to make the regulations more lenient (Cleek, 2009).

In addition, there are some barriers to urban agriculture in the landscaping requirements for parking lots in multifamily, commercial and industrial zones. Portland is a rainy city with a combined sewer system (sanitary sewage and storm water are mixed, often straining capacity during rain events). As a result, there are strict landscaping requirements. For instance, evergreen trees are required around parking lots because they are good at absorbing storm water. Buildings are generally required to retain all of their storm water runoff, and so developers tend to plant rain gardens in most of the areas that are set aside to meet open space requirement (Cleek, 2009). This

allows them to maximize the expanse of their development. As a result of the landscaping and storm water requirements, there is a disincentive to set aside land for vegetable gardens.

The urban growth boundary draws a physical line between urban and rural space, and prevents the City of Portland from spreading out. This fosters emphasis on densification and the view that open space must be carefully used for maximal public good, as well as a tendency to see vacant land as a precious resource rather than as a burden.

The middle ground between food production as income and food production as recreation does exist in Portland's zoning code, both in the Open Space district, which allows for urban agriculture potentially in denser parts of the city, and in the zoning that is related to home gardening. The city considers gardens a legitimate form of open space to meet open space requirements for residential lots and has no height limitations on yard vegetation. Limited animal keeping is allowed within the city with a permit, including beekeeping. It is legal to keep up to three chickens, ducks, doves, pigeons, pygmy goats or rabbits without a permit (Portland City Code, Section 13.05.015).

In addition, the city's regulations on home occupations make it easy to sell food from a home garden. Rather than setting a limit on lot area that may be used for a home

occupation, the *Accessory Home Occupations* regulation focuses directly on potential nuisances. It requires a permit for activities that involve non-resident employees and allows on-site sales, but only if they are accessory to the business. It explicitly limits the number of customers per day, the hours during which sales can be made, the number of vehicles that may be used, the permitted noise level, and the timing and type of truck deliveries (Portland Zoning Code, Chapter 33.203).

Portland residents take advantage of the loose regulations, and many garden. There is also entrepreneurial activity that comes out of the home gardening scene. Some residents grow food for sale in farmers' markets and there are some businesses that farm multiple people's yards and then sell the produce in farmers' markets or CSAs (Cohen, 2009).

Institutions and Programs

In addition to fairly permissive zoning, the city organizes formal programs around gardening. The Community Gardens program is run through the Department of Parks and Recreation. The program began in 1975, and now runs 32 gardens around the City of Portland (Pohl-Kosbau, 2009). The gardens tend to focus on food production, and do not involve a mix of seating areas and vegetable plots (Cohen, 2009), as those in Chicago, for instance, tend to

The Department of Parks and Recreation treats community gardens largely as a recreational resource. Gardens are created in neighborhoods where there is demand for them, and citizens are involved in all stages of garden development. In some places, the supply does not meet the demand. As noted, over 1000 people are on the waiting list for community garden plots throughout Portland (Pohl-Kosbau, 2009). Produce from gardens cannot be sold, although some is given to charities (Cohen, 2009). While the city runs all of the gardens, there are separate volunteer garden managers for each site. The city also has partnerships with institutions, where it leases land from churches and schools for community gardens. Leslie Pohl-Kosbau, the head of the Community Gardens program, stresses the importance of having a lot of people involved in the management of the gardens, so that it is not dependent on a single individual (Pohl-Kosbau, 2009).

As of 2005, there is also a staff person, Steve Cohen, in the Bureau of Planning and Sustainability responsible for food policy and programs. He runs training programs for gardeners, investigates areas where new urban agricultural projects might be feasible and cultivates partnerships with institutions and non-profits that can work with the city on developing food-related projects. In 2009, he worked with the city to start the Better Together Garden in front of city hall, which will be farmed by volunteers, and the produce given to charities (Cohen, 2009).

While the Community Gardens program has existed for decades, most of the other programs have sprung up since 2000. In 2002, the Food Policy Council formed. In 2005 a group of students in the Master of Urban and Regional Planning program at Portland State University investigated the potential for urban agriculture in Portland as their capstone project. They produced the *Diggable City* report, which includes an inventory of city-owned land that might be appropriate for urban agriculture, profiles of several of the lots, snapshots of urban agriculture policy in other cities and policy recommendations for Portland.

The report was presented to the city, and the city set up citizen taskforces to develop recommendations. The original report suggested that the city had over 400 vacant sites that could be used for food production. However, many of the suggested sites were already slated for other kinds of development. Through the work of the taskforces, about a dozen feasible sites were identified. Since then there have been efforts to develop some of those for city community gardens or urban agricultural projects run by non-profits or institutions. Another consequence of the *Diggable City* report was a surge of interest in urban agriculture in Portland, and to some extent, around the U.S. (Cohen, 2009).

Steve Cohen has focused much of his energy on encouraging more home gardening and new techniques in gardening, including SPIN farming, a method of intensive gardening on small lots. He organizes a series of training workshops, called Urban Growth Bounty,

which include sessions on planting, livestock keeping and preserving produce. These workshops tend to fill up with interested citizens. After the SPIN farming workshop, several participants started CSAs using the method. In part, the need for these programs was created when Extension pulled its program out of the county (Cohen, 2009).

In spite of these efforts, Jill Kuehler, the Executive Director of Zenger Farm, suggests that, while the city is on the right track, thus far it has invested more time and energy on planning than on acting, particularly when it comes to making land available for gardening. She suggests that it would help to have a central department responsible for allocating vacant land for urban agriculture. As it stands, the departments that tend to have vacant parcels, such as Parks or the Bureau of Environmental Services, rarely see food production as a top priority. Both she and Steve Cohen expressed optimism that the city's commitment to urban agriculture would ramp up with the new commissioner who was elected to the Departments of Housing and Parks, and who is known for his support of community gardens (Cohen, 2009; Kuehler, 2009).

Planning and Reports

In addition to the *Diggable City* report, the city commissioned the "Growing Portland's Farmers Markets" report (2008) assessing the impact of existing farmers' markets and offering recommendations from the Food Policy Council and market managers. Urban

agriculture also made it into the recently released Climate Action Plan draft. Two of the five main points of the Climate Action Plan vision relate to urban agriculture:

- Green-collar jobs are a key component of the thriving regional economy, with products and services related to clean energy, green building, *sustainable food and waste reuse and recovery* providing living-wage jobs throughout the community.
- Food and agriculture are central to the economic and cultural vitality of the community, with productive backyard and community gardens and thriving farmers markets. A large share of food comes from farms in the region, and residents eat healthily, consuming more locally grown grains, vegetables and fruits. (City of Portland Bureau of Planning and Sustainable Development 2009: 7)

Recommendations in the plan for supporting sustainable food systems include weekly curbside collection of food waste for local composting. There is also a section on food and agriculture, which includes a proposal that the following recommendations be implemented by 2012:

- Establish joint City-County institutional capacity to support the development of a strong local food system. Provide policy direction and resources to significantly increase the percentage of home-grown and locally-sourced food.

- Work to reestablish funding to the Multnomah County Extension Service.
- Increase the viability of farmers' markets, community gardens, community-supported agriculture farms and home-grown food through qualitative goals. Integrate these goals into all planning processes.
- Provide educational opportunities for residents that will enable them to grow fruit and vegetables at their place of residence and in cooperation with their neighbors.
- Encourage the use of public and private urban land and rooftops for growing food and remove obstacles to local food production.
- Create 1,300 new community garden plots. (City of Portland Bureau of Planning and Sustainable Development, 2009: 14-15)

Projects

In addition to the programs that the city runs directly, there are several noteworthy urban agricultural projects that are thriving in Portland. These include the 16 farmers' markets around the city that are independently run, but all belong to the Oregon Farmers' Market Association. The number of markets and vendors has been growing in the last couple of decades, and most of the existing farmers' markets in the Portland area have been founded since the early 1990s, the total customer purchases for 2007 were estimated at \$11.2 million (Barney & Worth, 2008).

Zenger Farm is a six-acre farm that runs youth programs, an immigrant training program, and hosts a year-round CSA. The land for the farm is leased from the city with a 50-year lease (Zenger farm Web site: <http://www.zengerfarm.org/about-the-farm>). There is also a non-profit, Growing Gardens, that installs home gardens for low income families, and runs youth gardening programs (Growing Gardens Web site: <http://www.growing-gardens.org/>).

Under Consideration

Recently, city officials have been looking at the potential for growing gardens in unimproved streets, making the building code more permissive of roof gardens, and incorporating gardens into affordable housing developments (Cleek, 2009; Cohen, 2009).

Portland is in the process of creating a new comprehensive plan for the city, the Portland Plan. Based on a 2008 assessment to inform the plan, it appears that food issues will figure substantially in the new plan (City of Portland Bureau of Planning).

Conclusion

The Portland city government is generally sympathetic to the local food and urban agriculture movements, and they have done a great deal to support the growing and selling of food grown in the city. Moreover, the city has taken a proactive role, and has used the *Diggable City* report as an opportunity to systematically think about the City of

Portland's role in urban agriculture. It has also designated staff, in both the parks and planning departments devoted to creating new opportunities for urban agriculture and supporting existing projects. Most of the projects that the city is involved with have a great deal of public interest and support, so much so that the city is unable to meet the demand.

While lenient zoning regulations, sympathetic city officials, and city infrastructure can enable activities such as farmers' markets, and home gardens, it is very difficult to expand urban agriculture in a city, particularly food production, without the allocation of more land for it. Because the City of Portland does not have land that it can easily spare, urban agriculture competes with parks and natural areas as a use for new open space. Some see roof gardens as a possible frontier for urban agriculture in Portland (Cohen, 2009; Cleek, 2009), but until that option becomes more developed, much of the focus of local food production in Portland will probably be from the surrounding countryside, which is perhaps appropriate.

Case Study: The City of Chicago, Illinois

Introduction

Chicago is the third most populous city in the U.S. with about 2.83 million people according to a 2006 estimate (U.S. Census Bureau QuickFacts Web site:

<http://quickfacts.census.gov/qfd/states/17/1714000.html>). It is situated in a fertile region of the Midwest, bordering Lake Michigan, and its harsh winters give it the

reputation of the “windy city.” During the 1980s and 1990s it had a long period of depopulation and demolition, leaving large areas of vacant land. To this day, Chicago has an impressive vacant land inventory, with estimates of around 70,000 vacant lots.

The current mayor of Chicago, Richard M. Daley, has been making efforts since the late 1990s and 2000s to green Chicago through initiatives like planting street trees, making city buildings LEED certified, improving the city’s landscaping, remediating brownfields, creating parks and promoting green roofs (Chamberlain, 2004). It has been argued that one primary objective of the greening is to make the city more of a draw to new residents and to attract green businesses to improve the city’s economy (Zimmerman, 2008).

The city is also a good place for activism. According to Ben Helphand of NeighborSpace, “that’s... how Chicago is built, you don’t have to have been born here, you can kind of show up and create something” He suggests that reliance on projects initiated by activists can be a “double-edged sword,” because they can be difficult to sustain (Helphand, 2009).

Chicago is a city of neighborhoods, and many neighborhoods are dominated by particular ethnic groups. According to those interviewed, communities of all ethnicities, ages and incomes seem interested in growing food. Within the past two years, there has been an increase in interest and participation in urban agriculture, with

several ornamental community gardens being converted to food-producing gardens, and new gardens for food production being requested (Schenck, 2009; Helphand, 2009).

Several programs have been created during Daley's tenure that are conducive to urban agriculture. However, few of the programs are focused specifically on food. For instance, gardens owned by the city-funded land trust, NeighborSpace, and run by community groups may or may not involve food production. Until recently, the city has focused on urban agriculture more as a way to increase green space to improve livability and address the issue of vacant land than to provide nutritious food or create food-related jobs.

Some have expressed concern that the mayor's interest in greening the city does not extend to poorer neighborhoods, where the community development benefits of urban agriculture would be most felt, and also where property values are less prohibitive to the use of urban space for food production. In their 2000 report, *Farming Inside Cities*, Kaufman and Bailkey write:

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. (Kaufman and Bailkey 2000: 30)

It appears that since the time of the report, the city has been putting more of an emphasis on the community development benefits of urban agriculture and beginning to use urban agriculture as a way to address the vacant land problem in some neighborhoods. Kathy Dickhut, the Deputy Commissioner at the Department of Zoning and Land Use Planning, sees urban agriculture primarily as a tool for community development:

I think [urban agriculture is] a fine complement to...different kinds of open spaces... it's a voluntary effort and people are growing food in their community garden for themselves, it's community building kind of activity, and an educational kind of activity, especially if they're doing it at schools. The Growing Home example-- is an activity that is combining... growing food, marketing food, and training the hard to employ... And so I think that... just growing food there and selling it is not as impactful as growing food and then training the hard to employ... in some neighborhoods you have a large population of the hard to employ, the ex-offenders, and it's a great way [to train them]... and in those communities you often have a lot of vacant land, so those two things mix

together; it's a really good kind of project to see in those neighborhoods. In other neighborhoods you don't have as much land, and... the land would be too valuable to just grow food for sale on. (Dickhut, 2009)

It can be argued that both perspectives—aesthetics in the first quote and addressing vacant land and unemployment in the latter—suggest a partial economic motivation. Read another way, one can see the focus on psychological benefits to communities—the effects of having an attractive streetscape or of working together in a common space. There is less emphasis on environmental or health benefits, and there is arguably a lack of vision for urban agriculture or even food policy as a whole.

On the other hand, there are signs that Chicago is moving towards a more explicit and comprehensive vision for urban agriculture. For instance, in 2005, the city came out with a report entitled, *Eat Local, Live Healthy*, and the city is considering an urban agriculture overlay district to support entrepreneurial urban agriculture in the depressed neighborhood of Englewood (Lehman, 2009).

What Chicago has Done to Support Urban Agriculture

Zoning

- Favorable Zoning
- Chickens are permitted
- Compost Ordinance (2007)

Institutions and Programs

- Gardens in the Parks through the Parks District (2007)
- Kids Gardening Program through the Parks District (late 1990s)
- School Gardens in the Parks (recent)
- NeighborSpace (1996)
- CitySpace program
- Adjacent Neighbors land Acquisition Program (ANLAP)
- Green Roofs Grant Program (2005)
- Greencorps through Chicago Department of the Environment with CDBG funding (1994)
- City-Sponsored farmers' markets

Planning and Reports

- Open Space Plan (1997)
- Eat Local, Live Healthy plan (2007)

Projects

- Mid-term leases to urban agriculture projects, such as City Farm
- Growing Home (The city gave land (2008), and the Department of Workforce Development offered a grant (2009))

Under Consideration

- Urban agriculture overlay district

The City of Chicago's approach to urban agriculture is the least coordinated of the approaches discussed in these case studies. Community gardens are managed by different agencies and non-profits that do not necessarily coordinate their efforts. This may be in part because there are several agencies that deal with issues related to urban greening in the city. The Chicago Park District is a separate, but sister entity to the City of Chicago. There are also important programs through Cook County, which encompasses Chicago and oversees the Forest Preserve District. The Chicago Botanic Garden is run by the Forest Preserve District and helps to create and give technical assistance for community gardens.

The Gardens in the Parks program is run through the Chicago Park District. Other community gardens are run by the land trust NeighborSpace, which works with the City of Chicago Department of Zoning and Land Use Planning and is funded by several city and county entities.

One interviewee pointed out that because there is so little centralization or coordination, it can be difficult for the average citizen to get involved with community gardening: "...the best way to get involved is just to go out to the garden that you see in your neighborhood and find someone to talk to, 'cause there may not even be a number to call" (Helphand, 2009). However, there are many avenues of support for enterprising community groups and non-profits, and most of the existing programs are designed in such a way that they give support to grass roots groups, but do not fill

vacuums when there is an absence of neighborhood leadership (for instance, city-run community gardens in vacant lots).

In addition to community gardens run in partnership with the city, there are also several entrepreneurial urban agriculture projects. Some of the most prominent are City Farm, Growing Home and Growing Power. City Farm is run through the Resource Center, which runs temporary urban farms on land that is slated for future development and sells the produce to restaurants, through CSAs and an on-site farm stand. The farm also runs educational programs for local residents and job training for youth. Growing Home, discussed in the literature review has worked closely with the city to develop its site and its programs. Growing Power, which began in Milwaukee also runs farms and a CSA in the Chicago area.¹⁹

Zoning

Although there are many community gardens that are not run through the Parks Department, the use category for community gardens is within the larger category of *Parks and Recreation*. They are only permitted in certain kinds of parks (*Community and Neighborhood Parks*, not *Open Space/Natural Areas* or *Cemeteries*). *Parks and Recreation* is permitted in all residential districts and all commercial districts.

¹⁹ For a more extensive list of Chicago's gardens and urban agriculture projects, see the Greennet Web site: <http://www.greennetchicago.org/chicago.htm>

Permanent storage and maintenance areas/buildings are allowed as an accessory use in community and neighborhood parks, while temporary structures are a permitted use (*Chicago Zoning Ordinance and Land Use Ordinance*, Sec. 17-6-0203-E).

There is a compost ordinance (Chicago Health Nuisance Ordinance, Sec. 7-18-710, 7-18-715) that includes provisions to waive the compost permitting process for not-for-profit composting of landscaping materials and on-site composting of food waste. It also details required compost standards.

Because community gardens are permitted in all residential and commercial areas, there are no zoning barriers to the development of community gardens and some accessory structures.

Institutions and Programs

Chicago has a great number of programs that encourage urban agriculture. The city runs three programs related to community gardening through three different agencies, one of which is a coordinated effort between several agencies within the city and county. The county also runs its own community gardening program. However, all of the garden programs have a community greening emphasis, and the decision to focus on ornamental plants or food is decided by the neighborhood group in charge of managing the garden.

In addition to community garden programs, the city has programs that can be opportunities for urban agriculture. The Adjacent Neighbors Land Acquisition Program (ANLAP) allows residents to purchase city-owned vacant lots that are adjacent to their homes at a discount.^{20 21} The Green Roofs Grant Program gave out 40 grants of up to \$5000 for green roof installation, among which were a couple of food-producing roofs. The CitySpace program includes a Campus Parks program, which develops vacant land and replaces asphalt in school yards with parks and gardens.²² Below is a more detailed account of some of the programs.

Programs through the Chicago Parks District

Chicago has many large parks. In fact, most Chicago neighborhoods are named and defined by their nearest park. The Parks District, which manages these parks is a large agency, separate from the city, and with its own set of departments, including, for instance, waste management. The Parks District runs three programs related to food gardening: the Gardens in the Parks program, the Kids Gardening program, and the

²⁰ City of Chicago ANLAP Web site:

http://www.cityofchicago.org/city/webportal/portalContentItemAction.do?blockName=Promo+Item&channelId=-536879024&programId=536879091&topChannelName=Residents&contentOID=536897307&Failed_Reason=Invalid+timestamp,+engine+has+been+restarted&contentType=COC_EDITORIAL&com.broadvision.session.new=Yes&Failed_Page=/webportal/portalContentItemAction.do

²¹ In 2005, about four dozen households participated in the program (Buscemi, 2005), and while no numbers are available on how many used their land for gardens, urban agriculture activists in Chicago promote ANLAP as a source of land for gardens.

²² City of Chicago CitySpace Web site:

http://www.cityofchicago.org/city/webportal/portalContentItemAction.do?contentType=COC_EDITORIAL&contentOID=536896709&topChannelName=HomePage

School Gardens in the Parks program. Two of the programs have an educational emphasis, and of all the city programs, the Parks District programs seem to have the greatest emphasis on nutrition and health (Schenck, 2009). Jane Schenck is the coordinator for these programs.

The Gardens in the Parks program was created two years ago by the Parks District because people were informally gardening in city parks, and the Parks District wanted to assert some oversight and formalize the gardens (Schenck, 2009). Through the program, community groups can apply for park space to use for a community garden. The city has created a straightforward process by which groups can access parkland to create gardens, although the process does require a certain level of organization; for instance, there must be proof of neighborhood support for the plan (Schenck, 2009). Conditions for using park space for gardens include requirements that plants grown for consumption be grown in raised beds and that gardens have access to an existing water source in the park (City of Chicago Gardens in the Parks Web site: http://www.cpdit01.com/resources/community_gardens/index.html). There are over 40 community gardens in Chicago parks. Until this year, only six were devoted to food production, but this year, there have been five new requests for gardens. In the cases where the requested site is inappropriate—say say due to environmental concerns—the program helps gardeners to find a different site.

The Chicago Public School District and the Parks District envision a garden in every school. Because some schools are adopting a year-round schedule, garden education in school is more feasible in Chicago than in cities where students are on vacation during the summer. The Parks District supplements school gardens by providing gardens on park land for schools that cannot have gardens on their grounds. It also runs day camp programs for schoolchildren. In a recent initiative, grow boxes have been given to the day camps run by the Park, so that kids can grow some vegetables. The produce is donated to the summer food program (Schenck, 2009).

The Kids Gardening program is also run through the Park District, and it is a combination afterschool/day camp programs centered around gardening, often in schoolyards. The program takes place in 16 gardens, most of which are in low-income neighborhoods (Schenck, 2009).

The purpose of these programs is to help children understand where food comes from, appreciate vegetables, and to promote healthy eating habits. In addition to food growing, there's a nutrition curriculum, books are read to the kids, there are art projects, cooking, writing, and a "county fair" for all of the kids' gardens, where their produce is judged, and awarded prizes.

Greencorps

Greencorps is a program run by the Department of Environment and funded by Community Development Block Grants. It involves training for gardeners interested in starting community gardens, job training for those who want to learn horticulture and landscaping.²³

NeighborSpace

In addition to these explicitly municipal efforts, the city also has an arrangement with a non-profit land trust organization, NeighborSpace. The organization was founded in 1996 with the help of city authorization, in which the city promised to give or sell NeighborSpace leases or title to small parcels for gardens and to fund the organization. In 1998, the arrangement was amended to create 20 years of annual financial support for NeighborSpace with \$100,000 from each of the City of Chicago, the Chicago Park District, and the Forest Preserve District (City of Chicago, 1996).

NeighborSpace allows neighborhood groups and non-profits to create community open space without worrying about many of the expenses, such as the cost of land and insurance, although the costs of water and soil can still be significant. At the moment, there are 68 gardens in the NeighborSpace program. According to Ben Helphand, the Executive Director of the program, about a third of the spaces are being used primarily

²³ See the description on the Greencorps Web site: http://egov.cityofchicago.org/webportal/COCWebPortal/COC_EDITORIAL/009GreencorpsChicagoinfo.pdf

for food production and a third mix ornamental uses with a food production component. The program is flexible as community garden programs go, because gardens can be used for almost any kind of open space the neighborhood agrees to, including allotment gardens, ornamental gardens or entrepreneurial urban agriculture projects. At the same time, there are far fewer gardens run through NeighborSpace than there are through some other programs, such as the Grassroots program in Boston.

Planning and Reports

The City is currently working on its 2040 comprehensive plan, so it is yet to be determined whether food issues will be included.

The formation of NeighborSpace came out of the *Chicago Open Space Plan*. The plan focuses on green space in the city and does not particularly emphasize food production. This is taken up more in the *Eat Local, Live Healthy* report.

The *Eat Local, Live Healthy* report was created through a collaboration of activists and city officials and was adopted by the Chicago Plan Commission in 2007. It discusses Chicago's food system, looking at issues of access to healthful food in inner city neighborhoods and opportunities for strengthening ties to local agriculture. It mentions several recommendations for agriculture, mostly related to technical assistance and education (Chicago Department of Planning and Development, 2007).

Projects

In addition to programming, the city sometimes leases land to non-profits for urban agriculture. For instance, Growing Home is a non-profit that runs a six month job training internship program for those who have been homeless or in prison. To develop its urban farm in the Englewood neighborhood, the organization worked closely with the city. The city sold the almost one-acre parcel to Growing Home for \$1 and helped with the rezoning necessary to make the site viable for its planned uses. This year Growing Home also received a \$50,000 in CBDG funding from the Department of Family Services (Silverman, 2009).

There have also been some efforts at coordination, mostly by non-profits. The Fresh Taste Initiative brings together philanthropic institutions and government agencies in Illinois that are interested in supporting local food, and helps them to coordinate their efforts (Lehman, 2009). There is a Community Food Policy Advisory Council (CFPAC), led by Erika Allen of Growing Power, which includes activists involved in Chicago's food issues as well as city officials from several departments. They put out a report, *Building Chicago's Community Food Systems*, which looks at what is happening with community food systems in Chicago already, and what else can be done to increase urban agriculture and other aspects of the community food system (See Peemoeller et al., 2008). There is also a group, the Advocates for Urban Agriculture, which is becoming active as a networking tool for the Chicago urban agriculture community.

Under Consideration

Urban agriculture as a job creation tool appears to be coming onto the city's radar. The city is planning to create an urban agriculture zoning district in the Englewood neighborhood to encourage food-related businesses, and to allocate funds for environmental assessment and brownfield remediation (Lehman, 2009).

Conclusion

Chicago has a lot of potential for the development of urban agriculture. It has a great deal of vacant land, a city government interested in greening the city and an active and interested citizenry. The city has even shown that it is willing to commit funding and personnel to such projects.

With its permissive zoning and willingness to lease or donate vacant land, Chicago is a good place for urban farms. Chicago is also a good place for enterprising citizens who want to lead community greening efforts. At the same time, Chicago does not do much to generate new citizen interest in gardening but does work to secure more permanent land tenure for existing gardens. Rebekah Silverman of Growing Home characterized the city's approach to urban agriculture as primarily a responsive one:

It often feels like the city is going by the seat of its pants in terms of making policy decisions about this kind of thing. So far, they have always made them in a direction that useful to us... I think overall there is...a willingness to learn... and

a willingness to try new policies..... Mayor Daley is really “green.” He’s really interested in rooftop gardens, so that’s great but that’s...only one aspect of it; they’re really interested in making drainable alleys... but that doesn’t attack the issues that we’re really looking at... but at the same time, when we go to them and say “Here’s what we want to do.” They say, “Oh, oh, ok. We’ll try.”

(Silverman, 2009)

As groups like Growing Home work with the city, they are paving the way for other similar enterprises. Kathy Dickhut with the city and Rebekah Silverman of Growing Home have both been involved in the development of their Wood St. farm and they said independently that the process is a prototype for future partnerships between the city and entrepreneurial urban agriculture ventures (Dickhut, 2009; Silverman, 2009).

There is little coordination between the agencies that support urban agriculture, which may be due to the city’s size and the number of autonomous agencies with influence on the city’s development. Perhaps in part because of this fragmentation, the city has yet to formulate a vision for urban agriculture. For the City of Chicago, urban agriculture is one way to accomplish urban greening and community and economic development. The city is willing to allocate substantial financial support for projects, as long as they are initiated by community groups or non-profits. The Parks district has a similar attitude with its Gardens in the Parks program, but takes a more proactive approach with its education programs. Overall, the Parks District is more focused on education

and nutrition than on economic development or aesthetics. In part this may be because it does not have the same motivations that city government does to increase tax revenues or to address urban blight.

The lack of a vision for urban agriculture may not be a material problem, with so many active community leaders, and so many opportunities for municipal funding and assistance. However, creating such a vision might address some of Chicago's cultural barriers to urban agriculture. While some alders have been active in pushing urban agriculture projects forward, some are suspicious of it. It may be that by developing a more comprehensive vision for urban agriculture, urban agriculture would be better understood and embraced by citizens. Ben Helphand of NeighborSpace said:

I think one of the things Chicago needs is kind of a large scale embrace of gardening, and it's something we don't quite have yet. I think a little encouragement would go a long way, if Chicago embraced it as part of its... green image. And certainly we have things like the green roofs, and those are more like the rock stars of horticulture, but you know we need the hootenannies of horticulture....I think there's a lot of untapped potential, and I think it's not just the city but all of the non-profits could support it at every level, from... window box gardening up to larger scale stuff. And then you'd have more support and you'd be building the future of the movement. (Helphand, 2009)

There are counter-examples to the lack of coordination with regard to urban agriculture, such as NeighborSpace and the *Eat Local, Live Healthy* report, which was created by a group of non-profits and city officials. The recession may provide the impetus for more such efforts, and possibly a comprehensive vision for urban agriculture in Chicago. Perhaps the city's reliance on community ingenuity will pay off and citizen-initiated networks like the Advocates for Urban Agriculture, the CFPAC and the Fresh Taste Initiative will lead the way towards a more coordinated urban agriculture policy for Chicago.

Case Study: The City of Boston, Massachusetts

Introduction

Boston is one of the oldest cities in U.S., and the country's second densest major city after New York. Its population is 609,023 according to a 2008.²⁴ It is a coastal city with colder winters than Portland and less sunlight than Chicago. Over the course of its history, it has used fill to expand its land area. In the 1940s and 1950s the city embarked on a controversial redevelopment project in the West End that involved the city's taking large areas of land through eminent domain. The resulting backlash created a citizenry that is both vigilant and organized, and the city has centered much of

²⁴ U.S. Census Web Site:

http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&geo_id=16000US4159000&_geoContext=01000US|04000US41|16000US4159000&_street=&_county=Boston&_cityTown=Boston&_state=04000US25&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=160&_submenuId=population_0&ds_name=null&_ci_nbr=null&q_r_name=null@%3Dnull:null@=null@%3Dnull:null:null&_keyword=&_industry=

its planning energy on neighborhood development (Bailkey, 2003). This is reflected in the city's Department of Neighborhood Development, which is a separate entity from the Boston Redevelopment Authority, which deals with city-wide planning issues. Unlike many other cities, Boston's population grew throughout the 1980s and 1990s, and it has about 2,200 city-owned vacant parcels according to a fairly recent count (Bailkey, 2003). This is much less vacant land than many other cities of comparable size. While some cities with limited vacant land and high real estate prices might have a pure focus on auctioning off land to the highest bidder, Boston is pro-active about developing vacant lots into community gardens and urban agriculture projects.

The municipal staff and the non-profits involved in Boston's urban agriculture programs are in touch with one another and have a broad view of their mission with regard to supporting urban agriculture. While there is, as yet, no formal vision for urban agriculture as a whole in Boston, Mayor Thomas Menino (in office since 1993) and is a vocal supporter of community gardening and is in the process of creating a food policy council.

What Boston has Done to Support Urban Agriculture

Zoning

- Permissive Open Space zoning
- *Olmstead Green Overlay Smart Growth District*
- *Community Gardens Open Space Subdistrict (1988)*

Institutions and Programs

- Parks Department owned gardens (1970s-present)
- DND owned gardens (1970s-present)
- Agriculture rates for water
- Yard Sale program for adjacent vacant properties
- Grassroots program through Department of Neighborhood Development (land from Massachusetts Bay Transit Authority, Conservation Commission, Dept. of Conservation and Recreation (state), School Department, Boston Housing Authority)
- Coordination through different departments for vacant land inventory
- Schoolyard Initiative (1990s)
- Composting program (1990s)
- Boston Housing Authority gardens
- Main Streets Program (farmers' markets)
- Bounty Bucks (2009)
- Coordinating businesses (e.g. rooftop farmers and supermarkets)(2008-2009)
- Mayor's food policy council (2009)

Planning and Reports

- Boston Open Space Plan Chapter 4 (Department of Parks and Recreation 2002-2006)

Projects

- Leasing and giving land to urban agriculture non-profits (e.g. ReVision House Farm)
- Landscaping workshop to garden safely

Under Consideration

- Removing building code barriers to green roofs
- Green walls
- Mayor's food policy council

While the city does run gardens through several city agencies, probably more than half of Boston's 178 community gardens are run by non-profit land trusts with city support (Post-Ergun, 2009). There are waiting lists for most of the gardens which have increased in recent years (Post-Ergun, 2009). There are also several urban farms that receive municipal support, though fewer than in Chicago.

Home gardening is less common in Boston than in Portland or Chicago because houses with yards tend to be triple-deckers, which frequently house multiple households. Even so, it appears that home gardening is on the rise in Boston (Kochka, 2009).

Boston's approach to urban agriculture can be seen as a network model. Several agencies in Boston's government are involved in supporting urban agriculture, and

particularly community gardens. The Department of Neighborhood Development, the Boston Redevelopment Authority, and the Department of Parks and Recreation all play important roles in Boston's urban agriculture landscape, and they are in close communication with one another, particularly when it comes to managing vacant land. The city also has a whole chapter in its recent Open Space Plan devoted to community gardens.

Boston's zoning is permissive, mentioning gardens in both the open space use category that is permitted in most districts and as an open space subdistrict. There is also an overlay district in which urban agricultural activities such as food-related retail are explicitly mentioned as a permitted use.

In addition to community gardens, the city is home to several entrepreneurial urban agriculture organizations, such as the Food Project and Re-Vision House Farm.²⁵ Some in city government are leery of encouraging widespread home gardening because of soil contamination, and the Department of Neighborhood Development runs a garden education program which teaches people how to garden safely. Boston is also relatively unfriendly to livestock. While aquaculture is permitted, the keeping of chickens and other livestock is not.

²⁵ For a fairly comprehensive list of urban agriculture projects in Boston with descriptions, see the Heart of the City Web site: <http://ksgaceman.harvard.edu/hotc/DisplayIssue.asp?id=120>

Zoning

Several cities are considering the creation of an urban agriculture district that could be used as a tool for legitimizing urban agriculture and protecting gardens or farms.

Boston is probably the first city to create such a district. In the late 1980s the city looked at its zoning and realized that there were very few protections for open space that was not in the form of parks. The city created an *Open Space* district. Many open space parcels that were owned by the city would receive the designation, and private or non-profit owners of open space could voluntarily have their land rezoned as *Open Space*. This arrangement is not particularly unusual. However, the city divided its *Open Space* district into nine subdistricts, including *Urban Wilds*, *Cemeteries* and *Community Gardens*. The subdistrict designations were created to preserve a diversity of open space. About 40 gardens currently have a *Community Gardens* subdistrict designation, which means that if someone wants to develop the land or use it for a different purpose, a rezone would be required. However, no such rezones have been requested (Shaklik, 2009). Below is the language of the ordinance:

Open Space Subdistricts (Article 33)

33-1 Preamble. This article supplements the creation of an open space district (OS) designation, which under Text Amendment NO. 101 can be given to public lands or, with the written consent of the owner, to private property. The open space district and nine open space subdistricts, taken together, present a comprehensive means for protecting and conserving open spaces through land

use regulations. The open space (OS) designation and an open space subdistrict designation can be used in conjunction with each other, thus establishing for the land so designated the particular restrictions of one of the subdistricts: community garden, parkland, recreation, shoreland, urban wild, waterfront access area, cemetery, urban plaza, or air-right. Land can be given the OS designation, however, without the simultaneous designation of a particular subdistrict, such as “park” or “garden,” where the desired subdistrict designation is yet to be determined. This system instills flexibility into the regulation of open space.

Community Garden Open Space Subdistricts (Article 33-8)

Community Garden open space (OS-G) subdistricts shall consist of land appropriate for and limited to the cultivation of herbs, fruits, flowers, or vegetables, including the cultivation and tillage of soil and the production, cultivation, growing and harvesting of any agricultural, floricultural, or horticultural commodity; such land may include Vacant Public Land.

Community gardens fall into the use categories of “Public Open Space” and “Usable Open Space.” Accessory structures are allowed for both, but limited in the space allowance. Open space is allowed in all residential and business districts and almost all industrial areas. (Boston Zoning Ordinance).

As in Portland and Chicago, gardens are a permitted use in most ordinary districts. The Public Open Space use category applies to gardens, and the Usable Open Space category explicitly mentions them. Allowed uses include permanent structures such as greenhouses, although there are size limits. There is also a use category that covers farmers' markets:

Public Open space (Definitions, Section 2.37): ...an open space in public ownership devoted or to be devoted to a public use with only minor accessory buildings, if any. No structure that exceeds twenty feet in height or two thousand square feet in gross floor area shall be considered to be a part of such open space...

Usable open space (Section 2.48): ...space suitable for recreation, swimming pool, tennis court, *gardens*, or household service activities, such as clothes drying. Such space must be at least seventy-five percent open to the sky, free of automotive traffic, parking, and undue hazard, and readily accessible by all those for whom it is required.

Open space is allowed in all residential and business districts and all industrial areas except the "Maritime Economy Reserve," in which it is forbidden.

Farmers' markets fall under "... outdoor sale or display for sale of garden supplies, agricultural produce, flowers and the like" (Boston Zoning Ordinance Article 8.50). This

is forbidden in all three residential districts and the maritime economy reserve district. It is conditional in commercial and waterfront industrial zones and allowed in the restricted and general manufacturing zones.

Lastly, there is the Olmstead Green Smart Growth Overlay District for parts of Mattapan, a Boston neighborhood. Within that district there is a Mixed Use subdistrict in which urban agriculture, including entrepreneurial urban agriculture is explicitly permitted. The use is defined as, “Food production uses, including food production center incubator and food-oriented retail” (Article 87A. Inserted on January 9, 2008). This zone encompasses the private Apple D’Or Tree composting operation, where much of the city’s landscaping waste is disposed of.

Institutions and Programs

Boston has programs to lease and sell land for community gardens. It has programs to fund the creation of community gardens, most notably the Grassroots program, in the Department of Neighborhood Development, which “funds the design and construction of community gardens and open spaces” and “conveys city-owned land to nonprofit organizations for community benefit and use.” (Post-Ergun, n.d.: 3) It uses Federal Community Development Block Grants to give three to five technical assistance grants up to \$25,000 and three to five construction grants up to \$150,000.

In addition, the program director works with other city agencies to identify land that can be used for community gardens:

Usually there's a point person in every agency that just does community gardens... I'm the point person for the Department of Neighborhood Development and we basically know each other. For instance, whenever I put my annual funding RFP, I send it out to all the different agency point people. We keep in contact with each other on a regular basis and let each other know what's going on. Very often we're calling each other for assistance in finding land or funding. Sometimes I write support letters for projects that are going on—school department property....It's sort of informal—it's not institutionalized, but there's a pretty strong set of relationships where we work with each other across agency lines... (Post-Ergun, 2009)

Many of the community gardens are run by large land trusts, such as the Boston Natural Areas Network and the South End Land Trust. This year, six new gardens are being created, and they will be leased from the city, in most cases by the Boston Natural Areas Network. If the gardens are successful, they will be conveyed to the non-profit managing them (Post-Ergun, 2009). The gardens are typically managed by neighborhood groups and overseen by the land trust or the city agency that owns the land. The overseeing group is responsible for insurance and mediation if there is a problem with internal politics. The city also gives gardening groups agriculture water rates and free compost, so the cost of soil and water is not much of a barrier to the success of a garden (Kochka, 2009).

During the 1990s, the Boston Schoolyard Initiative, with strong encouragement from the mayor, brought together the city and private funders to remodel many of Boston's public school yards with more green space, and in some cases school gardens (Lopez et al., 2008).

The Boston Housing Authority has begun to include community gardens as part of its affordable housing projects (Post-Ergun, 2009). This is a practice to watch, since many other cities see city housing projects as an ideal place for community gardens.

In the summer of 2009, the mayor's office started a program, called Bounty Bucks, which allows people with food stamps to buy produce of up to a certain cost at half price, while the city reimburses the farmer for the other half. ReVision House Farm, which sells its produce at farmers' markets and works on getting food to low-income communities likes this arrangement, because it draws low income people to the markets, "and it's an incentive for farmers to go into lower income communities so that they can charge a fairer price for the farmer in those...communities." (Kochka, 2009)

This summer, mayor is forming a food policy council to further define the city's vision. The council will include representatives from non-profits and businesses involved in urban agriculture as well as staff from city agencies including the Mayor's office, the Boston Redevelopment Authority and the Health Commission (Kochka, 2009).

The attitude of the city about its role in urban agriculture is a combination of enabling and pro-actively encouraging. While the city tries to make resources available to those who express interest, it also reaches out. In an interview, Andria Post-Ergun said of the Grassroots program, “We do look at neighborhoods that are underserved for open space and try to...wedge ourselves into the community meetings and try to get people more interested....We try to be proactive and get interest in neighborhoods for open space and community gardens.” (Post-Ergun, 2009).

Galen Nelson, the Green Tech Business Manager helps to put businesses that are interested in greening their operations in touch with businesses and resources that they might find useful. For instance, he is currently facilitating a partnership between a food retailer and an urban farmer that wants to use the retailer’s roof for food production. He says that the city’s role is to try to remove barriers that prevent businesses from becoming more sustainable, as well as creating incentives. However, he stresses that the city is primarily a facilitator:

[W]e’re doing what we can to provide the kind of technical support, the expertise, the marketing... providing some financing tools to help them, but ultimately consumers and business owners need to pull the trigger, and there’s only so much that we can do as a city to try to get people to do the right thing. [I would] say it’s a combination of both creating incentives, creating more awareness, and creating a culture in which [sustainability] is not just accepted

but actually celebrated, and then providing tools for residents and business owners to move forward. (Nelson, 2009)

Planning and Reports

Boston completed an open space plan in 2006, which has a chapter on community gardens; identifying needs, goals and recommendations for the city. The 16-page document covers issues of community gardens and community development, acquisition and permanency, capital investment, maintenance and support, productivity, management, education, training and programming, and resource development.

In describing the function of community gardens, the document emphasizes the neighborhood development aspect of the gardens, particularly aesthetics, community building and crime prevention. There is a strong implication that community gardens should be seen as permanent uses:

Many [gardens] began as food-producing plots used by people of limited means but have grown to serve as important social and educational centers for gardeners, their families, and neighbors. More importantly, gardens facilitate the empowerment of people by involving them in community planning processes that define an appropriate balance of open and built spaces. Community gardens also serve to welcome newcomers to existing neighborhoods and offer neighbors

common goals. The work involved in creating and preserving community gardens has brought many residents together, whether or not they are gardeners, to both protect neighborhood character and provide the space necessary for gardening and gathering.

Usefulness, self-sufficiency, beauty, productivity, cooperation, and education are some positives that grow out of community gardens in addition to the food and flowers raised. Well-managed gardens are a source of community pride while flourishing gardens contribute to the perception of gardens and their environs as secure spaces within Boston's neighborhoods. Residents use community gardens as safe meeting places, and by virtue of the variety of cultures represented by the city's gardeners, these spaces are also a common meeting ground for shared neighborhood experiences. (Boston Parks and Recreation, 2002-2006: Part 4)

Surprisingly, health is not emphasized, and gardens are seen more as an important form of open space and community-building than as a health or financial resource. At the same time, the city has explicitly health-oriented policies related to urban agriculture, such as the Bounty Bucks program, and landscaping courses that teach people how to garden safely, without risk of producing contaminated food (Kochka, 2009; Post-Ergun, 2009).

Projects

In addition to its partnerships with land trusts, the city has given land to entrepreneurial urban agriculture projects such as the Food Project and ReVision House Farm, which serve low-income communities.

The new community gardens that are being started this year through the Grassroots program are being coordinated by a non-profit that works with refugees. To decide where to place gardens, the city helped facilitate a mapping project, to map where gardeners lived and where vacant lots might be available, to determine siting (Post-Ergun, 2009).

Under Consideration

While the city of Boston has largely been a zeitgeist when it comes to community gardens, Chicago has filled the same role with regard to green roofs. And while Chicago is looking to expand its sustainability programs into urban agriculture, with the urban agriculture overlay district, Boston is working to expand its green roofs program. The city is looking at reducing the barriers in the building code to green roofs, and trying to encourage rooftop farming, mostly for resale (Nelson, 2009).

Conclusion

The City of Boston has been very supportive of urban agriculture, whenever land and interest is available. It has provided funding, staff, land and coordinated organization.

Many credit the mayor's leadership. Andria Post-Ergun says, "The mayor of Boston strongly supports urban agriculture, which is a great thing. It's very important to have the... support from the very top, which doesn't always happen" (Post-Ergun, 2009). It also appears that the mayor has interest in many of the goals that urban agriculture fulfills: open space, community development, nutrition, and economic development. According to the open space plan, he was also a childhood gardener (Department of Parks and Recreation, 2002-2006).

Boston's approach combines a very active city policy with some autonomy for non-profits and for citizens. It is also responsive to citizens and organizations that take initiative with regard to urban agriculture. However, the lack of vacant land, particularly in wealthier neighborhoods, makes it difficult to expand urban agriculture rapidly enough to meet citizen demand.

IV. Comparative Analysis and Conclusion

The cities discussed in this thesis have been leaders in urban agriculture policy, and they are useful models for other cities that are trying to develop a municipal policy regime more supportive of urban agriculture. In developing such a policy regime for a city, it is helpful not only to imitate practices from other cities that have proven effective, but also to think holistically about the institutional, political, cultural, historical and geographic context of the city. This context shapes the need for particular policies and also contributes to the success of those policies. By considering “best practices” in this way, cities can create place-specific variations that will be suitable for them.

The information in this thesis represents a snapshot in time of what these three cities have done as of June, 2009. It may also be incomplete, since only a percentage of those involved in the cities’ policy creation and advocacy were interviewed. Also, counties and states have programs in place to support urban agriculture and thus shape the policy landscape. For example, most adult garden education in Boston comes from Extension services, and is therefore beyond the scope of this thesis.

Comparative Analysis of the Cases

The following table describes the urban agriculture outcomes that are supported by municipal policy in each of the cities. In all cases municipal policy offers permission,

land, funding, coordination for urban agriculture, as well as cultivating positive public opinion around growing food in cities. This is the “promise” of municipal policy for urban agriculture. At the same time, by focusing municipal resources and attention on certain forms of urban agriculture, cities can limit opportunities for other forms. For instance, Portland emphasizes urban agriculture as a form of food production, encouraging widespread home gardening. At the same time, all community gardens are run by the city, which means that their expansion is limited by city resources and that the gardens cannot be used as a source of income. These factors limit the degree to which urban agriculture is a tool for community interaction and community economic development. In contrast, Chicago does not see urban agriculture as a potentially important food source, but primarily as a form of open space and a tool for community development. As a result, urban agriculture is not promoted on the scale that it might be. The reliance on community groups to organize urban agriculture projects creates a climate that supports activism, but leaves gaps where there are fewer community leaders interested in urban agriculture. It results in a landscape that is not coordinated, where the citizens have a hard time getting casually involved. In Boston, the focus on urban agriculture as an activity appropriate for public spaces deemphasizes home gardening. These are examples of the “pitfalls,” or limitations, that even supportive municipal policy can place upon urban agriculture.

City	UA outcomes supported by policy	Problems remaining for UA
Portland	<p><i>Encouraged through explicit permission</i></p> <ul style="list-style-type: none"> • Urban agriculture as a form of open space • Livestock keeping <p><i>Encouraged through technical assistance and marketing</i></p> <ul style="list-style-type: none"> • Widespread participation in gardening • CSAs and other mechanisms for distribution of local produce • Perception of urban agriculture as a tool for sustainability <p><i>Encouraged through city-run programs and funding</i></p> <ul style="list-style-type: none"> • Community gardening opportunities • Raised beds for gardening for the elderly and disabled • Finding privately owned land for urban agriculture • Community involvement and leadership in community gardening • Centralized access to gardening space and information resources • Networking among urban agriculture groups • Community input into the direction that UA in the city will take 	<ul style="list-style-type: none"> • Inadequate space for the level of interest in community gardening • Few mechanisms to encourage urban agriculture incubator businesses • No systematic process for turning vacant land into urban agriculture • Minimal integration of urban food production with other benefits (e.g. other open space uses) • Sometimes soil and water expenses

Chicago	<p><i>Encouraged through explicit permission</i></p> <ul style="list-style-type: none"> • Community gardens in almost all neighborhoods • Chicken keeping <p><i>Encouraged through training and marketing</i></p> <ul style="list-style-type: none"> • Widespread participation in gardening • Perception of urban agriculture as a form of open space, and sometimes as a tool for health and economic development <p><i>Encouraged through city-run programs and funding</i></p> <ul style="list-style-type: none"> • Opportunities for community leadership in urban agriculture • Some community gardens • Raised beds for gardening for the elderly and disabled • Systems for turning vacant land into urban agriculture • Urban farms with temporary mid-term leases • Urban farms with permanent sites • Green roofs • School gardens and childhood garden education • Integrating food production with other open space uses, e.g. parks) • Farmers' markets • Urban agriculture incubator businesses 	<ul style="list-style-type: none"> • Inadequate opportunities for gardening, particularly in wealthier, high density neighborhoods • Minimal coordination for those who want to get involved • Inconsistent protection from site contamination • Inconsistent support from alders for proposed urban agriculture projects • Sometimes water and soil expenses
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Boston	<p><i>Encouraged through explicit permission</i></p> <ul style="list-style-type: none"> • Community gardens • Farmers' markets • Farm stands • Urban agriculture incubator businesses (some places) <p><i>Encouraged through training and marketing</i></p> <ul style="list-style-type: none"> • Green roofs • Business networking • Perception of urban agriculture as open space, a tool for health, community building and sustainability <p><i>Encouraged through city-run programs and funding</i></p> <ul style="list-style-type: none"> • Systems for turning vacant land into urban agriculture • UA projects with leases • Urban farms with permanent sites • School gardens and childhood garden education • Farmers' markets • Community gardens in affordable housing projects • Networking of organizations and creating a coordinated vision for food policy 	<ul style="list-style-type: none"> • Inadequate space for gardening, particularly for those who don't travel to large sites • Few opportunities for home gardening
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The three cities here examined all run programs and have planning in place that supports urban agriculture. They offer support in a variety of ways, varying from passive to active support. Permissive and protective zoning and livestock ordinances legitimate urban agricultural projects and allow them to spring up, but do nothing to create them. Technical assistance and educational programs create citizen and entrepreneurial interest in urban agriculture. City-run programs and funding mechanisms help interested citizens with financial, land and organizational resources that are needed to create viable urban agriculture projects. While in all of the cities, all of these types of support were present, the cities' approaches are quite distinct, and the sorts of urban agriculture they foster are also different. In all cases, barriers to urban agriculture still exist, which could potentially be addressed through policy.

True to its reputation, Portland has taken a deliberate approach, involving a lot of planning. While Chicago's and Boston's planning has been more post-hoc, many of Portland's urban agriculture programs are developing from recommendations in the *Diggable City* report. Portland is only beginning to seek out partnerships with non-profits to create urban farms and it does not yet have a systematic mechanism in place for turning vacant land into gardens. However, the Bureau of Planning and Sustainability has been trying to identify appropriate land for urban agriculture projects and to find interested groups in the community to run them. It is too early to tell what the success or scale of these efforts will be. The city is also making efforts to promote home gardening and small scale entrepreneurial urban agriculture, such as

intensive backyard SPIN farming, and it is permissive of livestock. The proposed municipal composting program has the potential to supply gardeners with inexpensive clean soil.

The demand for community gardens in Portland is not currently being met, and there are discussions about whether to limit the number of years that a gardener can use a plot or whether to split plots in half. There are also efforts to identify new garden sites, but vacant land is highly valued by all of the city agencies that possess it. Even the Parks department, which runs the community gardens program is reluctant to allocate land to gardens, because there is frequently competing demand for new parks, playing fields and playgrounds. More than in Chicago or Boston, Portland's community gardens are single-use spaces, designated only for food production allotments. This makes them more like common private space than like fully public space. If there were a mechanism for creating spaces that integrate food production with recreation and other benefits as those in Chicago and Boston do, community gardens might be a more popular use of open space among neighbors who are not interested in gardening.

Portland places a strong emphasis on sustainability and appears to be the most "food-conscious" of the three cities. Historically this has involved more concern about rural farmland protection than the promotion of urban agriculture as a type of green space. The city's increasing involvement in urban agriculture seems to be motivated by a

desire to expand the consumption of local food and to afford recreation than to improve troubled neighborhoods or create jobs, although those may be a secondary result.

Chicago, by contrast is less interested in urban agriculture for its food production potential. Urban agriculture is seen variously as a practical form of public open space and as a tool—for addressing neighborhood blight, for creating jobs and for providing outdoor and nutrition education to children.

The city's programs were designed to give support to projects initiated by community groups and non-profits. Both NeighborSpace and the Gardens in the Parks program afforded more secure land tenure to existing "guerilla gardens." This year has seen an upsurge in efforts by community groups to use these programs as a way to create new food gardens. As in Portland and Boston, the demand for community gardening in Chicago outstrips the supply, but there are fewer formal mechanisms in place to manage waiting lists or point people towards available plots in the city.

Because of its abundant vacant land, Chicago has a lot of potential for productive urban agriculture projects. It is attracting urban agriculture entrepreneurs, a development which is welcomed by neighborhoods such as Englewood.

All of the non-profit leaders interviewed suggested that the next step for the city is to create some mechanisms for coordination and promotion of urban agriculture. Several

interviewees mentioned the prospect of creating something like a county fair (which Cook County lacks) to showcase urban agriculture. Also, if the urban agriculture overlay district becomes a reality, it will become a model to cities around the country and the world, and may play a similar role in showcasing the potential for urban agriculture in Chicago that the *Diggable City* report did in Portland.

Boston's approach to urban agriculture is more extensive than Portland's and more coordinated than Chicago's. Perhaps because the Mayor Menino champions gardening and food access the way Mayor Daley champions green roofs, food production is a land use that symbolizes the intersection of the objectives of several important city agencies: The Bureau of Planning and Development, the Department of Neighborhood Development, the Parks Department, Boston's Conservation Commission and the Boston Health Commission. Urban gardens and farms are seen as an agreeable use for vacant land and a tool for neighborhood development, as in Chicago, and as an opportunity to enhance the rural-urban connection among citizens, to address sustainability concerns and to improve healthful food access as in Portland.

The city's relationship with the Boston Natural Areas Network and other land trusts resembles Chicago's relationship with NeighborSpace, but the gardens through Boston's programs are more food garden oriented and more extensive (particularly per-capita). Like Chicago, the city has a program to transfer to neighbors vacant land that can be used for gardening, and it has a program to expand gardening in schools.

Like Portland, Boston has worked on planning for urban agriculture, only the plan is within an open space plan rather than a climate protection plan. In addition, Boston's Community Gardens and Smart Growth Overlay districts have been effective in encouraging and protecting urban agriculture projects in Boston.

In spite of its efforts, Boston probably has fewer urban gardeners per capita than Chicago or Boston, just because there is so much less opportunity for home gardening there.

General Discussion

The differences in the cities' approaches can be attributed to a number of potential causes: the players involved, the cities' geography, economic circumstances, environmental conditions and existing institutional structure. In some cases these factors may lead cities to embrace urban agriculture, and in other cases, they may lead in directions that are not conducive to urban agriculture or the array of possible benefits that such projects can bring. This is not necessarily inevitable. New policy is often motivated by citizen clamor or problems that come up, and as a result, it is often created piece-meal. However, for cities that have begun to develop policies and programs related to urban agriculture either because of citizen interest or as a way to address some of the city's problems, it may be that by exploring different visions, cities can hit upon an array of feasible approaches. By understanding that urban agriculture

can be beneficial in a range of domains that are typically separate, city agencies and non-profits with different interests can arrange to collaborate.

At the same time, there may sometimes be trade-offs. For instance, intensive urban agriculture with livestock may be good at providing jobs and educational opportunities, but may not necessarily be popular with neighbors. In areas with a dearth of playing fields or parks, community gardens might not seem like the optimal use of open space. In open spaces that are serving a storm water retention function, a food production garden might not serve the purpose as effectively. In some cases, it may be possible to find a way to integrate multiple uses, by incorporating food gardens as a component in parks, as Chicago does, by making them venues for concerts and other non-gardening recreation, as Boston does, or by incorporating them into storm water management sites, as Portland has with Zenger Farm. When this is not possible, it may be appropriate to direct particular sorts of urban agriculture spatially. For instance, by creating an overlay zone that encourages development of entrepreneurial agriculture projects in areas where there is neighborhood interest.

Cities also have the ability to address the sustainability of urban agriculture projects. They can create urban agriculture or community garden districts as Boston and Cleveland have, to protect gardens from future development, or they can create institutional structures that give support to neighborhood groups and non-profits, as all of the cities in the case studies for this thesis have done. With so many resources and

connections at their fingertips, cities can allocate long-term funding streams for garden maintenance, and facilitate arrangements that help gardeners and farmers with access to water and clean soil.

This thesis suggests various ways that urban agriculture advocates and municipal governments can think about and address urban agriculture if they wish to support it. By looking at the case studies, it is possible to see how separate programs interact to create a municipal policy regime that favors certain types of urban agriculture over others, and shapes the way citizens, businesses and politicians get involved.

Suggestions for Further Research

In the course of the research for this thesis, several research questions became apparent that have not been fully addressed in the literature. While they were beyond the scope of this project, they would be of great interest to academics and practitioners interested in urban agriculture.

Along the lines of this research, it would be useful to expand the examination of case studies beyond the municipal policy context and to explore how municipal, county, state and federal policy interact to create an urban agriculture policy regime. This could be yet further expanded to include geographic and historical factors that shape the outcomes for urban agriculture.

Butterfield's 2009 report on the impact of home and community gardens gives an overview of the number of gardeners in the U.S. and the reasons that people garden. However, it is a general national overview and is not specific to cities. Particularly when considering municipal policy, it would be helpful to have estimates of how many people garden in a city, the demographic data on who gardens, what form the gardening takes, where gardening is particularly popular, and what people's motivations for gardening are.

Many in the literature speculate about how much food may be produced through urban agriculture. Research would be welcome that could quantify how much food is actually produced in a given place and what the value of that food is, both in dollars, and perhaps in environmental services, such as reduced carbon emissions, waste recycling, and storm water absorption.

It would also be helpful to have information on the impact of urban agriculture on those who are not directly participating in growing food, for instance, neighbors of community gardens or urban farms. Do they consider urban agriculture a nuisance or a resource?

For this research, interviews were done with staff from non-profits that have successfully created urban agriculture projects. However, there is little information on

individuals or groups that would like to start urban agriculture related non-profits or businesses, but have found the barriers to be too great.

With a larger sample of cities and better data on participation in urban agriculture, it would be possible to look at factors contributing to the growth of urban agriculture or the form that it takes (for instance, home gardening or entrepreneurial projects). These factors might include the quantity of available vacant land, the form of government (e.g. strong or weak mayor), the size of the city, the amount of funding allocated to urban agriculture by the city and private foundations, or the history of advocacy and activism in the city.

It would be interesting to look at how urban agriculture policy in a city came to be and to identify the primary motivators and barriers to policy. It might be possible to trace how the public discourse around food, sustainability, and land has influenced policy and how rhetoric has been used by advocates and city officials to encourage policy favorable to urban agriculture. It would also be helpful to examine the politics from the perspective of the individual players. In the research for this thesis, it was difficult to tease out how much of a role an individual mayor played, how many decisions were motivated by public demand, or by particular city officials.

Conclusion

Urban agriculture is a growing field of interest. It remains to be seen whether the interest is just a wave spurred by the faltering economy, like the potato patch programs at the turn of the last century, the relief gardens of the Depression and the community gardening movement of the 1980s. While some speculate that interest will fade, it may be that environmental issues, rising fuel costs and the momentum of public sentiment and existing policy will keep urban agriculture on the agenda for municipal governments.

If even the present demand for urban farming and gardening opportunities is to be met, cities—including those that are at the cutting edge of urban agriculture policy—will have to be bold and creative in finding ways to make land available, infrastructure accessible and regulations flexible on a much larger scale than they have grown accustomed to. At the same time, there will likely be payoffs more than comparable to the costs.

Appendix A: Interviews

Portland

Debbie Cleek, Green Building Specialist, City of Portland Bureau of Development Services. Interviewed May 27, 2009.

Steve Cohen, Program Manager, Food Policy and Programs, City of Portland Bureau of Planning and Sustainability. Interviewed March 4 and 5, 2009.

Jill Kuehler, Executive Director, Zenger Farm. Interviewed June 23, 2009.

Leslie Pohl-Kosbau, Director of Portland Community Gardens, City of Portland Parks and Recreation. Interviewed March 14, 2009.

Chicago

Kathy Dickhut, Deputy Commissioner, City of Chicago Department of Zoning and Land Use Planning. Interviewed February 20, 2009.

Ben Helphand, Executive Director, NeighborSpace. Interviewed June 17, 2009.

Karen Lehman, Director, Fresh Taste Initiative. Interviewed June 30, 2009.

Jane Schenck, Gardening Program Specialist, Edible Gardens in the Parks, Chicago Park District. Interviewed May 29, 2009.

Rebekah Silverman, Associate Director for Resource Development, Growing Home.

Interviewed June 25, 2009.

Boston

Matt Kochka, Farm Manager, ReVision House Farm. Interviewed July 10, 2009.

Galen Nelson, Green Tech Business Manager, Boston Redevelopment Authority.

Interviewed June 9, 2009.

Andria Post-Ergun, Director, Grassroots program, City of Boston Department of Neighborhood Development. Interviewed April 6, 2009.

Richard Shaklik, Deputy Director for Zoning, Boston Redevelopment Authority.

Interviewed July 7, 2009.

Appendix B: Interview Consent Form

UNIVERSITY OF WISCONSIN-MADISON Research Participant Information and Consent Form

Title of the Study: Urban Agriculture Policy in U.S. Cities

Principal Investigator: Harvey Jacobs (phone: [REDACTED])

Student Researcher: Nina Mukherji (phone: [REDACTED])

Fax Number: [REDACTED]

DESCRIPTION OF THE RESEARCH

You are invited to participate in a research study about urban agriculture policy in U.S. cities.

You have been asked to participate because your organization has worked on policies or programs that support urban agriculture in your city.

The purpose of this research is to help inform municipal policy change by identifying policy tools that are being used to support urban agriculture in a variety of U.S. cities, getting a sense of how and why those tools came into being, and examining how they fit into the larger urban agriculture context of the cities that are using them.

This study will include city staff and staff from urban agriculture related non-profit organizations who are knowledgeable about the role their organization has played in shaping urban agriculture policy and programs in their respective cities.

Interviews will be conducted over the phone. After the interview, a transcript of sections that are likely to be used in any write-up of the research will be sent to participants to review. Participants may then make edits to language or content and return the revised transcript to the researcher. Once the researcher has sent the transcript, respondents have two weeks to return their edited version of transcript in order for the edits to be incorporated into the research.

Audio recordings will be made of your participation. Only the researchers will be able to listen to the recordings. The recordings will be kept for Until October of 2009 before they are destroyed.

WHAT WILL MY PARTICIPATION INVOLVE?

If you decide to participate in this survey, you will be asked to answer questions about policies and programs that relate to urban agriculture in your city, and to discuss your perceptions about urban agriculture in your city.

Your participation will last approximately 45 minutes per session and will require 1 session which will require 45 minutes in total.

ARE THERE ANY RISKS TO ME?

We don't anticipate any risks to you from participation in this study.

ARE THERE ANY BENEFITS TO ME?

This research will help you, as a policy-maker or urban agriculture advocate by presenting policy tools for supporting urban agriculture from several cities in a consolidated form with context that will help you or other members of your organization assess what tools might be helpful in a city like yours and practicable under different conditions.

HOW WILL MY CONFIDENTIALITY BE PROTECTED?

There will probably be publications based on this research and your name and position in your organization may be used unless you request otherwise.

If you participate in this study, we would like to be able to quote you directly, using your name and position. If you agree to allow us to quote you in publications using your name and position, please initial first the statement at the bottom of this form. If you agree to allow us to quote you in publications using your organizational affiliation, but without using your name or position, please initial the second statement at the bottom of this form.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS?

You may ask any questions about the research at any time. If you have questions about the research after you leave today you should contact the Principal Investigator Harvey Jacobs at 608-262-0552. You may also call the student researcher, Nina Mukherji at 608-442-1205 or email her at nina.mukherji@gmail.com.

If you are not satisfied with response of research team, have more questions, or want to talk with someone about your rights as a research participant, you should contact the Education Research and Social & Behavioral Science IRB Office at 608-263-2320.

Your participation is completely voluntary.

Your signature indicates that you have read this consent form, had an opportunity to ask any questions about your participation in this research and voluntarily consent to participate. You will receive a copy of this form for your records.

Name of Participant (please print): _____

Signature

Date

_____ I give my permission to be quoted directly in publications using my name.
_____ I give my permission to be quoted directly in publications using my
_____ organizational affiliation, but without using my name or position.

Appendix C: Interview Protocol

Note: Questions with Roman numerals will be asked of all interviewees, questions with letters will be asked where they have not been answered in the course of the respondent's answer to the more general question. Questions with lower-case letters will be asked only when they have not been answered and when the question pertains to the respondent's city and knowledge.

Urban Agriculture Policy in the U.S. Interview Protocol

Hello, my name is Nina Mukherji. I am a graduate student at the University of Wisconsin and an intern with the Center for Resilient Cities, a non-profit based in Madison and Milwaukee. I am doing research on policies and programs that support urban agriculture in several U.S. cities. My research is meant to be useful to policy-makers and urban agriculture advocates in U.S. cities who want to create policy and programs to support urban agriculture. I would like to talk to you about policy and programs that pertain to urban agriculture in (city name) and about your perceptions about urban agriculture in (city name) more generally. I am studying (city name), because it is known for its urban agriculture policy and programs and may be a helpful model for other cities.

The interview will take approximately 45 minutes, and you are welcome to opt out by ending the conversation at any point. I would like to be able to use your name and position in any write-ups of this research, but if you prefer that I never mention your name, I can use your organization instead. Also, just let me know if there is any part of the interview that you would like to keep anonymous or keep off the record entirely.

This interview will be audio recorded and any portions used for a write-up will be transcribed. Only the primary investigator for this project and I will have access to the recording. I will provide you with a transcript of anything I intend to use in any write-up so that you can edit it for errors or presentation if you choose. If you get it back to me within two weeks of the time that I send you a copy, I will incorporate your edits.

Do you have any questions before we begin? Thank you for your time and for letting me interview you.

- I. Please characterize the state of urban agriculture in your city and the policies and programs that support it. By urban agriculture, I mean urban food production, for instance community gardens, backyard gardens, chickens, bees,

fishing and urban farms. Identify the most important projects, policies, and actors.

- A. Are there any ordinances or language in municipal, county or state-level policy documents that specifically relate to urban agriculture? By documents I mean things like zoning ordinances, comprehensive plans, neighborhood plans, or other ordinances.
- B. Describe the land tenure situation for gardens and farms in your city.
 - i. Who owns most of the community gardens?
 - ii. Does the city lease or sell land for gardening? If so, how long do leases run for? How much do groups typically pay to lease or buy land for gardening from the city? Are there conditions on leases (for instance, a certain level of upkeep)?
- C. How is urban agriculture funded? Is there a dedicated funding stream or program at the city, community development block grants, private philanthropy or other sources?
- D. What bodies and partnerships are responsible for urban agriculture policy and programs?
 - i. Which agencies have responsibility for community gardens or have created policy that closely bears on urban agriculture?
 - ii. What partnerships (for instance with non-profit organizations or government bodies) are significant, if any, for urban agriculture land tenure and production in the city?
 - iii. Have any documents with recommendations on urban agriculture been created, especially by a group that includes city officials? If so, what impact have such documents made?
 - iv. Who manages the community gardens in your city (for instance, a city department, a non-profit or University Extension)?
- E. Describe in more detail regulations related to farming inside the city.
 - i. When are greenhouses permitted? Are they temporary, seasonal, or permanent structures? (If yes, what does the building code require in the way of snow load and wind resistance capabilities for permanent structures? Are there any special requirements for temporary structures?)
 - ii. Are there policies or programs that promote or regulate composting? Does the city provide water to community gardens and/or urban farms (and who pays for the water used)? How are problems of contaminated

soil or contaminated water in the case of aquaculture addressed?

- F. Are there any entrepreneurial urban agriculture projects in the city? Are there any policies or special arrangements that make entrepreneurial agriculture possible or easier?

II. What did it take to start these policies and programs and operationalize them?

- A. Why did the city pursue the general strategy pertaining to urban agriculture (including community gardening) that it did?

- i. Did the city have trouble getting policies or programs approved that are related to urban agriculture? What were the barriers? Who voiced concerns? What enabled the policy to move forward?
- ii. Did the city look to other cities for examples?
- iii. What have been the barriers to implementation to new garden construction and maintenance? What has worked well in terms of implementation?

- B. Who monitors the condition (general upkeep, weediness, etc.) of community gardens or urban agriculture projects? Have permits ever been revoked due to lack of maintenance or permit violations?

III. What are your perceptions of urban agriculture in the city overall?

- A. How would you summarize the nature and current condition of urban agriculture in the city?

- i. How does it compare to other cities, in your perception?

- B. Who uses community gardens, backyard gardens and who fishes? What are reasons that people participate in urban agriculture? What do they do with the produce?

- C. How would you characterize the city's role in urban agriculture and the strategy it chose?

- D. What have been the outcomes of urban agriculture policy and programs?

- i. Have policies designed to support urban agriculture succeeded in doing so?
- ii. Have there been other outcomes, positive or negative, such as economic development or complaints about maintenance?
- iii. Have there been unintended outcomes from policy that is meant to support urban agriculture?

- E. In your opinion, what has made projects more or less effective?

- i. Are you satisfied with the current level of support for urban agriculture from the city? If you feel that it should be stronger, please elaborate.

Thank you so much for your time and for sharing your knowledge and perceptions with me. Feel free to contact me in the future if you have any questions or if you would like a copy of any write-ups that come out of this research.

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