

# **Urban Agriculture: A Key Element of Food System Planning in the United States**

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## **Introduction**

Food is a necessity for all Americans. It is an essential element of daily life and one with which everyone has a relationship. “Throughout human history, the pursuit of food has driven our social, economic, and cultural development” (New York City Council, 2010, p.2). Yet the shape of our cities is changing and our current system is failing to sufficiently feed our rapidly growing population (Sonnino, 2009).

Our cities have been developed in a manner that has created a divide between urban and rural, and food concerns have traditionally been seen as a rural issue. However, our food system affects many urban systems, and is itself an urban concern. With the majority of the population currently living in urban areas, it makes sense to incorporate food production into our urban framework.

Although food system planning is not currently standard practice, the issue is gaining momentum and “cities are emerging as prominent food chain actors” (Sonnino, 2009, p.432). Food system plans address the many facets of food: production, processing, distribution, consumption and post-consumption. Issues regarding public health, education, economic development, environment, and access to food may be addressed in

these plans. This paper will focus on the vital role urban agriculture can play in a healthy and sustainable food system.

Following an overview of contemporary food system issues in the United States, Detroit and New York City are analyzed as case studies. Both cities are using innovative practices with urban farming, yet they vary greatly in their urban form. New York is the most densely populated city in the country and space is a precious and scarce commodity. Conversely, Detroit faces a population decline and contains ample vacant land. The examples of urban agriculture illustrated in this paper demonstrate the breadth of social and economic benefits urban agriculture can offer while simultaneously increasing access to healthy food.

### **Current Analysis of Urban Agriculture**

Our nation faces a food crisis; the U.S population continues to grow exponentially and 80% of Americans now live in urban environments (Ward, 2010). This unprecedented pace of urbanization presses us to reevaluate our food system (Sonnino, 2009 p.433).

Food system activities have a great impact on the urban environment and consume a significant amount of urban and regional land (APA Food Policy Guide, 2007)). As Pothukuchi & Kaufman (1999) argue, the food system is inextricably linked to many other urban systems. Food sector establishments, ranging from bars and restaurants, to wholesale outlets to grocery stores, comprise a sizable component of the local economy as they employ many residents and consume 10%-40% of household

income, depending on economic status. Trips made to these food establishments contribute significantly to the total volume of urban transportation. The quality of a city's transit system is a major factor influencing food acquisition for lower-income residents who are less likely to own cars. Food is also linked to affordable housing. Housing payments often take precedence over buying food, thus if people are able to obtain affordable housing, they face less risk of hunger. (Pothukuchi & Kaufman, 1999, p. 217-218). Food is very much an urban issue.

Our food system is broken on many levels. As the New York City Council comments, "Our current [national] system is characterized by high energy usage and waste throughout all phases; [...] loss of farmland to development and degradation; and an obesity epidemic that threatens to reverse generations of public health progress. Because of these challenges, the very system that is meant to sustain and nourish us imposes costs to our health, our economy, and our environment" (2010, p. 2). Of further concern, as urbanization increases, conventional rural agricultural production becomes increasingly distanced from the point of consumption. According to a study done by Leopold Center for Sustainable Agriculture, produce in supermarkets travels an average of 1,500 miles. This transportation accounts for 2/3 of the total energy required to grow food (Ward, 2010).

According to the Food and Agriculture Organization of the United Nations, *food security* occurs when "food systems operate so that 'all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary

needs and food preferences for an active and healthy lifestyle (New York City Council, 2010, p. 2). By this definition, neither Detroit nor New York, the two cities examined in this paper, are achieving food security.

Urban agriculture is a response to the pressing problems of food insecurity and the environmental ills of our current food system, but has significant economic and social and benefits as well. Urban agriculture creates jobs, invites entrepreneurship possibilities, and supports local growers. Research shows that every dollar invested in a garden yields up to \$6 of food (Bellows, Smit & Brown, 2003). Additionally, the common experience of food can be a powerful way of breaking down social barriers between people and fostering community (Paxton, 1997, p.54). Urban gardens offer a social public space to build relationships, stabilize neighborhoods, and strengthen a sense of place.

### **Case Study I: Detroit**

The population decline that characterizes Detroit makes it an interesting city to examine; the 2009 population was estimated to be roughly 910,000, down from 951,000 in 2000 (Berkooz, 2010, p.29). About 30% of this population is unemployed and 55% live below the poverty line. People are leaving the city and leaving an abundance of unused land. Roughly 30% of city lots remain vacant, twice the national average (Garcia 2010, p.12). This vacant land offers great opportunity to retrofit spaces for urban agriculture.

Roughly 84% of Detroit's population is black (Ward, 2010), many of which live in neighborhoods identified as food deserts (Gray, 2010). Residents in food deserts often

do not have adequate access to healthy food due to the inaccessibility of full-service grocery stores for those without cars, and the prevalence of fast food chains in these areas (Ward, 2010). There are no national chain grocery stores within the city limits of Detroit, and those who are able, go to the suburbs to buy food.

The Detroit Food Policy Council, formed in 2008, is working towards achieving food security in Detroit alongside City government and numerous non-profit organizations. To this end, Detroit has become a leader in the urban agriculture movement producing thousands of pounds of produce annually from gardens scattered throughout the city. The Garden Resource Program Collaborative (GRP), which began in 2003, is an umbrella organization for food focused non-profit groups. They currently provide support to more than 875 community, school, and family run urban gardens and farms in the Detroit metropolitan area. GRP supplies its members with educational resources, seeds and Detroit grown transplants (Garden Resource Program, [www.detroitagriculture.org](http://www.detroitagriculture.org)).

The Greening of Detroit is a non-profit organization that has been in existence for over 20 years and helped start the GRP. Their mission is to improve the quality of life in Detroit by partnering with schools, churches and community organizations to facilitate city greening projects. Get Fresh Detroit, an organization under the GRP, aims to ameliorate food deserts by pairing with local growers and corner grocers to provide healthy food to residents. They create fresh produce packs with healthy meal suggestions

and recipes attached to sell to grocery stores (Get Fresh Detroit, <http://www.getfreshdetroit.com>).

Urban agriculture is also seen as a component in new development. Recovery Park is a 2,000 acre planned development project in one of the poorest parts of Detroit, which will incorporate urban farming, education, and commercial and residential development. The vision for this 10-year, multi-million-dollar project aims to help restore the city and its residents through personal and economic empowerment. Recovery Park will create clusters of small organic farming pods structured around the natural environment and existing infrastructures. Hoop houses, greenhouses, hydroponics, vertical farming, and other alternative methods will be used to extend the growing season. Most of the products will be slated for Recovery Park's food packaging business, with nearly all of the prepared produce to be delivered to area schools, markets, and restaurants (Recovery Park, 2009, [recoverypark.org](http://recoverypark.org)).

At the government level, a state funded Garden for Growth Program allows residents to inexpensively lease lots from the Michigan Land Bank to cultivate land and grow food (Bonfiglio, 2009). This enables individuals to control unused land in their communities without being burdened by land ownership and property taxes. The City is also making noteworthy efforts to integrate urban agriculture into their food system. In July 2010, the 2010-2011 City Planning Commission Work Program was approved. Furthering the City's efforts toward utilizing expertise in 'Sustainable Development', the work plan outlines intentions to develop policy and code to facilitate urban agriculture

including: 1) zoning codes to enable agricultural uses, 2) a zoning district specifically for agriculture activities and uses, 3) an alternative tax structure for land used for agriculture, and 4) protection of land used for agricultural purposes from other type of development (City of Detroit, 2010, p.3). Additionally, the City aims to develop strategies to implement the *City of Detroit Food Security Policy*. These strategies include the development of policy to allow for and encourage community kitchens, farmer's markets and other small food producers/retailers at the neighborhood level, and incentives for establishing more fresh food throughout the city (City of Detroit, 2010, p.4).

## **Case Study II: New York**

New York is the largest city in the United States and continues to face rapid population growth. According to the New York City department of City Planning, the estimated population of New York City in 2009 was 8.4 million people (City of New York, 2010, [www.nyc.gov](http://www.nyc.gov)), and the City is expected to see almost one million additional residents in the next two decades (New York City Council, 2010, p.2). This forces New York to be creative in the implementation of urban gardens. While there are over 600 community gardens, 100 CSAs, 20 USDA recognized farms, and numerous individuals and organizations practicing urban gardening, New York finds itself at the forefront large scale, experimental and high tech means of urban food production.

Dickson Despommier, professor at Columbia University, has proposed the concept of a "Vertical Farm" (Frail, 2010). A thirty-story building is envisioned to house animals and plants, designed to produce enough food to feed 50,000 people (Whitfield,

2009, p. 914). Soil will not be required, eliminating water waste, chemicals runoff, and erosion. Instead, hydroponic and aeroponic methods of food production will be used to grow food.

New York Sun Works is an engineering group developing sustainable technologies to be implemented in projects such as *Science Barge* and *Bright Farm* (New York Sun Works, 2010, <http://nysunworks.org>). The Science Barge was created in 2007 as a prototype for a sustainable urban farm on a steel deck barge moored in midtown Manhattan. It is the only fully functioning demonstration of renewable energy supporting sustainable food production in New York City. The barge is able to produce commercial yields with zero carbon emissions, zero chemical pesticides and zero runoff (Linsley & Caplow, 2008, p.53).

The concept of Bright Farm is similar to that of Science Barge but transferred to a rooftop. This project produces sustainable urban food year-round at two scales, BrightFarm Schools and BrightFarm Commercial. The former emphasizes a rooftop-learning laboratory for environmental education through sustainable urban food production, while the latter yields commercial crop, which is then marketed to local restaurants and retail outlets (Linsley & Caplow, 2008, p. 54).

The City government has realized the pressing need for a healthy food system plan, “Agricultural production in our region and across the nation faces several critical issues: loss of farmland, increasingly concentrated operations, economic vulnerability, an environmental degradation” (New York City Council, 2010, p.16). In 2010, the City



Council released ‘Food Works: A Vision to Improve NYC’s Food System.’ This report identifies initiatives and best practices to facilitate urban-rural linkages and improve New York City’s food system. The document outlines proposals aimed at a “healthier, greener, and more productive food system” (New York City Council, 2010, p.75). ‘Increas[ing] urban food production’ is among the goals identified. To achieve this goal, New York intends to make better use of existing spaces by protecting its community gardens; creating a searchable database of city-owned property; identifying city-owned properties with roofs suitable for urban agriculture; and enacting policies to make green encourage green roofs (New York City Council, 2010, p.18). This report addresses issues at all stages of the food system, each detailing specific goals and strategies. While it is not currently realistic to expect urban grown food to sufficiently feed the entire city, “this interest in urban agriculture offers significant opportunity to green our landscape, foster nutrition and food education, and help reconnect New Yorkers to their food” (New York City Council, 2010, p.16).

## **Conclusion**

Food is essential to our survival and our current system is no longer supporting us in a sustainable manner. Our rapidly increasing population requires us to reassess our food system and analyze its relationship to other urban systems. Urban agriculture offers compelling social, economic and environmental benefits. Bringing food production back into cities contributes to a healthy equitable food system better integrated it into our urban fabrics.

While the examples of urban agriculture discussed in this paper illustrate steps towards alleviating the nation's food crisis, America still needs to be more aggressive in tackling issues of food security and food planning needs to be a larger focus among city governments. Individuals and non-profit organizations run most of the city gardens in the United States. The grassroots efforts need to be reproduced on a larger scale to create food production and consumption patterns that better fit the shape of today's cities.

There are a handful of cities that are making great strides to address some of the inadequacies of our current food system through urban agriculture on both small and large scales. Detroit and New York provide an interesting comparison; though they share the commonality of food concerns, their differing urban compositions have led to vastly different solutions. Both cities illustrate successful examples of implementing urban agriculture into their landscape. Urban agriculture is not a new idea, but it is an idea that needs to gain greater momentum and permanence. "We cannot wait for [...] governments to understand that cities are the nexus where environment, economy, and society meet and culture is generated. A healthy city will plan for success in ensuring a healthy, safe, culturally appropriate and environmentally sustaining food system for all its citizens" (City of Toronto, 2010, p.32).

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