plants & policies

How Urban Farming is Transforming Cities
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Urban farming started to experience a renaissance in U.S. cities during the 1990s as a solution to food insecurity. Then it became “increasingly linked with environmental justice activism, local food promotion, urban sustainability efforts, community health campaigns, and food justice activism,” according to K. Michelle Glowa in “The Wiley Blackwell Encyclopedia of Urban and Regional Studies.”

Now firmly in the popular spotlight, the implications of urban farming are extensive. Cities can experience “a suite of environmental, economic, and social benefits,” as authors in volume 44 of “Horticultural Reviews” noted. But to experience those advantages, they warned, city planners and urban farm managers need to be diligent in mitigating potential risks.

As a public official, you might recognize that you can help your city through policies and other support in favor of urban farms. But where do you start? This is a complex topic that attracts a lot of research, so even the basics can seem overwhelming. That doesn’t have to be the case, thankfully.

Follow along for an overview of urban farming and how it’s transforming cities — from the literal to the legislative soil.
what is urban agriculture?

Note that this guide uses “urban farming” and “urban agriculture” interchangeably. Urban farming can be considered a subset of urban agriculture, but scholars and practitioners often use the terms in place of each other.

There are several definitions of urban agriculture. A common starting place is scholar Luc J.A. Mougeot’s entry in the book “Growing Cities, Growing Food: Urban Agriculture on the Policy Agenda,” a seminal work which served as a joint effort between non-governmental organizations. Mougeot defined urban agriculture as:

... an industry located within (intra-urban) or on the fringe (peri-urban) or a town, a city, or a metropolis, which grows and raises, processes, and distributes a diversity of food and non-food products, (re)using largely human and material resources, products, and services found in and around that urban area, and in turn supplying human and material resources, products, and services largely to that urban area.

There are variations on the definition of urban agriculture. Some expand it to include enterprises in cities that grow and distribute food and nonfood products by home subsistence farmers for personal consumption and occasional market sale. In another definition specific to North American practice, urban agriculture refers to growing, processing, and distributing food and nonfood products through intense cultivation of plants and animal husbandry efforts on the urban fringe.

It’s important to recognize that urban agriculture includes the communities in the sense of how cities are managed and budgeted, such as municipal plans and policies. Urban agriculture is firmly part of public policy debates and a central concern for planners and policy makers.

There are other basics about urban agriculture and urban farming that are relevant. For instance, it’s interesting and helpful to recognize that the history of urban agriculture goes back millennia, and that it came into the forefront for Europe and the United States over the last century and a half. Plus, there are several types of urban farms that may be implemented. However, most pressing is the natural question: Is urban agriculture beneficial?
benefits of urban agriculture

Environmental

Authors in “Horticultural Reviews” called the case for the environmental benefits of urban agriculture more complicated than other areas, such as the social benefits. The reason is that, “while there can be clear environmental benefits from urban agriculture, there can also be clear risks . . . there is plenty of ambiguous ground in between,” they said.

If urban farms are designed and run poorly, the result can harm the local community. Urban agriculture can lead to noise, odors, and water runoff. It can be energy-intensive, cause food safety concerns, and be unsightly.

There are also some inherent drawbacks to urban farms in an environmental sense. For instance, cities can’t grow, at least in any practical sense, extensive crops. Extensive farming refers to systems using small inputs of labor and capital in relation to the land farmed. More space is needed for that type of farming. As a result, extensive farming isn’t reasonable for urban environments.

Another perceived drawback to urban agriculture is ultimately misplaced. Some people ask whether urban farms can feed the world, to which scholars point out that the answer is obviously “no.” But the question is a straw man — it misrepresents what urban agriculture is about.

Interestingly, though, urban agriculture has a surprising amount of promise in that regard. A global analysis in Earth’s Future found that urban agriculture can account for 180 million tons of food a year. That translates to 10% of the “global output of legumes, roots and tubers, and vegetable crops,” according to CityLab, an urban-focused website from...
The Atlantic. One of the study’s co-authors told CityLab that urban agriculture can account for “several percent of global food production.” With that and the other benefits of urban agriculture in mind, “researchers hope they encourage other scientists, as well as urban planners and local leaders, to begin to take urban agriculture more seriously as a potential force for sustainability,” the article continued.

Individual cities can experience a boost in local food supply capacity. In the Journal of Agriculture, Food Systems, and Community Development, researchers estimated the potential food provisioning capacity in Detroit:

We demonstrate that if high-yield, biointensive growing methods are used, 31% and 17% of the seasonally available vegetables and fruits, respectively, currently consumed by 900,000 people could be supplied on less than 300 acres without incorporating extraordinary postharvest management or season-extension technology. This indicates that urban agriculture could play an important role in food provisioning in many places.

In another analysis, Cities found that, in Cleveland, urban agriculture could potentially meet between 46% and 100% of fresh produce demand, 94% of poultry and shell eggs demand, and 100% of honey demand. Authors highlighted how local self-reliance on food is possible in post-industrial North American cities, given high levels of commitment.

Providing healthy food in a way that reduces energy costs of food production is a major environmental benefit of urban farms. Growing food where it’s consumed can cut down transportation-related greenhouse gas emissions. Another benefit of urban agriculture is biodiversity. As noted in Biodiversity and Conservation, urban farms can serve as a habitat for pollinators, such as birds, bats, bees, and butterflies. That would help with the re-introduction of culturally significant, heirloom, and wild crops, consequently preserving them for future generations.

There are several potential environmental benefits of urban agriculture. For instance, researchers in City of Phoenix’s Cool Urban Spaces Report identified how urban agriculture can help with extreme heat. Tree coverage and replacing paved and dirt surfaces with vegetation can significantly ease cooling needs. It’s especially
relevant for low-income neighborhoods in Phoenix. Ecological Applications studied three decades’ worth of land surface characteristics and residential segregation and found that low-income neighborhoods had less tree cover and ground vegetation, which leads to higher summertime temperatures. The trend increased as time went on, indicating an increasing amount of economic stratification in the city.

**Economic**

It’s not difficult to find economically successful urban farms.

Some are built on a rather small scale. For instance, Ben Hartman and Rachel Hershberger operate Clay Bottom Farm in Goshen, Indiana, where they cultivate 1 acre of a 5-acre subdivision, and their business is quite successful. As Hartman described in his book “The Lean Farm,” their approach uses “lean” principles out of the Japanese automotive industry. In every step of their production chain, they integrate those principles to form a business that stresses profit margins and efficiency over acreage and volume production. The result is a thriving business in a small space.

Other urban farms are more ambitious in scale. Gotham Greens built three rooftop greenhouses in New York City before expanding to another in Chicago. The one in Chicago is more than 75,000 square feet and represents the world’s largest and most productive rooftop farm, according to the company’s website. It grows up to 10 million heads of leafy greens and herbs year-round. Gotham Greens takes a different approach than Clay Bottom Farms, focusing on advanced technology and high-capital investments. Their farms use hydroponics — growing plants without soil — to create premium-quality vegetables and herbs.

From Clay Bottom Farms to Gotham Greens, there are several models to creating successful urban farms. Not only can they be profitable for farmers or entrepreneurs themselves, but the food grown saves money because it replaces what residents would have purchased. Also, food is often grown for, or surplus of it donated to, food banks, which benefits low-income residents. Adding jobs in the community is another obvious benefit that urban farms offer. Several urban farms focus on hiring people who struggle to find jobs.

There are also economic benefits related to the land. By occupying underutilized space such as vacant land, cities benefit in terms of upkeep costs. According to the
nonprofit research, education, and advocacy organization SPUR, each vacant lot converted to urban agriculture saves San Francisco’s Department of Public Works $4,100 at each site. Property values rise, too. Urban Forestry & Urban Greening found increased property values in all 13 of the studies that looked at the topic. A report from nonprofit organization Gateway Greening found increased home values, rent, owner occupancy, and socioeconomic diversity within 0.3 miles of community gardens in St. Louis.

Those economic benefits get into the aspect of urban agriculture that’s difficult to quantify, according to authors in “Horticultural Reviews.” Urban farms serve as neighborhood focal points, and those “agrihoods” are becoming “the new golf,” they said. As a result, some economic benefits of urban farms go well beyond the numbers surrounding finances, food produced, and property values. Recognizing the true economic value of urban farms involves looking at the major social benefits of urban farms.

Social

Some residents get more excited about the social benefits of urban farms than any other aspect. Urban farms have the ability to increase social bonds between people of different backgrounds.

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Multiple studies have found a wealth of benefits across social and cultural perspectives. One revealed how gardens created an “urban oasis” to revitalize city neighborhoods in Baltimore. “At the individual level, gardeners underscored psychological benefits, including pride and a connection with nature,” according to authors in Center, Agriculture, Food and Environment. “At the neighborhood level, gardeners developed trusting relationships with their neighbors and shared learning experiences. At the community level, gardeners perceived that gardens reclaim city space by cleaning up degraded lots, creating gathering places, and improving the food environment.”

Urban farms can bridge the gap between people of different cultures, genders, ages, races/ethnicities, and socioeconomic classes. Community members can gather and interact, enriching the community. The result is enough to strengthen residents’ pride and lead to reduced crime rates. As Urban Studies found, turning vacant lots into community gardens reduced crime rates in Youngstown, Ohio, which verified what the literature said about doing the same in major cities. Earlier research from the same publication also acknowledged how greening vacant lots improves residents’ perceptions of safety.

Another set of social benefits involve urban farms’ role in education. Several community gardens and other forms of urban agriculture help people of all ages learn more about food production and healthy living. They can gain important knowledge that might not be typically available, given how little agricultural exposure people tend to receive in urban environments. As outlined in the book “Learning Gardens and Sustainability Education,” several schools have planted food gardens, which can help students better understand topics like food sustainability, health, the environment, and stewardship.
developing policies that support urban agriculture

As you saw in the previous section, a lot of researchers have found promise for urban agriculture. While further research is needed to state the benefits of urban farms unequivocally, the consensus is positive. Urban agriculture can help supply cities with fresh, locally grown food, and there are other various environmental, economic, and social benefits in reach.

Another conclusion from scholars is that policymakers need to support and work with urban farm managers. If agriculture is going to take off in various cities and impact communities, policies need to support such efforts. As the USDA’s urban agriculture toolkit mentioned, farmers struggle to find and finance suitable land for urban farms. City planners and policymakers can support people who can add so much value to the community.

Generating Support

The good news is that U.S. and international policy is shifting to accommodate and encourage urban agriculture, according to CityLab. The article pointed out how, in 2014, California passed the Urban Agriculture Incentive Zones Act to provide landowners tax breaks for placing urban plots into agricultural use. Another example is how one of the co-founders of Gotham Greens worked with New York’s zoning authority to change regulations surrounding greenhouses before opening their first farm. “I think we could benefit from more cohesive policy,” he told CityLab, “but it’s also a very new industry. And then there are so many approaches to urban agriculture. How does a city approach something that is so broad and diverse at this stage?”

The question is not an easy one to meet. However, the American Planning Association (APA) offered some practical advice for getting the process started toward enjoying what urban agriculture has to offer. And as a public official, you’re able to play a leading role in kicking off the process.

“The ideal starting point for urban agriculture planning is a community engagement process through which planners identify how urban agriculture contributes to
the social, economic, and environmental goals of a community,” according to the APA. “Local and regional governments play important roles in legitimizing urban agriculture as a recognized land use or community development strategy.” They can implement urban agriculture considerations through:

- **Identifying relevant community needs.**
- **Inventorying necessary local resources.**
- **Evaluating current policies and legislation.**

A key is education. By helping other policymakers see how urban farms can transform your city, they’ll be more likely to investigate how to make it happen. After all, that’s probably where you started. Once you saw what urban agriculture could do for your city’s community — environmentally, economically, socially, and more — you began to think how to integrate it into policy. Getting everyone on the same page about the benefits can be a launching point to planning and investigating policies to support urban agriculture.

**From Planning to Developing Policies**

Where do you go from there? The APA pointed out how many elements within planning can incorporate urban agriculture.

- **Converting vacant or abandoned land for urban agriculture touches on open-space goals and policies.**
- **Financing tools for development and tax incentives for urban agriculture in underserved neighborhoods touches on economic development goals and policies.**
- **Encouraging urban agriculture near affordable housing touches on housing goals and policies.**
- **Supporting access to fresh fruits and vegetables through urban farms, as well as their education and community outreach programs, touches on community health goals and policies.**

Another chief concern is local zoning codes. By revisiting zoning standards, cities can consider new zoning districts for urban farms or consider allowing existing zoning districts to incorporate different urban farms. Or cities can look at options
like making urban agriculture an amenity within regulations for subdivisions or planned unit developments.

Developing policies and providing support to urban farm managers can help your city enjoy what urban agriculture has to offer. Keep in mind that there are several areas where urban farm managers need help. The USDA named seven areas that they have to consider when starting a farm: business planning, land access, soil quality, water access/use, capital and financing, infrastructure, and market development. Urban farm managers can't possibly do all of that on their own — especially in an environment where resources, such as land, are tougher to locate.

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- **soil quality**
- **water access/use**
- **capital and financing**
- **infrastructure**
- **market development**

**Encouraging Urban Agriculture**

Educate other policymakers and the community on urban agriculture. As you drum up support for integrating urban farms in your city, you’ll be in a better position to collaborate on how to help urban farm managers impact the city environmentally, economically, and socially.

That’s just the start of your role in helping the city reap the benefits of urban agriculture. There’s much more you need to know for bringing urban farms to your city and helping your city in other ways. Become a better leader in your city with an online Master of Public Administration degree. You’ll learn how to implement public administration theories to real-world situations like developing urban agriculture policies. Because this program was developed in partnership with community leaders and public service professionals, you can be confident you’re getting the right education for your career goals.
Aurora University Online’s degree features no textbook costs. No GRE is required, and you can complete the program in one year. All courses are taught by expert instructors with extensive experience in their fields.