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The Intersection of Planning, Urban Agriculture, and Food Justice

A Review of the Literature

Megan Horst, Nathan McClintock , and Lesli Hoey

Problem, research strategy, and findings: We draw on a multidisciplinary body of research to consider how planning for urban agriculture can foster food justice by benefitting socioeconomically disadvantaged residents. The potential social benefits of urban agriculture include increased access to food, positive health impacts, skill building, community development, and connections to broader social change efforts. The literature suggests, however, caution in automatically conflating urban agriculture's social benefits with the goals of food justice. Urban agriculture may reinforce and deepen societal inequities by benefitting better resourced organizations and the propertied class and contributing to the displacement of lower-income households. The precariousness of land access for urban agriculture is another limitation, particularly for disadvantaged communities. Planners have recently begun to pay increased attention to urban agriculture but should more explicitly support the goals of food justice in their urban agriculture policies and programs.

Takeaway for practice: We suggest several key strategies for planners to more explicitly orient their urban agriculture efforts to support food justice, including prioritizing urban agriculture in long-term planning efforts, developing mutually respectful relationships with food justice organizations and urban agriculture participants from diverse backgrounds, targeting

The aim of our review is to draw from a multidisciplinary literature to suggest ways in which urban planners can structure urban agriculture in support of food justice. Food justice brings attention to the significant disparities embedded in the food system, which are often reproduced in movements to change that system. Food justice advocates engage in a wide array of strategies and practices, from place-based projects to political change efforts. Urban agriculture, or cultivating food within metropolitan areas, is one place-based strategy frequently associated with attempts to address food injustice (Santo, Palmer, & Kim, 2016).

The interdisciplinary literature in the past 15 years has focused on the multiple social benefits of urban agriculture, including its contributions to food security, health, skill building and jobs, community development, and food systems change. The focus on the benefits of urban agriculture has led to an association of urban agriculture with food justice. Fully assessing urban agriculture's contributions to food justice, however, requires us to examine whether socioeconomically disadvantaged communities benefit. Urban

city investments in urban agriculture to benefit historically disadvantaged communities, increasing the amount of land permanently available for urban agriculture, and confronting the threats of gentrification and displacement from urban agriculture. We demonstrate how the city of Seattle (WA) used an equity lens in all of its programs to shift its urban agriculture planning to more explicitly foster food justice, providing clear examples for other cities.

Keywords: equity, food justice, food systems planning, urban agriculture

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agriculture alone cannot fully resolve many of the fundamental causes of food *injustice*, which include economic disparities, poverty, and historical and structural racism. Worse, some urban agriculture projects may perpetuate existing inequities, for example by benefitting already privileged communities, contributing to the ongoing marginalization and even displacement of disadvantaged groups. It is critical to address these concerns if urban agriculture is to foster food justice.

Planners have become increasingly involved in urban agriculture in the past 15 years. Common planning strategies have been to adopt supportive policies and remove regulatory barriers; incentivize urban agriculture through reduced utility fees and taxes; and offer funding, programming, land, and infrastructure. Without explicit valuation of food justice, however, urban agriculture strategies may primarily benefit the propertied class and newcomers rather than disadvantaged communities.

In this review, we first define food justice and note how urban agriculture is one potential strategy to foster food justice. We then discuss the range of urban agriculture forms and activities, though we ultimately focus here on food cultivation. In the following sections, we synthesize the main social benefits of urban agriculture, emphasizing both the possible contributions to food justice and the limitations. Finally, we examine the role of planning by first discussing the common strategies used by planners to foster urban agriculture and their limitations for improving food justice.

Planners can play a stronger role in the movement for food justice by explicitly considering whether the urban agriculture efforts they plan and promote really do benefit disadvantaged communities. First, planners can embed urban agriculture into long-term planning efforts so that urban agriculture is viewed as a priority, not just a placeholder for future developments on the land. Second, planners can develop mutually respectful relationships with food justice organizations to better understand their constraints and needs. A third strategy is to target outreach, programming, funding, and infrastructure for urban agriculture to organizations led by and benefitting members of historically disadvantaged communities. Fourth, planners can increase the amount of land permanently available for urban agriculture. Finally, planners must confront and counter urban agriculture's contributions to displacement. We discuss Seattle (WA), where municipal government staff used an equity lens to better target their urban agriculture policies and programming to benefit low-income communities of color. Seattle prioritized new community garden and farm investments in neighborhoods with a high proportion of low-income people of color and has adopted more culturally inclusive outreach and programming.

Synthesizing the Multidisciplinary Literature on Food Justice, Urban Agriculture, and Planning

The discussion on urban agriculture in the planning field is largely celebratory. There is, however, a growing critical analysis of urban agriculture in the wider scholarly literature informed by deep attention to food justice (Reynolds & Cohen, 2016; Tornaghi, 2014). We show here how a critical analysis can assist planners in prioritizing food justice in their urban agriculture efforts.

Our review focuses on urban agriculture in the United States and Canada. There is a large body of research on urban agriculture in the Global South (Bryld, 2003; Lynch, Binns, & Olofin, 2001; Mok et al., 2014), Europe (Dowler & Caraher, 2003; Morgan, 2009, 2013), and Australia (Mason & Knowd, 2010), among other places. We do not address literature from other parts of the world given the unique social, political, economic, and land use contexts in the United States and Canada.

Our review focuses on literature published between 2000 (when the recent wave of urban agriculture planning began) and December 2016. We first examine the growing scholarship on food justice, including books (e.g., Alkon & Agyeman, 2011; Gottlieb & Joshi, 2010) and articles in interdisciplinary food studies journals (e.g., *Agriculture and Human Values*). We also draw from practitioners and organizations involved in food justice (e.g., Institute for Agriculture and Trade Policy, 2012).

Our next set of literature focuses on urban agriculture. We highlight the main social benefits attributed to urban agriculture, drawing on public health journals (e.g., *Annual Review of Public Health*) and food studies and food systems journals (e.g., *Journal of Agriculture, Food Systems, and Community Development*). We then synthesize the growing critical scholarship on urban agriculture, drawing mainly from recent books (e.g., Cohen & Reynolds, 2016) and sociology and geography journals that examine the political ecology of agriculture (e.g., *Antipode*, *Progress in Human Geography*). We accompany this with a search of the gray literature, including reports from relevant national organizations (e.g., the American Planning Association, PolicyLink, and the Johns Hopkins Center for a Livable Future). We finally examine the scholarship on planning and urban agriculture.

In our focus on planning for urban agriculture, we searched for relevant work in a wide range of planning journals (e.g., *Journal of the American Planning Association*, *International Planning Studies*, *Journal of Planning Education and Research*, *Journal of Planning Literature*) as well as

professional publications from the American Planning Association. Our goal is to characterize the relationships between and among these bodies of scholarship and policy analyses. Our analysis is constrained by the reality that this scholarship is nascent, consists mainly of individual case studies, and lacks sophisticated assessment of impacts or outcomes.

Defining and Characterizing Food Justice

Food justice is one aspect of the movement for social justice and, like social justice, implies a need to contest racial, economic, and other disparities. Food justice calls attention to how both the dominant food system and alternative food movement(s) often perpetuate the disparities that exist in broader society (Alkon & Agyeman, 2011; Gottlieb & Joshi, 2010). One definition of *food justice* from the Institute for Agriculture and Trade Policy (2012) is “the right of communities everywhere to produce, process, distribute, access, and eat good food regardless of race, class, gender, ethnicity, citizenship, ability, religion, or community.” We choose this definition because, unlike some, it calls attention to the multiple ways in which socioeconomically disadvantaged groups are affected across the food system. This comprehensive definition implies a need to focus attention on procedural and distributive justice as well as structural change, a theme we focus on in this review essay.

Food justice highlights attention to disparities that exist throughout the food system, from production through distribution and consumption. Communities of color, for example, have time and time again been excluded from food production and prevented from owning and managing their own land, though they are often exploited as farm laborers (S. Brown & Getz, 2008; Shreck, Getz, & Feenstra, 2006; Yen Liu & Apollon, 2011). People employed in the fast food industry, an important component of food distribution in the United States and Canada, typically experience low wages and poor working conditions (Allegretto et al., 2013; Jayaraman, 2013). Low-wage workers in turn face higher rates of food insecurity. Food justice thus demands that all people be able to access land to grow their own food and that food system workers earn livable wages.

Most of the food justice literature focuses on access and consumption-related disparities. In 2015, for example, about 13% of U.S. households experienced *food insecurity*, defined as a lack of access to food needed for an active, healthy life (Coleman-Jensen, Gregory, & Singh, 2014; Larson, Story, & Nelson, 2009). Rates of food insecurity were higher for households with particular demographic

characteristics, including low-income households, those with children headed by a single woman, and those headed by people identifying as Black and/or Hispanic. Food justice calls for an end to food insecurity, not just through emergency responses like food banks but also through the demand that all people have a right at all times to access healthy, culturally relevant, ecologically produced, and affordable food.

There are also disparities in geographic access to healthy, affordable, and culturally relevant foods. Healthy food tends to be less available in neighborhoods with higher percentages of low-income residents (Lowery, Sloane, Payán, Illum, & Lewis, 2016). Food in these neighborhoods, referred to by many scholars as *food deserts*, is typically more expensive (Raja & Yadav, 2008), whereas fast food outlets and others sources of unhealthy food proliferate (Ver Ploeg, 2010). Scholars link the combination of economic barriers, the lack of healthy food choices, and the abundance of unhealthy food choices to a number of negative health-related outcomes for both children and adults, including higher rates of obesity, diabetes, and heart disease among adults (Lowery et al., 2016; Morland & Evenson, 2009; Raja & Yadav, 2008). Food justice demands that people living in food deserts and food swamps have access to good food.

Food justice also demands that disadvantaged communities benefit as much as or more than privileged people from efforts to strengthen local, healthy food systems. Numerous scholars point out that the growing local and sustainable food movement has too often prioritized strategies, like food certification and labeling, that are only accessible to people of higher economic means rather than efforts targeted more explicitly to social justice (P. Allen, 2010; Born & Purcell, 2006). This critique has inspired both practitioners and scholars to prioritize food justice in the movement for better food systems.

Food justice advocates engage in a wide range of local, specific, place-based projects, like cooperatively owned grocery stores and urban agriculture, that aim to expand peoples’ geographic access to good food in the short term (Rajan & Duncan, 2013). Food justice scholars acknowledge that place-based projects are important because they offer people localized opportunities to develop alternatives to the industrial, corporate food system and to flex muscles in food democracy (Hassanein, 2003). Place-based efforts, however, are often limited in their ability to overcome the structural drivers of inequities in the food system, including differences by race, class, gender, and other socioeconomic indicators in land ownership and access, education, economic opportunity, transportation, and political power (Broad, 2016; Mares & Alkon, 2011; Reynolds & Cohen,

2016). Scholars largely agree that place-based projects should be accompanied by economic, political, and social change efforts.

In this review we examine whether municipal governments and planners, specifically in planning for urban agriculture, actually *do* food justice. Community organizations and government agencies are ratcheting up their use of the phrase *food justice* in their food systems work. Gottlieb and Joshi (2010) and Cadieux and Slocum (2015), however, caution that few are actually *doing* food justice. Gottlieb and Joshi, and Cadieux and Slocum, call for greater clarity and rigor in the use of the phrase and for critical greater accountability in food activism. We aim to provide greater rigor and accountability by examining who gains and who loses, to borrow from Flyvbjerg (2002), from urban agriculture planning. We identify ways in which urban agriculture planning can more explicitly benefit disadvantaged communities.

Urban Agriculture's Diverse Forms

Urban agriculture is a common strategy associated with food justice (Reynolds, 2015). Many scholars loosely define *urban agriculture* as the cultivation of food within metropolitan cores as opposed to that in more peri-urban and rural areas (Golden, 2013; Lovell, 2010; Santo et al., 2016). Urban agriculture includes a range of activities, such as growing vegetables, fruit, herbs, and grains and raising fish (aquaculture), bees, and animals (e.g., chickens, goats, pigs, rabbits). Urban agriculturalists typically engage in the processing, marketing, and distribution of their products through, for example, farmers markets. We focus specifically on the acts associated with cultivating in this review.

Urban agriculture cultivation has a rich history in the United States and around the world. In the United States, much of the scholarly attention to urban agriculture focuses on victory gardens during World War II, but the history of urban agriculture is multifaceted. Working-class and immigrant households have for centuries engaged in growing kitchen gardens and raising animals in urban settings as well as using open space for food production (Brinkley & Vitiello, 2014; Mares & Peña, 2010). A range of people engage in urban agriculture today in different North American cities, from Detroit (MI), a former industrial city with a large supply of vacant lots (Colasanti, 2010), to Vancouver (BC, Canada), a global city with high-rise residential towers and rapidly increasing land values (Mendes, 2008; Mendes, Balmer, Kaethler, & Rhoads, 2008).

A big issue in urban agriculture, and one on which we focus in this review, is where urban agriculture cultivation

is practiced, including the level of public access and the type of land tenure available to practitioners. Urban agriculture occurs at a variety of scales and locations, from a few potted tomato plants on an apartment balcony or a fruit tree in the right-of-way, to large-scale projects, such as community gardens in public parks and multiacre commercial urban farms and greenhouses on industrial land or rooftops (Hodgson, 2012; Mukherji & Morales, 2010).

Some practitioners grow food on private property (i.e., in the front and back yards of single-family residences, on rooftops of private apartment buildings, and on business- or church-owned property). Some people are experimenting with so-called vertical farming operations, in which food is grown in vertically stacked layers within a controlled-environment building, such as a skyscraper, used warehouse, or shipping container (Despommier, 2010). Practitioners in these cases often either are the owners of the land or have negotiated short- or long-term use arrangements with the owners. Others grow food in public or semipublic spaces (i.e., in publicly owned lots, parks, and rights-of-way, or on public school grounds). In these cases practitioners typically have negotiated agreements about short- or long-term use with the landowner. Still others grow food with no formal agreement with the owner or with the city. Some urban agriculturalists, for example, garden on vacant privately owned properties. Others engage in *guerrilla gardening*, a more clandestine type of urban agriculture in which the practitioners produce food in a variety of spaces, such as on rights-of-way, without securing permission from the landowner (Crane, Viswanathan, & Whitelaw, 2013).

The participants and goals of urban agriculture also vary widely. Many urban agriculturalists raise food solely for their personal or household consumption. Some non-profit organizations and community groups grow food for internal use (e.g., produce from a school garden may go to the school cafeteria). Other nonprofit and for-profit ventures sell their produce externally at farm stands, at farmers markets, via community-supported agriculture subscription boxes to customers, or through direct sales to restaurants and stores (Taylor & Lovell, 2014). Some urban agriculturalists exchange their items via barter and other informal exchange relationships, whereas others sell food at discounted prices to low-income customers or donate it to food banks or shelters (Levkoe, 2011).

Urban agriculture is clearly diverse in its scope, scale, type of access and for whom, participants, and goals. Such diversity makes it difficult to draw overarching conclusions about urban agriculture and food justice because the impacts of urban agriculture vary from situation to situation. Each urban agriculture activity needs to be evaluated on its own merit.

The Social Benefits of Urban Agriculture

A focus on urban agriculture's environmental and social benefits has led to its association with food justice. In this review, we focus on six primary categories of social benefits from cultivating food in urban areas: increasing food access and food security, improving health, generating income, building skills, enhancing community development, and developing connections to broader efforts to contest structural causes of inequities. These are fundamental ways in which urban agriculture could improve people's everyday lives and thus be an integral part of realizing a more just food system. A growing critical body of literature, however, suggests the need to examine these claims more closely so as not to overstate the ability of one strategy to resolve major societal and food systems problems (P. Allen, 2008; Reynolds, 2015; Tornaghi, 2014). It is also imperative, as it is with other planning interventions aimed at promoting social justice, to examine who benefits—and who does not—from urban agriculture rather than assuming that it can and does benefit everyone.

First, urban agriculture cultivation can increase food access and food security for those involved and sometimes for recipients of donated food. This is of particular importance for food-insecure households and in food deserts (Algert, Baameur, & Renvall, 2014; McClintock & Simpson, 2017). A variety of research supports this claim by showing that urban agriculture practitioners save household money by supplementing some of their produce expenditures (K. H. Brown & Carter, 2003; Corrigan, 2011; Gray, Guzman, Glowa, & Drevno, 2013). In Seattle, families who participate in community gardening typically offset 30% to 40% of their fresh produce needs (Hagey, Rice, & Flournoy, 2012). Many urban agriculture participants grow beyond their own consumption needs and share excess fruits and vegetables with other community members and local food banks (Balmer et al., 2005; Corrigan, 2011). In one specific community garden in Baltimore (MD), half of the gardeners donated their produce, earning the garden a reputation among food-insecure neighbors as a place to get free food (Corrigan, 2011). Scholars have used these examples to suggest that converting significant amounts of land to urban agriculture could lead to greater community food self-sufficiency in cities ranging from Detroit to Seattle (Colasanti, 2010; Horst & Gaolach, 2015; MacRae et al., 2010; McClintock, Cooper, & Khandeshi, 2013). Increased food production in cities, however, does not guarantee that people experiencing food insecurity will access that food in the same way that merely increasing food production on a global scale does not

guarantee an end to hunger (Holt-Giménez & Altieri, 2012). Distribution and access matter.

Urban agriculture cultivation is limited in its ability to supply adequate food (Thibert, 2012; Vitiello & Brinkley, 2013). Urban agriculture's ability to contribute to food security for any particular individual, household, or city ranges widely depending on factors such as climate; the amount and type of land available; and the time, availability, and skills of practitioners (Grewal & Grewal, 2012). Raised garden beds, community garden plots, and small urban farms may be valuable sources of fresh fruits, vegetables, and herbs, but are unlikely to provide all of the protein and grain needs of either individual households or entire communities. Critics also argue that urban agriculture is of little use as a strategy to increase food security for people who lack access to land, good growing conditions, and the physical capacity and skills needed to engage in these activities (Ghose & Pettygrove, 2014; Wekerle & Classens, 2015). It is unreasonable to expect disadvantaged populations to cultivate their own food; they are already burdened by working extra jobs and the stresses of poverty and are unlikely to have both the time and interest to spend gardening. Critics, meanwhile, charge that focusing on urban agriculture as a solution to food injustice obscures the systemic conditions, including poverty, low wages, and income disparity, that produce food insecurity (Pudup, 2008; Weissman, 2015). The emphasis on "grow your own" reinforces self-help and government austerity arguments, absolving government of the responsibility to address the structural and institutional causes of food insecurity (Andrée, Ballamingie, & Sinclair-Waters, 2014; Donald, 2008; McClintock, 2014). One takeaway from this debate is that urban agriculture should be considered one way for some households to augment their weekly food needs and only part of an array of interventions needed to completely address food insecurity.

Second, advocates and scholars laud the health benefits of enhanced access to fresh and healthy food (Alaimo, Packnett, Miles, & Kruger, 2008; J. O. Allen, Alaimo, Elam, & Perry, 2008; Graham & Zidenberg-Cherr, 2005; Metcalf & Widener, 2011). Studies show that urban agriculture participants increase their knowledge of nutrition and fresh food. One study finds that adults in households in which a member participates in community gardening eat fruit and vegetables more frequently than adults in nonparticipating households (Alaimo et al., 2008). Other studies link community gardening to lower obesity rates (Alaimo, Beavers, Crawford, Snyder, & Litt, 2016; Zick, Smith, Kowaleski-Jones, Uno, & Merrill, 2013). Youth participants in urban agriculture programming were more likely to taste vegetables they grew themselves (J. O. Allen

et al., 2008). The physical practice of cultivating food, including weeding, tilling, and using hand tools, offers a form of exercise that is preferred across different populations by age, gender, race, and ethnicity (Bellows, Brown, & Smit, 2003; Park, Shoemaker, & Haub, 2009). Urban agriculture is also associated with reduced stress and improved mental well-being (Armstrong, 2000; Draper & Freedman, 2010) and may be especially beneficial for people experiencing mental illness and for people who have been incarcerated (Bellows et al., 2003).

Scholars, however, question whether urban agriculture alone can overcome the larger structural drivers, such as income disparity and poverty, of health disparities. In Buffalo (NY), youth gardeners from wealthier households were more likely to engage in healthy eating, with no measurable increase in healthy eating by youth gardeners from poorer households (Raj, Raja, & Dukes, 2016). Urban agriculture also poses specific health risks in poor communities where there is soil, water, and air pollution, all of which are more common there (Evans & Kantrowitz, 2002; McClintock, 2012; Nabulo, Black, Craig, & Young, 2012; Wortman & Lovell, 2013). One study shows high uptake levels of lead in vegetables grown in soils with high lead concentrations, with associated negative health implications (Finster, Gray, & Binns, 2004). Some of the environmental pollution risks, though not all, can be ameliorated through appropriate training, garden planning, and infrastructure. Urban agriculture's potential for fostering significant improvements in health therefore appears to be strongly tied to socioeconomic and environmental context.

A third benefit of urban agriculture is skill building and education. Various studies show that participants in urban agriculture, in both informal community gardens and more formal urban agriculture training programs, gain knowledge about the natural environment and develop tangible skills in cultivating food (Okvat & Zautra, 2011; Tidball & Krasny, 2007). Gardens provide opportunities for many urban residents to develop a greater appreciation for the work of food producers and a greater connection to their food. Some expect urban agriculture training programs to provide their participants with marketable "green-collar" job skills in horticulture and edible landscaping (Pinderhughes, 2007). Proponents portray urban agriculture as an economic development strategy for low-income residents. In Milwaukee (WI) and Chicago (IL), for example, the urban agriculture organization Growing Power has reported grossing more than \$200,000 per acre in urban agriculture (Lovell, 2010). The organization employs a significant number of local residents, including people of color from low-income backgrounds, to grow and sell food.

In Detroit, several city growers earn a significant share of their income—and a few earn all of their income—from selling their food items (Pothukuchi, 2015).

It is not clear, however, that urban agriculture can support a large number of living-wage jobs in all contexts, particularly where land prices are high or where the consumer market cannot pay enough to cover costs of production and wages (Daftary-Steel, Dignity, Herrera, & Porter, 2015; Vitiello & Wolf-Powers, 2014). Urban farms report difficulties paying decent wages and rely heavily on unpaid labor (Biewener, 2016; Cohen & Reynolds, 2015). A 2012 survey of 370 urban farmers working in or around the United States found that roughly two-thirds were failing to make a living, reporting sales of less than \$10,000 per year (Dimitri, Oberholtzer, & Pressman, 2016). The study authors note that many urban farms rely on grant funding, donations, and off-farm income to support their farm ventures. More research is needed to know whether urban agriculture can lead to significant economic or job opportunities, particularly for disadvantaged communities.

Fourth, advocates argue that urban agriculture improves neighborhoods and builds community capacity. Some describe urban agriculture as a catalyst for neighborhood improvement, particularly when it replaces a vacant or neglected lot. Community gardens, for example, provide places for nearby residents to recreate and relax and contribute to beautification, environmental sustainability, quality of life, and community pride (Armstrong, 2000; Tranel & Handlin, 2006). Some researchers find that active participation in community gardens is linked with increased voter registration and civic responsibility and reduced rates of both petty and serious crime, trash dumping, and mental illness (Hagey et al., 2012; Kuo & Sullivan, 2001). Some gardens function as places of cultural learning and sharing, where African-American and Latino residents, for example, and/or new immigrants and refugees can use urban agriculture as a way to build intergenerational connections and share culturally specific agricultural and culinary knowledge (Airriess & Clawson, 1994; Hondagneu-Sotelo, 2014; Meek et al., 2017; Saldivar-Tanaka & Krasny, 2004; White, 2011). Farmers at South Central Farm in Los Angeles (CA), many of them indigenous people from Mexico, recreated community traditions of agriculture and heirloom seeds (Broad, 2013; Irazábal & Punja, 2009; Mares & Peña, 2010). The farm provided an alternative to gangs and drugs for local youth and a place where the elderly could contribute meaningfully to their community.

The context and the specifics of urban agriculture projects, however, influence which community members benefit. In shrinking cities like Detroit and St. Louis

(MO), community gardens seem to contribute to the stability of neighborhoods and may benefit long-term residents, many of whom are low-income people of color (Tranel & Handlin, 2006). A concern, however, is that the long-term beneficiaries of the community-building aspect of urban agriculture tend to be the propertied class and newcomers rather than more disadvantaged groups. Urban agriculture can become entangled in processes of gentrification, particularly in cities with growing populations. Urban agriculture projects can make affordable neighborhoods more attractive to economically mobile newcomers, which in turn increases the cost of living and leads to gentrification (Cadjji & Alkon, 2014; Safransky, 2014; Walker, 2015). In New York City (NY), community gardens contribute to higher home prices (Voicu & Been, 2008). In Portland (OR), the distribution of household gardens correlates spatially with patterns of gentrification (McClintock, Mahmoudi, Simpson, & Santos, 2016). A similar pattern occurs in Vancouver (Quastel, 2009).

Finally, many scholars and activists alike frame urban agriculture as a springboard for practitioners to increase their self-determination, contest dominant forms of property ownership, experiment with more communal forms of land management, and engage in other political efforts for food systems change (Levkoe, 2011; Staeheli, Mitchell, & Gibson, 2002; Travaline & Hunold, 2010). Some practitioners see their urban agriculture activities as an explicit rejection of the capitalist, corporate food system (McClintock, 2010; McClintock & Simpson, 2017; White, 2011). Others use urban agriculture as a mechanism to appropriate urban space (Thibert, 2012), demand the right to the city (Purcell & Tyman, 2014), and create new commons (Eisenberg, 2012; Roman-Alcalá, 2015). Urban agriculture helps practitioners gain skills in food democracy (Levkoe, 2011). Active participants often become more aware of the complexities of power and the intersections between food and various other social, economic, and environmental issues (Barron, 2016). Gardeners at the South Central Farm in Los Angeles, for example, drew on organizing skills in the garden to become advocates for social justice in city decision making (Irazábal & Punja, 2009). Detroit's Black Community Food Security Network uses urban agriculture as a strategy to pursue its core values of justice and African self-determination, as it describes on its website. It is important to note, however, that not all urban agriculture practitioners connect their food cultivation to political values or actions (Reynolds & Cohen, 2016). The motivations of some practitioners do not extend beyond the desire for fresh food and recreation. Urban agriculture in those conditions is unlikely to be a

mechanism for food democracy, other movements for social justice, or structural change.

One conclusion we draw from our review of the literature is that urban agriculture by itself cannot resolve the array of structural causes and impacts of food injustice experienced by disadvantaged communities. It is fairer to view urban agriculture as one possible strategy among an array of other needed strategies, including poverty alleviation, in seeking greater food justice. An important limitation is that disadvantaged communities may have less time for, energy for, interest in, and resources for urban agriculture than more well-off communities. The lack of interest can be complicated by historical factors, for example by the association between agriculture and slavery for some African Americans. The amount of interest among different communities varies depending on the individuals and context. Growing media attention to urban agriculture organizations led by lower-income communities of color across the United States suggests that interest among such residents is high in at least some places. For example, Natasha Bowens's (2015) book *The Color of Food* documents the stories of urban agriculturalists from various racial and ethnic backgrounds.

We also conclude that there is a risk that if problems are not addressed, even the most well-intentioned initiatives will perpetuate or even reinforce the injustices that practitioners and supporters aim to address (Reynolds, 2015). This growing subset of research on urban agriculture and gentrification does not conclude that any and all urban agriculture is an automatic predictor of gentrification. This literature, however, underscores the importance of investigating which community members do and do not benefit from the community improvements associated with urban agriculture projects over the short and long terms.

Limitations to the Positive Food Justice Impacts of Urban Agriculture

A few areas of concern in the urban agriculture movement currently limit the positive food justice impacts of urban agriculture: disparities in representation, leadership and funding, and insecure land tenure. First, urban agriculture today is sometimes dominated by already advantaged communities, despite urban agriculture's historic association with diverse populations, including poor households, immigrants, and communities of color (Lawson, 2005). There are no comprehensive national data on the demographics of urban agriculture practitioners, but recent case-based studies comment on the increasing Whiteness of urban agriculture. Most gardeners in

New York City's nearly 1,000 community gardens identify as African-American and/or Latino (Reynolds & Cohen, 2016). Observers note, however, a recent increase in the proportion of young White urban agriculture practitioners, perhaps in part due to gentrification in historically low-income neighborhoods (Reynolds, 2015). In Denver (CO; Teig, Amulya, Bardwell, Buchenau, & Marshall, 2009) and Philadelphia (PA; Hoover, 2013), urban agriculture participants are predominantly White, despite the fact that most residents in both cities are people of color. The causes of such disparities merit further investigation and also raise important questions about who benefits from public investments in urban agriculture programs.

Second, there are also disparities in representation in the leadership and culture of many urban agriculture organizations, an important part of procedural justice. Scholars point out that urban agriculture organizations often have White leadership and that White cultural values dominate (Hislop, 2014; Hoover, 2013; Slocum, 2006, 2007; Slocum & Cadieux, 2015). In Philadelphia, for example, community gardens have White leaders, even in neighborhoods with a high percentage of either African-American or Latino gardeners (Meenar & Hoover, 2012). Media reports sometimes erase the presence of people of color; a recent prominent magazine article in New York featured only photographs of White gardeners (Reynolds & Cohen, 2016). In Seattle, Black and Latino/a immigrant farmers reported that local urban agriculture organizations devalued their agro-ecological knowledge while privileging White and Eurocentric practices (Alkon & Mares, 2012; Ramírez, 2015).

There is a danger of urban agriculture being considered a *White space*, with White bodies and associated White language, culture, delivery of services, and foods associated with White foodie culture (Cohen & Reynolds, 2016). The missionary zeal and patronizing tone with which some White-led urban agriculture programs "bring good food to others" (Guthman, 2008a, p. 431; 2008b) offends some residents (Garzo Montalvo, 2015; Ramírez, 2015). Poor communities are sometimes suspicious of the long-term implications of urban agriculture, seeing it as a new form of paternalism or impending gentrification, particularly if long-term residents are not the initiators (Hern, 2016; Lubitow & Miller, 2013). One urban farmer noted, "A lot of times, organizations will use these poor communities and their statistics to get grants to do work that the community never wanted in the first place" (Pipkin, 2017). Reynolds (2015), in her study of urban agriculture organizations in New York, identifies significant race- and class-based disparities. White-led and professionalized organizations on the one hand have been able to take

advantage of funding opportunities and have garnered policy support to expand their operations; other organizations, mainly led by poor people and/or people of color on the other hand have experienced more difficulties in fund-raising and in expanding and leveraging political support for their urban agriculture operations.

Urban agriculture organizations appear to understand that the lack of diverse representation is a problem, but we see little evidence that the problem has been resolved. Nearly 80% of respondents in a national survey of food justice organizations agreed that issues of race and class bias were important and must be front and center in their work (Hislop, 2014). Yet only 16% of these organizations had policies in place to ensure diverse hiring practices or to involve more diverse people—in terms of race and class—in operating the organization.

The lack of permanent land tenure is another important barrier to urban agriculture serving as a vehicle for food justice. Urban residents who do not own single-family homes with space for gardening face significant challenges in gaining long-term access to land for gardening. There are significant race- and class-based disparities in homeownership in the United States, with White and higher-income households having much higher homeownership rates (Kuebler & Rugh, 2013). People without their own private land typically garden on public land (when available), or they squat, borrow, or lease from a private landowner. Most of the time their land tenure is tenuous. There are hundreds of examples of urban agriculture practitioners witnessing the destruction of their gardens, typically when the land became amenable to a higher profit use. In New York in the 1990s, the Rudy Giuliani administration bulldozed hundreds of community gardens that had been constructed on vacant lots (Schmelzkopf, 2002; Staeheli et al., 2002). The South Central Farm in Los Angeles, one of the largest urban farms in the United States, was destroyed in 2006 (Broad, 2013; Irazábal & Punja, 2009). Approximately 350 households of moderate means, many of them immigrants from Mexico, had participated at the farm. As one land use attorney commented, "That story gets heard again, and again, and again" (Jaramillo, 2016). In most cities across the United States and Canada, urban agriculture is typically considered a temporary use of land only, better than land being left vacant but with little protection from replacement by other future uses. Conflicts will always exist between the people who are actively gardening a space and those who stand to gain economically from a different use, particularly when the land is not permanently protected for urban agriculture and when the income that can be made from food cultivation is significantly less than what can be made from doing something else on the property.

Planning and Urban Agriculture

The city planner's role in urban agriculture has changed over time. During World War II, the federal government and many local governments encouraged people to establish victory gardens, including both backyard gardens and allotments on public spaces (Lawson, 2005; Taylor & Lovell, 2014). In the 1970s, some municipalities supported community gardens as a strategy for urban revitalization to combat White flight and suburbanization. In the last decades of the 20th century, however, planners by and large established restrictive zoning that inhibited urban agriculture (Bartling, 2012; K. H. Brown & Carter, 2003; Vitiello & Brinkley, 2013). Many municipalities outlawed keeping chickens, bees, goats, and other livestock in residential zones and established strict regulations regarding the height and maintenance of vegetation, effectively making most food production practices illegal. Other regulations restrict composting and farm stand sales of food produced onsite. Some regulations require tall and expensive fences and lighting around both private and public urban gardens. There has been recent media attention on city governments across American fining urban gardeners for code-prohibited activities such as growing food in front yards and selling produce in front of their house (Gordon, 2013; Keeling, 2011). Planners in some cases ignored urban agriculture altogether and included no language in plans or codes about the practice (Pothukuchi & Kaufman, 2000). These constraints still exist in many cities and suburbs (Butler, 2012; Huang & Drescher, 2015).

Municipal food systems planning and policymaking has, however, evolved significantly since 2000 (Cohen et al., 2014; Pothukuchi, 2010, 2015). Planners increasingly recognize the potential for urban agriculture to contribute to many goals, such as sustainability, livability, and food justice (Neuner, Kelly, & Raja, 2011), although such goals may be in conflict to some degree (Daftary-Steel et al., 2015). The American Planning Association has published several guides about planning and urban agriculture (Hodgson, Campbell, & Bailkey, 2010; Mukherji & Morales, 2010).

Planners use a variety of strategies to support urban agriculture, including creating a supportive policy environment; incentivizing urban agriculture; and offering programming, funding, and public land in support of urban agriculture. We briefly discuss these in greater detail below (for a more detailed overview of planning's role in fostering urban agriculture, see Butler, 2012; McClintock, Wooten, & Brown, 2012; and Mukherji & Morales, 2010).

First, to create a conducive policy environment, some municipalities have adopted goals and strategies in their

comprehensive plans to support new opportunities for noncommercial urban agriculture (e.g., Seattle), including food production in citywide sustainability plans (e.g., Baltimore) and written plans specifically about urban agriculture (e.g., Minneapolis; Hodgson, 2012). Various cities (e.g., Austin [TX]) have amended zoning ordinances and building codes to formally legalize the keeping of bees, poultry, and goats (Butler, 2012; McClintock, 2012) and the cultivation of crops and permanent food-producing plants, like fruit and nut trees, in front yards and planting strips (Huang & Drescher, 2015). New York City encourages interim or temporary use of underused land for gardens (Public Health Law and Policy, 2009). San Francisco (CA) has legalized sales of food items that are grown onsite; the city also removed earlier code language that required urban gardens to have ornamental fences, an expensive requirement (Roman-Alcalá, 2011). Many cities, like Baltimore, have also facilitated the use of vacant privately owned lands for urban agriculture by creating inventories of available land and setting up streamlined leasing processes (City of Baltimore, 2013).

Second, some municipalities provide economic incentives for urban agriculture. Vancouver (Huang & Drescher, 2015; Walker, 2015) and some jurisdictions in California, including Los Angeles County and the city of Sacramento (Havens & Roman-Alcalá, 2016), offer landowners preferential property tax assessment if the landowner restricts urban land for small-scale agricultural use for a minimum amount of time (5 years in California's case). San Francisco has reduced permitting fees (home gardens are exempt) as well as expensive fencing requirements for urban gardens (Roman-Alcalá, 2011). In Cleveland (OH), the city water department allows people to access fire hydrants for urban agricultural use, at least temporarily (Hagey et al., 2012). Philadelphia exempts community gardens from stormwater fees (Jaramillo, 2016). Some cities sell gray or tertiary water or allow or otherwise incentivize graywater for urban agriculture.

Third, some municipalities go beyond allowing and incentivizing urban agriculture to actually provide funding, staff support, and land for urban agriculture. Seattle, for example, coordinates and provides some staff support for almost 90 permanently protected community gardens on a variety of public land (owned by one of the city's departments or other public actors, such as Seattle Public Utilities) and private land (often church owned; Horst, 2017). Seattle has used bond monies to purchase land and offers grant funds to community groups to develop and enhance community gardens or farms. Boston (MA) has provided city-owned property for new urban farms, whereas the Chicago City Council created a city-funded

land trust authorized to purchase properties to protect them as community gardens (among other types of open spaces; Hodgson et al., 2010). However, many cities have relatively limited amounts of land permanently protected for urban agriculture (compared, for example, with land for playgrounds and parks) and little to no staff support for programming or garden coordination and management.

A Brief Assessment of Urban Agriculture Planning and Food Justice

Is planning's increased attention to urban agriculture likely to enhance food justice and positively affect socio-economically disadvantaged communities? A sweeping assessment of all municipal urban agriculture planning activities in the United States is beyond the scope of this review given their varied intents, approaches, and impacts and the lack of comprehensive or comparable data on the demographics of participants or impacts and outcomes of planning interventions. We also recognize that not all urban agriculture planning was intended to foster food justice. We intend not to critique individual cities or policies but instead to identify how particular planning activities are less likely to advance food justice. We point out below how the strategies of removing regulatory barriers and reducing utility fees and property taxes are likely to benefit property owners rather than disadvantaged communities. We also point out that in some cases local governments have directed urban agriculture resources in ways that, intentionally or not, disproportionately benefit some communities over others. Finally, we discuss how many cities do not protect land for urban agriculture, leaving it vulnerable for conversion to other uses.

First, planners have focused the most attention on removing barriers to urban agriculture on privately held land. This is a commonly used strategy because it is seen as less controversial than other options and requires few city resources (Horst, Brinkley, & Martin, 2016). It is an important first step. In cities as diverse as San Francisco and Detroit, removing restrictions on urban agriculture has enabled more people to participate in urban agriculture. This strategy, however, is not likely to offer significant opportunities for residents who do not have access to private land. The strategy of facilitating the use of vacant, privately owned land, though pragmatic, is also problematic because of its tenuousness. Once the original owner wants the land back, or another owner wants to purchase the land, the urban agriculture practitioners typically have little recourse.

The second common strategy municipalities use to promote urban agriculture is to reduce utility fees and

property taxes for urban agriculture operations, such as community gardens or farms. Reduced fees for water and garbage services are likely beneficial to all urban agriculture organizations, including those led by or targeting disadvantaged communities. The impacts of reduced property taxes for food justice, however, are less clear. On the one hand, urban agriculture organizations could benefit from short-term access to otherwise vacant urban land for their projects. On the other hand, food justice activists in California note that the main beneficiaries of the statewide Urban Agriculture Incentive Zone Act (passed in 2013) are property owners who get lower tax bills, not those people experiencing food-related inequities (Havens & Roman-Alcalá, 2016). Havens and Roman-Alcalá (2016) point out that "the law could, in fact, have regressive effects for food justice concerns." Their main concern is that property owners will, once the minimum 5-year lease period required under the law has passed, turn around and sell or develop the property. The tax reduction and its associated 5-year minimum lease do not resolve the challenges food justice organizations face in developing a long-term and effective farm project.

Gardens that receive reduced utility fees and taxes may ultimately enhance the forces of gentrification. Havens and Roman-Alcalá (2016) emphasize that *who* is involved and *how* California's Urban Agriculture Incentive Zone Act is implemented will influence who benefits. In Oakland (CA), for example, the real estate industry appears to be well poised to take advantage of low property tax rates and to use urban agriculture to attract new residents. In Los Angeles, an organized group of community organizations has demanded community consultation about each project, preference for projects led by grassroots people-of-color organizations, and resources for low-income community projects. Projects attentive to these objectives are more likely to positively affect food justice.

Third, municipal governments, at least in some cases, tend to allocate urban agriculture space and funds in ways that benefit upper-middle-class residents. In the Los Angeles region in 2003, for example, only 10 of the more than 60 official community gardens were located in underprivileged areas (Irazábal & Punja, 2009). A similar pattern was revealed in Seattle prior to 2006 or so, though subsequently the city has intentionally shifted its urban agriculture investments (Horst, 2017). The causes of such disparity—whether intention, oversight, lack of outreach, or lack of interest among residents in the underprivileged areas—are unclear, but the impacts are worth investigating. In Detroit, within a very different context, the city recently sold 1,500 lots (about 140 acres) at a heavily discounted rate to a private company to develop a large-scale commercial

agricultural operation (Pothukuchi, 2015). The impacts of this sale on the city's long-term socioeconomically disadvantaged residents are not yet clear. Meanwhile, the numerous urban agriculture projects led by long-term residents, especially low-income residents of color, have gone largely unfunded through public dollars. The city has instead demanded that urban agriculture practitioners pay increasing use and permitting fees to conduct urban agriculture on vacant properties, despite calls for help by local longstanding food justice organizations (Baker, 2017).

Fourth, many cities do not invest in a meaningful way in permanently protecting land for urban agriculture. From New York to Los Angeles, demand for existing publicly provided community garden space far outstrips supply. In cities without much publicly provided land, urban agriculture is commonly practiced on vacant or underused land and often viewed by city planners as a placeholder or interim use. In Philadelphia, urban agriculture practitioners are concerned about the tenure of the 568 parcels used for farming in the city, half of which are publicly owned land (but many of which are not permanently protected) and the other half of which are on land owned by private entities or nonprofits (Jaramillo, 2016). The lack of permanent tenure is especially problematic for less resourced organizations and for urban agriculture practitioners without other access to land.

Orienting Urban Agriculture Planning for Food Justice: Some Suggestions

Planning can be oriented more explicitly toward food justice. Key strategies include prioritizing urban agriculture in long-term planning efforts, developing mutually respectful relationships with food justice organizations and urban agriculture participants from diverse backgrounds, targeting city investments in urban agriculture to benefit historically disadvantaged communities, increasing the amount of land permanently available for urban agriculture, and confronting the threats of gentrification and displacement from urban agriculture. These strategies are summarized in Table 1 and further discussed below.

First, planners can, as a baseline, prioritize urban agriculture in long-range neighborhood and public service delivery planning, connecting urban agriculture strategies to equity and social justice. Cohen and Reynolds (2014) suggest that cities develop urban agriculture plans as a vehicle for stakeholder involvement and stakeholder accountability. Baltimore's urban agriculture plan, released in 2013, lays out a series of actions accompanied by identified actors and a timeline for action (City of Baltimore, 2013).

A complementary approach is to address urban agriculture in long-range and comprehensive plans. In Seattle, the city included a goal to establish a community garden for every 2,500 residents in its comprehensive plan (Born & Horst, 2015). The city's community garden manager explained how effective the policy has been: "Whenever we advocate for more gardens and ask for more money from the city or other funders, we always affirm that P-Patches [Seattle's term for community gardens] are part of the comprehensive plan" (WhyHunger, 2010). These planning efforts can make more explicit connections between urban agriculture and social justice and equity. It is important to note, however, that Baltimore's plan only requires that "access and equity should be *considered* in determining the scope of urban agriculture and in implementing this plan" (City of Baltimore, 2013, p. 41, emphasis added). Seattle's level of service standard could be oriented even more explicitly toward food justice goals by prioritizing gardens in disadvantaged communities.

Second, municipalities can develop meaningful ways to hear the perspectives of food justice organizations and urban agriculture participants from diverse backgrounds. City staff can develop long-term and mutually respectful relationships with such organizations and communities. Cohen and Reynolds (2015) suggest establishing an urban agriculture advisory board to offer strategic direction and input on the city's urban agriculture programming, funding, and other decisions. They emphasize the importance of making sure such a board is representative of diverse urban agriculture participants and does not reproduce class- and race-based disparities. Cities can also revise their urban agriculture outreach and participation processes to make sure they are culturally responsive, accessible, and targeted to disadvantaged communities.

Third, planners can develop strategies to specifically target urban agriculture resources, including utility fee reductions, grant funding, and infrastructure investments, to historically disadvantaged communities. Cohen and Reynolds (2014) note that municipalities that want to address funding disparities need to revise their funding processes and seek out and assist groups historically unsuccessful at winning grants and contracts. When municipalities purchase land or invest in urban agriculture infrastructure, they could prioritize neighborhoods and locations likely to benefit disadvantaged households. Cities should also consider how utility fee and property tax reductions could directly benefit food justice organizations and disadvantaged communities rather than individual property owners. Cities could, in addition, require that assisted gardens remain in agricultural use for longer than 5 years. Cities can also test for environmental pollution on

Table 1. Strategies to promote food justice in urban agriculture planning.

General strategy	Details and examples
1. Prioritize urban agriculture in long-range, neighborhood, service delivery, and other planning efforts	<ul style="list-style-type: none"> Develop urban agriculture plan (e.g., City of Baltimore, 2013) Integrate urban agriculture in long-range and comprehensive plans (e.g., Seattle's goal to establish a community garden for every 2,500 residents in its comprehensive plan) Integrate attention to social justice and equity in these planning efforts (i.e., by prioritizing actions in disadvantaged communities first)
2. Offer meaningful participation opportunities for food justice organizations and disadvantaged communities	<ul style="list-style-type: none"> Develop long-term and mutually respectful relationships with food justice organizations and communities Establish an urban agriculture advisory board, making sure the board reflects the city's diversity and does not reproduce class- and race-based disparities Revise urban agriculture outreach and participation processes to make sure they are culturally responsive, accessible, and targeted to disadvantaged communities
3. Target funding, resources, and incentives to benefit food justice organizations and disadvantaged communities	<ul style="list-style-type: none"> Revise funding processes and assist groups historically unsuccessful at winning grants and contracts Target new urban agriculture infrastructure in neighborhoods and locations likely to benefit disadvantaged households Design fee and tax reductions to directly benefit food justice organizations and disadvantaged communities rather than property owners Offer technical assistance and training on dealing with environmental contamination
4. Permanently protect land for urban agriculture	<ul style="list-style-type: none"> Establish urban agriculture sites on public property Acquire privately held vacant properties Accompany the above efforts with permanent protection through zoning, establishing conservation easements, removing development rights, and/or conferring property ownership to a community land trust Require or incentivize urban agriculture space as a condition of approval for affordable and multifamily housing Plan for urban agriculture as an important part of a livable neighborhood and an appropriate complement to compact development rather than in competition with it Develop funding streams, for example property tax levies (e.g., 2008 Seattle Parks and Green Space Levy) or community development block grant funds (e.g., Madison [WI])
5. Use urban agriculture to resist, rather than contribute to, displacement of disadvantaged communities	<ul style="list-style-type: none"> Design urban agriculture projects in ways that make them least likely to directly promote displacement and most likely to benefit historically disadvantaged communities Situate urban agriculture planning within a variety of other antidisplacement efforts, such as creating and protecting affordable housing and business and resident retention efforts (i.e., expand affordable housing strategies and require or incentivize that all affordable housing include access to urban agriculture opportunities)

available land and train groups in disadvantaged communities to deal with polluted sites.

Fourth, planners can deliberately and strategically create and protect more gardens and farms, much as they do for parks and playgrounds. To best contribute to food justice, these gardens and farms should be located in neighborhoods with higher rates of disadvantaged communities. Havens and Roman-Alcalá (2016) suggest a variety of ways cities can do this. Cities can, for example, identify existing and potential urban agriculture sites on public property, including parks, recreation and senior centers, public easements and rights-of-way, and surplus property, and convert some of the land at these public facilities to community garden or other urban agriculture uses (Public Health Law and Policy, 2009). Moreover, cities can acquire privately held vacant properties. Cuyahoga Land Bank in Ohio, for example, has developed community gardens, orchards, and nurseries on more than 100 previously

vacant properties acquired through its land bank (Sustainable Economies Law Center, 2017). Both of these strategies need to be accompanied by efforts to permanently protect urban gardens and farms, for example by establishing an overlay zoning category (as far as legally allowed), establishing conservation easements, removing development rights, and/or conferring property ownership to a community land trust. Cleveland, for example, established an urban garden district zoning ordinance in 2007 that makes replacing a garden a public process (Sustainable Economies Law Center, 2017). Planners can also require or incentivize urban agriculture space as a condition of approval for affordable and multifamily housing. The problem is that urban agriculture may be seen as competing for land with new housing, businesses, or other uses, particularly in cities experiencing population growth and encouraging compact development. We do not argue that all remaining vacant land be preserved for urban agriculture at

the expense of any and all development. We suggest that urban agriculture, with its multiple social and environmental benefits, is better viewed as an important part of a livable neighborhood and an appropriate complement to increasing residential density rather than in competition with it.

Cities have also developed creative ways to fund urban agriculture land acquisition and development. In Seattle, for example, taxpayers passed bonds to support community garden development (Public Health Law and Policy, 2009). The city of Chicago, the Chicago Park District, and the Forest Preserve District of Cook County together combined funds to purchase lands for community gardens. Madison (WI) used federal community development block grant funds to support community gardens.

Fifth, one of the tougher issues for cities to tackle is the tendency of urban agriculture to contribute to gentrification. When cities invest in urban agriculture, they should solicit input from food justice-oriented organizations and from disadvantaged communities as discussed above to design the intervention in ways that would make it least likely to directly promote displacement and most likely to benefit historically disadvantaged communities. The powerful forces of gentrification go far and beyond that of urban agriculture, as do the solutions. Cities that are serious about halting the displacement of socioeconomically disadvantaged communities can situate urban agriculture planning within a variety of other antidisplacement efforts, such as creating and protecting affordable housing and business and resident retention efforts. For example, cities can expand their affordable housing strategies and require or incentivize that all affordable housing include access to urban agriculture opportunities.

The Case of Seattle: An Equity Lens and Urban Agriculture

One tool municipalities can use to guide their urban agriculture planning efforts is an *equity lens*, an additional step in a decision-making process akin to an environmental impact statement that examines the justice-related impacts of policy, funding, and program decisions. An equity lens typically guides decision makers through a series of questions about the historic and existing social inequities related to the topic, their strategies for consulting with disadvantaged communities, likely impacts of various proposals on disadvantaged communities, and whether structural barriers to overcoming disparities can be better addressed (Zapata, 2017). Cities such as St. Paul (MN), counties such as Multnomah County (OR), and

institutions such as the Portland Public Schools and Portland State University (Zapata, 2017) are increasingly using equity lenses.

We examine in greater detail how Seattle used an equity lens to better orient its urban agriculture programming to benefit disadvantaged communities. In this case, Seattle used a *racial* equity lens to specifically target racially disadvantaged communities. Seattle began using an equity lens to guide its urban agriculture planning efforts in the mid-2000s, when municipal leaders established the Race and Social Justice Initiative (City of Seattle Race and Social Justice Initiative, 2016). As part of the initiative, all city departments, including those that implement urban agriculture policy and programming, are required to use a racial equity toolkit (their name for the equity lens) to analyze the racial equity impact of policies, programs, initiatives, and budget issues. The racial equity toolkit lays out a process and a set of questions to guide city staff in developing, implementing, and evaluating policies, initiatives, programs, and budget decisions to promote race and social justice.

Seattle's equity lens guides city staff through a series of steps designed to consider the equity-related impacts of a proposed action, how to engage the people most affected, and the structural barriers to better equity results that exist:

1. Set outcomes.
2. Involve stakeholders and analyze data.
3. Determine benefits and/or burden.
4. Advance opportunity or minimize harm.
5. Evaluate. Raise racial awareness. Be accountable.
6. Report back.

It is important to note that the lens includes a suggestion for use very early on in decision-making processes and for the inclusion of people with different racial and ethnic backgrounds in the completion of the lens.

Around 2005, city staff participated in training and began using the racial equity toolkit to inform major programming and policy decisions. As a result, several of the key departments involved in urban agriculture, such as the Department of Neighborhoods and Department of Parks and Recreation, made significant changes to align their activities more strongly with food justice.

The Department of Neighborhoods, which manages the city's community gardens, acknowledged publicly that their urban agriculture interventions and resources had to date been largely located in predominantly White and higher-income neighborhoods (Horst, 2015). The department subsequently made major changes to prioritize new gardens, farms, and training programs in neighborhoods with a high percentage of low-income people and people of color. The

city made strategic investments in permanent community gardens, resulting in a total of 20 food security gardens located in low-income and immigrant communities using new funds from the 2008 Parks and Green Space Levy, which earmarked \$2 million for community gardens. The Department of Neighborhoods also established three market gardens at Seattle Housing Authority (subsidized housing) sites, where mainly immigrant farmers from Southeast Asia and East Africa grow food to sell onsite to other public housing residents or offsite at a store, stand, farmers market, or restaurant (Department of Neighborhoods, 2014). The sales provide farmers with some income for their labor. Altogether the city provides management to around 90 community gardens, most of which are permanently protected on public property. The Seattle program is among the largest publicly managed community garden programs in the country. The Department of Neighborhoods put additional resources into youth gardening, particularly in programs that support young people from low-income communities of color. The changes in investment and programming inspired by the equity lens appear to be better targeting low-income people and communities of color. A 2010 survey of Seattle's community gardeners revealed that 71% were low income (below 80% of median income), and 23% were people of color in 2014, both categories up significantly from a decade prior (Department of Neighborhoods, 2014). These numbers likely underestimate the percentage of people of color involved because the survey only included participants at traditional gardens and was based on a unilingual, English-only survey. There are no detailed data on the outcomes on food security, health, or the other social benefits discussed above, an area for further research.

The Department of Parks and Recreation has also used the equity lens to guide changes to its urban agriculture programming (Horst, 2015). The department now provides funds and staff support to the nonprofit organization Seattle Tilth to operate incubator farms targeted at immigrant farmers. The department also supports a large urban farm in Rainier Beach (a neighborhood with a high percentage of low-income residents and people of color) that offers a wide variety of services, including providing educational training and outreach targeted to immigrants and youth from low-income families and bags of low-cost produce for volunteers and low-income families in the neighborhood. Staff also overhauled their various urban agriculture-related programs (part of their Good Food Program) to better target and serve low-income people and people of color not just at the farm but on all park properties. The department developed an inclusive outreach and public education guide to enhance its outreach efforts to reach out to diverse communities and hired key personnel

who have competence in culturally responsive outreach and communication to specifically reach out to African-American, Latino, and immigrant communities. It also revised programming to emphasize culturally specific foods to specific communities, for example, immigrant Laotian, Eritrean, and Ethiopian communities. Department staff attribute a 10% increase in participation by people of color in their urban agriculture-related programming in recent years to these efforts (Horst, 2015). There are as yet no detailed data on the outcomes.

Seattle's efforts demonstrate how planners and their colleagues used a racial equity lens to change their urban agriculture efforts. City staff have adopted more culturally inclusive programming and outreach efforts and ensured that city investments in gardens and programming target low-income people and people of color in new, creative ways. The city has taken steps to remove the largest structural barrier to urban agriculture, which is access to land, by opening a significant amount of publicly owned land to a diverse array of urban agriculture activities and by investing city funds to make those lands usable to urban agriculture. The available data suggest that the city's efforts have led to the increased participation of people with lower incomes and communities of color. Future research is needed to shed light on whether increased participation has led to better outcomes, such as increased food security, less obesity, more nutritional knowledge, stronger cultural ties and sense of community, or greater political capacity.

Recognizing Urban Agriculture's Limits and Potential for Food Justice

Much of the planning literature on urban agriculture and its role in addressing food injustice is celebratory. Our review suggests the need for a more nuanced evaluation. Urban agriculture offers a variety of potential social benefits to its participants, including increased access to healthy food, skill building, community improvements, and activism opportunities. Although these benefits are important, urban agriculture should not be viewed as a panacea. Instead, it is one potential intervention among an array of strategies, including antipoverty measures, needed to enhance food justice. Urban agriculture only enhances food justice if the benefits accrue to those residents who most experience food injustices, such as food insecurity. Disadvantaged communities experience significant barriers to full participation in urban agriculture, including difficulties securing funding, political support, and long-term land tenure. Communities may have differing levels of interest and capacity to engage in urban agriculture.

Our review of the relationship between urban agriculture, food justice, and planning is limited by the relatively sparse and case-based approach in most of the research to date. Another limitation is that a lot of the planning scholarship on urban agriculture has not been on food justice. Future research may help fill the gaps mentioned throughout this review.

Planners are becoming increasingly involved in promoting urban agriculture by prioritizing it in long-range planning efforts; removing legal barriers; offering reduced fees and taxes; and providing staff, resources, and, in some cases, permanent access to land. Not all urban agriculture planning efforts seek to help disadvantaged residents suffering from food injustice. They may have other legitimate planning goals, such as neighborhood stabilization or general improved livability.

We suggest that urban agriculture planning can more explicitly focus on fostering food justice. One way the city of Seattle prioritized equity in its urban agriculture policy and programming was by applying an equity lens that influenced staff to target new community gardens and urban farms in lower-income neighborhoods and to conduct better outreach to disadvantaged communities for its various urban agriculture programming. In addition to using these strategies, cities can cultivate long-term and mutually respectful relationships with food justice organizations and solicit their input on potential urban agriculture policies and programming. Cities can also use a variety of strategies to ensure that disadvantaged communities have long-term access to land, including acquiring vacant properties, converting existing underused public properties into urban agriculture, protecting existing community gardens, and incentivizing urban agriculture space in new developments, including affordable housing developments. Planners must also recognize the power of successful urban agriculture projects to spur gentrification; planners should tie their urban agricultural efforts to the provision of affordable housing and antidisplacement strategies to prevent these undesirable outcomes.

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References

Airriess, C. A., & Clawson, D. L. (1994). Vietnamese market gardens in New Orleans. *Geographical Review*, 84(1), 16–31. doi:10.2307/215778

Alaimo, K., Beavers, A. W., Crawford, C., Snyder, E. H., & Litt, J. S. (2016). Amplifying health through community gardens: A framework for advancing multicomponent, behaviorally based neighborhood interventions. *Current Environmental Health Reports*, 3(3), 302–312. doi:10.1007/s40572-016-0105-0

Alaimo, K., Packnett, E., Miles, R. A., & Kruger, D. J. (2008). Fruit and vegetable intake among urban community gardeners. *Journal of Nutrition Education and Behavior*, 40(2), 94–101. doi:10.1016/j.jneb.2006.12.003

Algert, S., Baumeur, A., & Renvall, M. (2014). Vegetable output and cost savings of community gardens in San Jose, California. *Journal of the Academy of Nutrition and Dietetics*, 114(7), 1072–1076. doi:10.1016/j.jand.2014.02.030

Alkon, A., & Agyeman, J. (2011). *Cultivating food justice: Race, class, and sustainability*. Cambridge, MA: MIT Press.

Alkon, A., & Mares, T. (2012). Food sovereignty in U.S. food movements: Radical visions and neoliberal constraints. *Agriculture and Human Values*, 29(3), 347–359. doi:10.1007/s10460-012-9356-z

Allegretto, S., Doussard, M., Graham-Squire, D., Jacobs, K., Thompson, D., Thompson, J., & Allegretto, S. A. (2013). *Fast food, poverty wages: The public cost of low-wage jobs in the fast-food industry*. Berkley, CA: UC Berkeley Labor Center.

Allen, J. O., Alaimo, K., Elam, D., & Perry, E. (2008). Growing vegetables and values: Benefits of neighborhood-based community gardens for youth development and nutrition. *Journal of Hunger & Environmental Nutrition*, 3(4), 418–439. doi:10.1080/19320240802529169

Allen, P. (2008). Mining for justice in the food system: Perceptions, practices, and possibilities. *Agriculture and Human Values*, 25(2), 157–161. doi:10.1007/s10460-008-9120-6

Allen, P. (2010). Realizing justice in local food systems. *Cambridge Journal of Regions, Economy and Society*, 3(2), 295–308. doi:10.1093/cjres/rsq015

Andrée, P., Ballamingie, P., & Sinclair-Waters, B. (2014). Neoliberalism and the making of food politics in Eastern Ontario. *Local Environment*, 20(12), 1452–1472. doi:10.1080/13549839.2014.908277

Armstrong, D. (2000). A survey of community gardens in upstate New York: Implications for health promotion and community development. *Health & Place*, 6(4), 319–327. doi:10.1016/S1353-8292(00)00013-7

Baker, R. (2017, April). “We got the land!” *Unpacking Detroit’s degrowth narrative*. Paper presented at the Association of American Geographers conference, Boston, MA.

Balmer, K., Gill, J., Kaplinger, H., Miller, J., Peterson, M., Rhoads, A., ... Wall, T. (2005). *The diggable city: Making urban agriculture a planning priority* [Student project]. Retrieved from http://pdxscholar.library.pdx.edu/usp_murp/52/

Barron, J. (2016). Community gardening: Cultivating subjectivities, space, and justice. *Local Environment*. Advance online publication. doi:10.1080/13549839.2016.1169518

Bartling, H. (2012). A chicken ain’t nothin’ but a bird: Local food production and the politics of land use change. *Local Environment*, 17(1), 23–34. doi:10.1080/13549839.2011.627323

Bellows, A. C., Brown, K., & Smit, J. (2003). *Health benefits of urban agriculture*. Venice, CA: Community Food Security Coalition. Retrieved from <http://foodsecurity.org/pubs.html>

Biewener, C. (2016). Paid work, unpaid work, and economic viability in alternative food initiatives: Reflections from three Boston urban

agriculture endeavors. *Journal of Agriculture, Food Systems, and Community Development*, 6(2), 1–19. doi:10.5304/jafscd.2016.062.019

Born, B., & Horst, M. (2015). A decade of food systems planning in the Central Puget Sound region. In J. Sterrett, C. Ozawa, D. Ryan, E. Seltzer, & J. Whittington (Eds.), *Planning the Pacific Northwest* (pp. 281–290). Chicago, IL: Planners Press.

Born, B., & Purcell, M. (2006). Avoiding the local trap: Scale and food systems in planning research. *Journal of Planning Education and Research*, 26(2), 195–207. doi:10.1177/0739456X06291389

Bowens, N. (2015). *The color of food*. Gabriola Island, British Columbia, Canada: New Society.

Brinkley, C., & Vitiello, D. (2014). From farm to nuisance: Animal agriculture and the rise of planning regulation. *Journal of Planning History*, 13(2), 113–135. doi:10.1177/1538513213507542

Broad, G. M. (2013). Ritual communication and use value: The South Central Farm and the political economy of place. *Communication, Culture & Critique*, 6(1), 20–40. doi:10.1111/cccc.12003

Broad, G. (2016). *More than just food: Food justice and community change*. Oakland: University of California Press.

Brown, K. H., & Carter, A. (2003). *Urban agriculture and community food security in the United States: Farming from the city center to the urban fringe*. Venice, CA: Community Food Security Coalition.

Brown, S., & Getz, C. (2008). Privatizing farm worker justice: Regulating labor through voluntary certification and labeling. *Geoforum*, 39(3), 1184–1196. doi:10.1016/j.geoforum.2007.01.002

Bryld, E. (2003). Potentials, problems, and policy implications for urban agriculture in developing countries. *Agriculture and Human Values*, 20(1), 79–86. doi:10.1023/A:1022464607153

Butler, W. (2012). Welcoming animals back to the city: Navigating the tensions of urban livestock through municipal ordinances. *Journal of Agriculture, Food Systems, and Community Development*, 22(3), 193–215. doi:10.5304/jafscd.2012.022.003

Cadieux, K. V., & Slocum, R. (2015). What does it mean to do food justice? *Journal of Political Ecology*, 22(1), 1–26. Retrieved from <http://jpe.library.arizona.edu/>

Cadji, J., & Alkon, A. (2014). One day, the White people are going to want those houses again. In S. Zavestoski & J. Agyeman (Eds.), *Incomplete streets: Processes, practices and possibilities* (pp. 154–175). London, UK: Routledge.

City of Baltimore. (2013). *Homegrown Baltimore: Grow local Baltimore City's urban agriculture plan*. Baltimore, MD: Author.

City of Seattle Race and Social Justice Initiative. (2016). Racial equity toolkit to assess policies, initiatives, programs, and budget issues. Seattle, WA: Author.

Cohen, N., & Reynolds, K. (2014). Urban agriculture policy making in New York's "new political spaces": Strategizing for a participatory and representative system. *Journal of Planning Education and Research*, 34(2), 221–234. doi:10.1177/0739456X14526453

Cohen, N., & Reynolds, K. (2015). Resource needs for a socially just and sustainable urban agriculture system: Lessons from New York City. *Renewable Agriculture and Food Systems*, 30(1), 103–114. doi:10.1177/0739456X14526453

Cohen, N., & Reynolds, K. (2016). Beyond the kale: Urban agriculture and social justice activism in New York City. Athens: University of Georgia Press.

Cohen, N., Reynolds, K., Wakefield, S., Yeudall, F., Taron, C., Reynolds, J., ... Reynolds, K. (2014). Urban agriculture policy making in New York's "new political spaces": Strategizing for a participatory and representative system. *Journal of Planning Education and Research*, 34(2), 221–234. doi:10.1093/heapro/dam001

Colasanti, K. (2010). Assessing the local food supply capacity of Detroit, Michigan. *Journal of Agriculture, Food Systems, and Community Development*, 1(2), 41–58. doi:10.5304/jafscd.2010.012.002

Coleman-Jensen, A., Gregory, C., & Singh, A. (2014). *Household food security in the United States in 2013*. Washington, DC: U.S. Department of Agriculture.

Corrigan, M. P. (2011). Growing what you eat: Developing community gardens in Baltimore, Maryland. *Applied Geography*, 31(4), 1232–1241. doi:10.1016/j.apgeog.2011.01.017

Crane, A., Viswanathan, L., & Whitelaw, G. (2013). Sustainability through intervention: A case study of guerrilla gardening in Kingston, Ontario. *Local Environment*, 18(1), 71–90. doi:10.1080/13549839.2012.716413

Daftary-Steel, S., Dignity, F., Herrera, H., & Porter, C. M. (2015). The unattainable trifecta of urban agriculture. *Journal of Agriculture, Food Systems, and Community Development*, 6(61), 19–32. doi:10.5304/jafscd.2015.061.014

Department of Neighborhoods. (2014). *P-Patch community gardening information sheet*. Seattle, WA: City of Seattle.

Despommier, D. D. (2010). *The vertical farm: Feeding the world in the 21st century*. New York, NY: St. Martins Press.

Dimitri, C., Oberholtzer, L., & Pressman, A. (2016). Urban agriculture: Connecting producers with consumers. *British Food Journal*, 118(3), 603–617. doi:10.1108/BFJ-06-2015-0200

Donald, B. (2008). Food systems planning and sustainable cities and regions: The role of the firm in sustainable food capitalism. *Regional Studies*, 42(9), 1251–1262. doi:10.1080/00343400802360469

Dowler, E., & Caraher, M. (2003). Local food projects: The new philanthropy? *The Political Quarterly*, 74(1), 57–65. doi:10.1111/1467-923X.00512

Draper, C., & Freedman, D. (2010). Review and analysis of the benefits, purposes, and motivations associated with community gardening in the United States. *Journal of Community Practice*, 18(4), 458–492. doi:10.1080/10705422.2010.519682

Eisenberg, E. (2012). Actually existing commons: Three moments of space of community gardens in New York City. *Antipode*, 44(3), 764–782. doi:10.1111/j.1467-8330.2011.00892.x

Evans, G., & Kantrowitz, E. (2002). Socioeconomic status and health: The potential role of environmental risk exposure. *Annual Review of Public Health*, 23(1), 303–331. doi:10.1146/annurev.publhealth.23.112001.112349

Finster, M., Gray, K., & Binns, H. (2004). Lead levels of edibles grown in contaminated residential soils: A field survey. *Science of the Total Environment*, 320(2), 245–257. doi:10.1016/j.scitotenv.2003.08.009

Flyvbjerg, B. (2002). Bringing power to planning research: One researcher's praxis story. *Journal of Planning Education and Research*, 21(4), 353–366. doi:10.1177/0739456X0202100401

Garzo Montalvo, M. F. (2015). To the American food justice movements: A critique that is also an offering. *Journal of Agriculture Food Systems and Community Development*, 5(4), 125–129. doi:10.5304/jafscd.2015.054.017

Ghose, R., & Pettygrove, M. (2014). Actors and networks in urban community garden development. *Geoforum*, 53(May), 93–103. doi:10.1016/j.geoforum.2014.02.009

Golden, S. (2013). *Urban agriculture impacts: Social, health, and economic: An annotated bibliography*. Retrieved from <http://asi.ucdavis.edu/programs/sarep/publications/food-and-society/uaannotatedbiblio-2013.pdf>

Gordon, L. (2013, April 1). *Legal battles over gardens are sprouting up across the country*. Retrieved from http://www.abajournal.com/magazine/article/legal_battles_over_gardens_are_sprouting_up_across_the_country

Gottlieb, R., & Joshi, A. (2010). *Food justice*. Cambridge, MA: MIT Press.

Graham, H., & Zidenberg-Cherr, S. (2005). California teachers perceive school gardens as an effective nutritional tool to promote healthful eating habits. *Journal of the American Dietetic Association*, 105(11), 1797–1800. doi:10.1016/j.jada.2005.08.034

Gray, L., Guzman, P., Glowa, K. M., & Drevno, A. G. (2013). Can home gardens scale up into movements for social change? The role of home gardens in providing food security and community change in San Jose, California. *Local Environment*, 19(2), 187–203. doi:10.1080/13549839.2013.792048

Grewal, S. S., & Grewal, P. S. (2012). Can cities become self-reliant in food? *Cities*, 29(1), 1–11. doi:10.1016/j.cities.2011.06.003

Guthman, J. (2008a). Bringing good food to others: Investigating the subjects of alternative food practice. *Cultural Geographies*, 15(4), 431–447. doi:10.1177/1474474008094315

Guthman, J. (2008b). "If they only knew": Color blindness and universalism in California alternative food institutions. *The Professional Geographer*, 60(3), 387–397. doi:10.1007/s10460-006-9019-z

Hagey, A., Rice, S., & Flournoy, R. (2012). Growing urban agriculture: Equitable strategies and policies for improving access to healthy food and revitalizing communities. Oakland, CA: PolicyLink.

Hassanein, N. (2003). Practicing food democracy: A pragmatic politics of transformation. *Journal of Rural Studies*, 19(1), 77–86. doi:10.1016/S0743-0167(02)00041-4

Havens, E., & Roman-Alcalá, A. (2016). *Land and sovereignty land for food justice? AB 551 and structural change*. Oakland, CA: Food First. Retrieved from <https://foodtank.com/news/2017/01/14707/>

Hern, M. (2016). What a city is for: Remaking the politics of displacement. Cambridge, MA: MIT Press.

Hislop, R. S. (2014). Reaping equity: A survey of food justice organizations in the U.S.A. Davis: University of California, Davis.

Hodgson, K. (2012). Planning for food access and community-based food systems: A national scan and evaluation of local comprehensive and sustainability plans. Washington, DC: American Planning Association.

Hodgson, K., Campbell, M. C., & Bailkey, M. (2010). Urban agriculture: Growing healthy, sustainable communities. Planning advisory service report. Chicago, IL: APA Planners Press.

Holt-Giménez, E., & Altieri, M. A. (2012). Agroecology, food sovereignty and the new green revolution. *Journal of Sustainable Agriculture*, 37(1), 90–102. doi:10.1080/10440046.2012.716388

Hondagneu-Sotelo, P. (2014). *Paradise transplanted: Migration and the making of California gardens*. Berkley: University of California Press.

Hoover, B. (2013). White spaces in Black and Latino places: Urban agriculture and food sovereignty. *Journal of Agriculture, Food Systems, and Community Development*, 3(4), 109–115. doi:10.5304/jafscd.2013.034.014

Horst, M. (2015). Fostering food systems transformation: A critical examination of food systems planning in the Central Puget Sound Region. Seattle: University of Washington.

Horst, M. (2017). Food justice and municipal government in the USA. *Planning Theory & Practice*, 18(1), 51–70. doi:10.1080/14649357.2016.1270351

Horst, M., Brinkley, C., & Martin, K. (2016). Urban agriculture in the 'burbs. In J. Dawson & A. Morales (Eds.), *Cities of farmers: Urban agricultural practices and processes* (pp. 41–58). Iowa City: University of Iowa Press.

Horst, M., & Gaolach, B. (2015). The potential of local food systems in North America: A review of foodshed analyses. *Renewable Agriculture and Food*, 30(5), 399–407. doi:10.1017/S1742170514000271

Huang, D., & Drescher, M. (2015). Urban crops and livestock: The experiences, challenges, and opportunities of planning for urban agriculture in two Canadian provinces. *Land Use Policy*, 43(February), 1–14. doi:10.1016/j.landusepol.2014.10.011

Institute for Agriculture and Trade Policy. (2012). *Draft principles of food justice*. Minneapolis, MN: Author. Retrieved from <https://www.iatp.org/documents/draft-principles-of-food-justice>

Irazábal, C., & Punja, A. (2009). Cultivating just planning and legal institutions: A critical assessment of the South Central Farm struggle in Los Angeles. *Journal of Urban Affairs*, 31(1), 1–23. doi:10.1111/j.1467-9906.2008.00426.x

Jaramillo, C. (2016). *Urban agriculture leaders ask for citywide commitments to garden preservation and creation*. Retrieved from <http://planphilly.com/articles/2016/09/23/urban-agriculture-leaders-ask-for-citywide-commitments-to-garden-preservation-and-creation>

Jayaraman, S. (2013). *Behind the kitchen door*. Ithaca, NY: Cornell University Press.

Keeling, B. (2011, March 30). *City of Oakland shuts down Novella Carpenter's farmstand*. Retrieved from the SFist website: http://sfist.com/2011/03/30/city_of_oakland_shuts_down.php

Kuebler, M., & Rugh, J. S. (2013). New evidence on racial and ethnic disparities in homeownership in the United States from 2001 to 2010. *Social Science Research*, 42(5), 1357–1374. doi:10.1016/j.ssresearch.2013.06.004

Kuo, F., & Sullivan, W. (2001). Environment and crime in the inner city: Does vegetation reduce crime? *Environment and Behavior*, 33(3), 343–367. doi:10.1177/0013916501333002

Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood environments: Disparities in access to healthy foods in the U.S. *American Journal of Preventive Medicine*, 36(1), 74–81. doi:10.1016/j.amepre.2008.09.025

Lawson, L. (2005). *City bountiful: A century of community gardening in America*. Berkley: University of California Press.

Levkoe, C. Z. (2011). Towards a transformative food politics. *Local Environment*, 16(7), 687–705. doi:10.1080/13549839.2011.592182

Lovell, S. (2010). Multifunctional urban agriculture for sustainable land use planning in the United States. *Sustainability*, 2(8), 2499–2522. doi:10.3390/su2082499

Lowery, B., Sloane, D., Payán, D., Illum, J., & Lewis, L. (2016). Do farmers' markets increase access to healthy foods for all communities? Comparing markets in 24 neighborhoods in Los Angeles. *Journal of the American Planning Association*, 82(3), 252–266. doi:10.1080/01944363.2016.1181000

Lubitow, A., & Miller, T. (2013). Contesting sustainability: Bikes, race, and politics in Portlandia. *Environmental Justice*, 6(4), 121–126. doi:10.1089/env.2013.0018

Lynch, K., Binns, T., & Olofin, E. (2001). Urban agriculture under threat: The land security question in Kano, Nigeria. *Cities*, 18(3), 159–171. doi:10.1016/S0264-2751(01)00008-7

MacRae, R., Gallant, E., Patel, S., Michalak, M., Bunch, M., & Schaffner, S. (2010). Could Toronto provide 10% of its fresh vegetable requirements from within its own boundaries? Matching consumption requirements with growing spaces. *Journal of Agriculture, Food Systems, and Community Development*, 1(2), 105–127. doi:10.5304/jafscd.2010.012.008

Mares, T., & Alkon, A. (2011). Mapping the food movement: Addressing inequality and neoliberalism. *Environment and Society*, 2(1), 68–86. doi:10.3167/ares.2011.020105

Mares, T., & Peña, D. (2010). Urban agriculture in the making of insurgent spaces in Los Angeles and Seattle. In J. Hou (Ed.), *Insurgent public space: Guerrilla urbanism and the remaking of contemporary cities* (pp. 241–254). New York, NY: Routledge.

Mason, D., & Knowld, I. (2010). The emergence of urban agriculture: Sydney, Australia. *International Journal of Agricultural Sustainability*, 8(1), 62–71. doi:10.3763/ijas.2009.0474

McClintock, N. (2010). Why farm the city? Theorizing urban agriculture through a lens of metabolic rift. *Cambridge Journal of Regions, Economy and Society*, 3(2), 191–207. doi:10.1093/cjres/rsq005

McClintock, N. (2012). Assessing soil lead contamination at multiple scales in Oakland, California: Implications for urban agriculture and environmental justice. *Applied Geography*, 35(1–2), 460–473. doi:10.1016/j.apgeog.2012.10.001

McClintock, N. (2014). Radical, reformist, and garden-variety neoliberal: Coming to terms with urban agriculture's contradictions. *Local Environment*, 19(2), 147–171. doi:10.1080/13549839.2012.752797

McClintock, N., Cooper, J., & Khandeshi, S. (2013). Assessing the potential contribution of vacant land to urban vegetable production and consumption in Oakland, California. *Landscape and Urban Planning*, 111(March), 46–58. doi:10.1016/j.landurbplan.2012.12.009

McClintock, N., Mahmoudi, D., Simpson, M., & Santos, J. P. (2016). Socio-spatial differentiation in the Sustainable City: A mixed-methods assessment of residential gardens in metropolitan Portland, Oregon, USA. *Landscape and Urban Planning*, 148(April), 1–16. doi:10.1016/j.landurbplan.2015.12.008

McClintock, N., & Simpson, M. (2017). Stacking functions: Identifying sets of motivations guiding urban agriculture organizations and businesses in the United States and Canada. *Agriculture and Human Values*, Advance online publication. doi:10.1007/s10460-017-9784-x

McClintock, N., Wooten, H., & Brown, A. (2012). Toward a food policy "first step" in Oakland, California: A food policy council's efforts to promote agricultural zoning. *Journal of Agriculture, Food Systems, and Community Development*, 2(4), 15–42.

Meek, D., Bradley, K., Ferguson, B., Hoey, L., Morales, H., Rosset, P., Tarlau, R. (2017). Food sovereignty education across the Americas: Multiple origins, converging movements. *Agriculture and Human Values*. Advance online publication. doi:10.1007/s10460-017-9780-1

Meenar, M., & Hoover, B. (2012). Community food security via urban agriculture: Understanding people, place, economy, and accessibility from a food justice perspective. *Journal of Agriculture, Food Systems, and Community Development*, 3(1), 143–160. doi:10.5304/jafscd.2012.031.013

Mendes, W. (2008). Implementing social and environmental policies in cities: The case of food policy in Vancouver, Canada. *International Journal of Urban and Regional Research*, 32(4), 942–967. doi:10.1111/j.1468-2427.2008.00814.x

Mendes, W., Balmer, K., Kaehler, T., & Rhoads, A. (2008). Using land inventories to plan for urban agriculture: Experiences from Portland and Vancouver. *Journal of the American Planning Association*, 74(4), 435–449. doi:10.1080/01944360802354923

Metcalf, S., & Widener, M. (2011). Growing Buffalo's capacity for local food: A systems framework for sustainable agriculture. *Applied Geography*, 31(4), 1242–1251. doi:10.1016/j.apgeog.2011.01.008

Mok, H.-F., Williamson, V. G., Grove, J. R., Burry, K., Barker, S. F., & Hamilton, A. J. (2014). Strawberry fields forever? Urban agriculture in developed countries: A review. *Agronomy for Sustainable Development*, 34(1), 21–43. doi:10.1007/s13593-013-0156-7

Morgan, K. (2009). Feeding the city: The challenge of urban food planning. *International Planning Studies*, 14(4), 341–348. doi:10.1080/13563471003642852

Morgan, K. (2013). The rise of urban food planning. *International Planning Studies*, 18(1), 1–4. doi:10.1080/13563475.2012.752189

Morland, K. B., & Evenson, K. R. (2009). Obesity prevalence and the local food environment. *Health & Place*, 15(2), 491–495. doi:10.1016/j.healthplace.2008.09.004

Mukherji, N., & Morales, A. (2010). *Zoning for urban agriculture: Zoning practice*. Washington, DC: American Planning Association.

Nabulo, G., Black, C. R., Craigon, J., & Young, S. D. (2012). Does consumption of leafy vegetables grown in peri-urban agriculture pose a risk to human health? *Environmental Pollution*, 162(March), 389–398. doi:10.1016/j.envpol.2011.11.040.

Neuner, K., Kelly, S., & Raja, S. S. (2011). Planning to eat? Innovative local government plans and policies to build healthy food systems in the United States. Buffalo: University at Buffalo, The State University of New York.

Okvat, H., & Zautra, A. (2011). Community gardening: A parsimonious path to individual, community, and environmental resilience. *American Journal of Community Psychology*, 47(3), 374–387. doi:10.1007/s10464-010-9404-z

Park, S., Shoemaker, C., & Haub, M. (2009). Physical and psychological health conditions of older adults classified as gardeners or non-gardeners. *Horticultural Science*, 44(1), 206–210. Retrieved from <http://hortsci.ashpublications.org/>

Pinderhughes, R. (2007). Green collar jobs: An analysis of the capacity of green businesses to provide high quality jobs for men and women with barriers to employment. Berkley, CA: The City of Berkeley Office of Energy and Sustainable Development. Retrieved from http://community-wealth.org/sites/clone.community-wealth.org/files/downloads/paper-pinderhughes-schecter.pdf?_ga=2.11510301.1510301.1491111111.1491111111

Pipkin, W. (2017, January 19). *A D.C. urban farm takes on urban problems*. Retrieved from the Civil Eats website: <http://civileats.com/2017/01/19/a-dc-urban-farm-takes-on-urban-problems/>

Pothukuchi, K. (2010). Community and regional food planning: Building institutional support in the United States. *International Planning Studies*, 14(4), 349–367. doi:10.1080/13563471003642902

Pothukuchi, K. (2015). Five decades of community food systems planning in Detroit: City and grassroots, growth and equity. *Journal of Planning Education and Research*, 35(4), 419–434. doi:10.1177/0739456X15586630

Pothukuchi, K., & Kaufman, J. L. (2000). The food system: A stranger to the planning field. *Journal of the American Planning Association*, 66(2), 113–124. doi:10.1080/01944360008976093

Public Health Law and Policy. (2009). *Establishing land use protections for community gardens*. Oakland, CA: Author.

Pudup, M. B. (2008). It takes a garden: Cultivating citizen-subjects in organized garden projects. *Geoforum*, 39(3), 1228–1240. doi:10.1016/j.geoforum.2007.06.012

Purcell, M., & Tyman, S. K. (2014). Cultivating food as a right to the city. *Local Environment*, 20(10), 1132–1147. doi:10.1080/13549839.2014.903236

Quastel, N. (2009). Political ecologies of gentrification. *Urban Geography*, 30(7), 694–725. doi:10.2747/0272-3638.30.7.694

Raj, S., Raja, S., & Dukes, B. (2016). Beneficial but constrained: Role of urban agriculture programs in supporting healthy eating among youth. *Journal of Hunger & Environmental Nutrition*. Advance online publication. doi:10.1080/19320248.2015.1128865

Raja, S., & Yadav, P. (2008). Beyond food deserts: Measuring and mapping racial disparities in neighborhood food environments. *Journal of Planning Education and Research*, 27(4), 469–482. doi:10.1177/0739456X08317461

Rajan, S. R., & Duncan, C. A. M. (2013). Ecologies of hope: Environment, technology and habitation: Case studies from the intervening middle. *Journal of Political Ecology*, 20(20), 73–79. Retrieved from <http://jpe.library.arizona.edu/>

Ramírez, M. M. (2015). The elusive inclusive: Black food geographies and racialized food spaces. *Antipode*, 47(3), 748–769. doi:10.1111/anti.12131

Reynolds, K. (2015). Disparity despite diversity: Social injustice in New York City's urban agriculture system. *Antipode*, 47(1), 240–259. doi:10.1111/anti.12098

Reynolds, K., & Cohen, N. (2016). Beyond the kale: Urban agriculture and social justice activism in New York City. Athens: University of Georgia Press.

Roman-Alcalá, A. (2011, April 14). *San Francisco passes progressive urban agriculture policy*. Retrieved from <http://civileats.com/2011/04/14/san-francisco-passes-most-progressive-urban-agriculture-policy-in-u-s/>

Roman-Alcalá, A. (2015). Broadening the land question in food sovereignty to northern settings: A case study of Occupy the Farm. *Globalizations*, 12(4), 545–558. doi:10.1080/14747731.2015.1033199

Safransky, S. (2014). Greening the urban frontier: Race, property, and resettlement in Detroit. *Geoforum*, 56(September), 237–248. doi:10.1016/j.geoforum.2014.06.003

Saldivar-Tanaka, L., & Krasny, M. E. (2004). Culturing community development, neighborhood open space, and civic agriculture: The case of Latino community gardens in New York City. *Agriculture and Human Values*, 21(4), 399–412. doi:10.1007/s10460-003-1248-9

Santo, R., Palmer, A., & Kim, B. (2016). *Vacant lots to vibrant plots: A review of the benefits and limitations of urban agriculture*. Baltimore, MD: Johns Hopkins Center for a Livable Future.

Schmelzkopf, K. (2002). Incommensurability, land use, and the right to space: Community gardens in New York City. *Urban Geography*, 23(4), 323–343. doi:10.2747/0272-3638.23.4.323

Shreck, A., Getz, C., & Feenstra, G. (2006). Social sustainability, farm labor, and organic agriculture: Findings from an exploratory analysis. *Agriculture and Human Values*, 23(4), 439–449. doi:10.1007/s10460-006-9016-2

Slocum, R. (2006). Anti-racist practice and the work of community food organizations. *Antipode*, 38(2), 327–349. doi:10.1111/j.1467-8330.2006.00582.x

Slocum, R. (2007). Whiteness, space and alternative food practice. *Geoforum*, 38(3), 520–533. doi:10.1016/j.geoforum.2006.10.006

Slocum, R., & Cadieux, K. (2015). Notes on the practice of food justice in the U.S.: Understanding and confronting trauma and inequity. *Journal of Political Ecology*, 22, 28–52. Retrieved from <http://jpe.library.arizona.edu/>

Staeheli, L. A., Mitchell, D., & Gibson, K. (2002). Conflicting rights to the city in New York's community gardens. *GeoJournal*, 58(2–3), 197–205. doi:10.1023/B:GEJO.0000010839.59734.01

Sustainable Economies Law Center. (2017). *Land access*. Retrieved from <http://www.urbanaglaw.org/land-access/>

Taylor, J. R., & Lovell, S. T. (2014). Urban home food gardens in the Global North: Research traditions and future directions. *Agriculture and Human Values*, 31(2), 285–305. doi:10.1007/s10460-013-9475-1

Teig, E., Amulya, J., Bardwell, L., Buchenau, M., & Marshall, J. (2009). Collective efficacy in Denver, Colorado: Strengthening neighborhoods and health through community gardens. *Health & Place*, 15(4), 1115–1122. doi:10.1016/j.healthplace.2009.06.003

Thibert, J. (2012). Making local planning work for urban agriculture in the North American context: A view from the ground. *Journal of Planning Education and Research*, 32(3), 349–357. doi:10.1177/0739456X11431692

Tidball, K., & Krasny, M. (2007). From risk to resilience: What role for community greening and civic ecology in cities? In A. E. Wals (Ed.), *Social learning towards a sustainable world* (pp. 149–164). Wageningen, The Netherlands: Wageningen Academic.

Tornaghi, C. (2014). Critical geography of urban agriculture. *Progress in Human Geography*, 38(4), 551–567. doi:10.1177/0309132513512542

Tranel, M., & Handlin, L. B. (2006). Metromorphosis: Documenting change. *Journal of Urban Affairs*, 28(2), 151–167. doi:10.1111/j.0735-2166.2006.00265.x

Travaline, K., & Hunold, C. (2010). Urban agriculture and ecological citizenship in Philadelphia. *Local Environment*, 15(6), 581–590. doi:10.1080/13549839.2010.487529

Ver Ploeg, M. (2010). Access to affordable, nutritious food is limited in “food deserts.” *Amber Waves*, 8(1), 20–27. Retrieved from <http://ageconsearch.tind.io//bitstream/122142/2/02FoodDeserts.pdf>

Vitiello, D., & Brinkley, C. (2013). The hidden history of food systems planning. *Journal of Planning History*, 13(2), 91–112. doi:10.1177/1538513213507541

Vitiello, D., & Wolf-Powers, L. (2014). Growing food to grow cities? The potential of agriculture for economic and community development in the urban United States. *Community Development Journal*, 49(4), 508–523. doi:10.1093/cdj/bst087

Voicu, I., & Been, V. (2008). The effect of community gardens on neighboring property values. *Real Estate Economics*, 36(2), 241–283. doi:10.1111/j.1540-6229.2008.00213.x

Walker, S. (2015). Urban agriculture and the sustainability fix in Vancouver and Detroit. *Urban Geography*, 37(2), 163–182. doi:10.1080/02723638.2015.1056606

Weissman, E. (2015). Entrepreneurial endeavors: (Re)producing neoliberalization through urban agriculture youth programming in Brooklyn, New York. *Environmental Education Research*, 21(3), 351–364. doi:10.1080/13504622.2014.993931

Wekerle, G. R. G., & Classens, M. (2015). Food production in the city: (Re)negotiating land, food and property. *Local Environment*, 20(10), 1175–1193. doi:10.1080/13549839.2015.1007121

White, M. M. (2011). Sisters of the soil: Urban gardening as resistance in Detroit. *Race/Ethnicity: Multidisciplinary Global Contexts*, 5(1), 13–28. doi:10.2979/racethmulglocon.5.1.13

WhyHunger. (2010). *Case study: Planning for gardens in Seattle*. Retrieved from <https://whyhunger.org/connect/item/1673-case-study-planning-for-gardens-in-seattle>

Wortman, S. E., & Lovell, S. T. (2013). Environmental challenges threatening the growth of urban agriculture in the United States. *Journal of Environmental Quality*, 42(5), 1283–1294. doi:10.2134/jeq2013.01.0031

Yen Liu, Y. Y., & Apolon, D. (2011). *The color of food*. Retrieved from https://www.raceforward.org/sites/default/files/downloads/food_justice_021611_F.pdf

Zapata, M. (2017). Appendix 1: Equity lens for the Portland State University diversity, equity, and inclusion action plan. Portland, OR: Portland State University.

Zick, C. D., Smith, K. R., Kowaleski-Jones, L., Uno, C., & Merrill, B. J. (2013). Harvesting more than vegetables: The potential weight control benefits of community gardening. *American Journal of Public Health*, 103(6), 1110–1115. doi:10.2105/AJPH.2012.301009