

Urban Food Systems Strategies: A New Tool for Implementing the SDGs in Practice?

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Introduction

Since the turn of the century, more than 90 urban and regional sustainable food systems plans and strategies have been devised by local administrations in the Global North alone. On October 15, 2015 the Milan Urban Food Policy Pact, signed by over 100 cities all over the world, set a precedent and laid the groundwork for the first global urban food policy agenda. For the first time in more than a century, industrialized cities are taking the lead in food policy and seeking to re-envision food as an urban system, whose sustainability is tightly intertwined with the sustainability of all other fundamental urban infrastructures – from transportation, to housing, to water and waste management. The development of healthy, fair, and environmentally sound urban food systems is now increasingly recognized as a matter of local policy as much as the responsibility of national and international government institutions (Cohen, 2011; Ilieva, 2016; Morgan, 2009). As the political and societal salience of sustainable food policies at the local level is continuing to grow, a key question for those of us interested in advancing the 2030 Agenda for Sustainable Development is to what extent urban food systems strategies can bring about translating the Sustainable Development Goals (SDGs) in practice.

While research on the role of cities in transitioning their foodsheds to sustainability has significantly expanded over the past decade, the interconnection between this new generation of urban food policies, plans, and strategies, and the SDGs has received only a scant attention. This is a critical omission, because making visible the interconnections between the two can help tap into key opportunities for the implementation of the 2030 Agenda, while increasing the credibility and longevity of urban food strategies, typically tied to short-term mayoral mandates. This paper seeks to address this gap by uncovering the overlaps between the food systems strategies pioneered by five of the ten largest North American cities – New York, Los Angeles, Toronto, Chicago, and Philadelphia – and the 17 SDGs adopted by the General Assembly of the UN on September 25, 2015. A matrix of the key points of alignment and divergence between the urban food systems goals put forward by these cities and the SDGs is thereby presented and analyzed. The paper closes with a discussion of the major promises and limitations of urban food strategies as levers for the implementation of the SDGs and offers recommendations for future research and practice on the topic. The findings of this research have implications for scholars and practitioners interested in advancing low carbon urban development as well as healthy and sustainable agri-food systems.

Methods

The research conducted for this paper consisted in the systematic review of five key urban food systems strategies reports devised by local administrations in North America. To be selected for the review, a strategy had to be authored by one of the ten largest metropolises in North America, and to have informed or be functionally linked to the long-term comprehensive plans for sustainable development adopted by those administrations. The systematic review was carried out using critical content analysis and coding techniques, which afforded the subsequent assessment of the existing and missing connections between the SDGs of the 2030 Agenda for Sustainable Development (United Nations, 2015) and the goals outlined in the food system strategies. To evaluate the degree of overlap between the SDGs and a food strategy and provide an overview of the areas of greatest promise towards the implementation of the SDGs, a matrix rendering the distribution of four possible grades of overlap was designed and used to synthesize the outcomes of the analysis. If a SDG was present as an explicit goal or objective of the food system strategy and was supported by at least two concrete action steps, the overlap grade assigned was the highest. On the contrary, if there was no explicit mention of an SDG in a strategy, the overlap score assigned was the lowest (for a detailed list of the four criteria used please see Table 1).

Results

The results from the analysis of the five urban food systems strategies suggest that these relatively novel tools in the mayoral policy toolbox represent an important and promising means for the implementation of the Sustainable Development Agenda over the next 15 years. There is a significant degree of overlap across the overwhelming majority of SDGs and the goals set forward for the urban food system at the local level, and particularly with respect to the SDGs focused on hunger (SDG-2), public health (SDG-3), innovation and infrastructure (SDG-9), sustainable cities (SDG-11), and responsible consumption and production (SDG-12). Some of the weaker connections revealed from the review pertain to the challenges of gender inequality (SDG-5), loss of biodiversity (SDG-15), and the preservation of marine ecosystems (SDG-14). These issues are not extraneous to the urban food system, just the opposite, but are only beginning to enter in urban discourses and policies for a healthier, more environmentally sound, and fairer urban foodsheds. The outcomes of the comparative assessment of the food strategies are presented in Table 1. In the paragraphs that follow, some of the concrete actions and most original proposals for implementing the sustainable development goals by taking action within the urban food system are briefly summarized.

End poverty

Poverty is a complex problem which requires the concerted action of multiple government sectors, from economic development to education, environmental policy, and public health. With its intrinsic multi-sectoral nature, food can serve as a powerful connector that binds the flawed “tunnel” visions in current policy to develop systemic anti-poverty strategies. Many of the anti-poverty avenues that food uniquely can open are highlighted in local food systems plans and policies as part of the other SDGs discussed below. Yet, some local administrations do recognize the fact that no urban food system can be sustainable unless the root causes of food poverty (Walker, Keane, & Burke, 2010) are addressed. Ensuring a stronger income security system, increasing social assistance rates to reflect the cost of healthy eating, developing neighborhood partnerships to facilitate multiple pathways to employment, and using food as a means to developing job and life skills are, for instance, some of the key stepping stones towards a healthy and sustainable urban food system that global cities, like Toronto, have called attention to in their sustainable food strategies.

End hunger and improve nutrition

According to the Community Food Security Coalition, community food security is achieved when “all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice” (Hamm & Bellows, 2003, p. 37). In fact, community food security, is at the heart of urban food systems plans and cities have put forward policies and proposals that address both access to and quality of the urban foodscape. Among the strategies tackling economic access are policies aiming at the increase of the amount, availability, and enrolment rates in national food assistance programs like the Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) in the US.

The City of New York, for instance, invested over \$1 million in expanding access to fresh food through the installation of electronic benefits transfer (EBT) equipment at mobile fruit vendors and farmers markets, to enable SNAP and WIC participants to use their cards at these outlets (The City of New York, 2010). In Philadelphia, an interagency partnership helped increase WIC farmers market vouchers from \$20 to \$80 for the 2010 season (DVRPC, 2011). Other strategies point at opportunities for leveraging the cash grants for emergency and anti-hunger operations available at the state level in the US, to increase the percentage of locally and nutritious food distributed to combat hunger at the local level. Soup kitchens are seen as one specific emergency food setting where healthy, fresh food options ought to become more prevalent in the future. Cities are also strongly advocating for food secure school environments, by proposing policies to mandate free breakfasts in high-need schools, introduce salad bars in public schools citywide, and increase outreach and infrastructure for free summer meals programs. School food procurement contracts and policies are seen, overall, as an underused lever for healthy and sustainable urban and regional food systems.

Importantly, local administrations are beginning to make the case that to combat hunger, while improving public health through better nutrition, short food supply networks like CSAs (Community Supported Agriculture schemes) and farmers markets, need to transition from elite to widely accessible fresh food supply options. In addition to the above-mentioned EBT and WIC initiatives, a growing number of cities, including the five examined in this paper, are starting to introduce economic incentives for spending SNAP benefits at farmers markets and other fruits and vegetables vendors. The Health Bucks in New York City and the Philly Food Bucks initiatives, for example, provide SNAP participants with free \$2 coupons for every \$5 spent at farmers markets. Supporting the development of CSAs catering specifically to low-resource communities and encouraging regional gleaning programs, whereby fruits and vegetables surpluses are collected from periurban and regional farmers and distributed to food insecure families and individuals, are two additional strategies cities are putting forward to make alternative urban-rural linkages more socially equitable.

Physical access to healthy food venues is equally key to the achievement of food secure cities. Recent studies in North America have, in fact, revealed the uneven geography of food access and the existence of so-called “food deserts” – areas with severely impaired access to fresh fruits and vegetables (Blanchard & Matthews, 2007; LeClair & Aksan, 2014), and “food swamps” – areas with high density of fast-food and unhealthy food outlets (Fielding & Simon, 2011). Through their food strategies and local land-use policies, cities are, thus, aiming at dismantling these anomalies in the urban foodscape. Specific actions include financial and land-use incentives for supermarkets in low-income neighborhoods (e.g., the FRESH program in New York City), new public transit

connections and privately sponsored shuttles between food insecure citizens and food banks, farmers markets, and supermarkets, as well as mandate food access components in affordable housing developments.

Health and well-being for all

Urban food strategies can be a powerful ally when it comes to implementing the SDG on health and well-being for all and reducing premature mortality from non-communicable diseases. Redesigning the urban food environment, from food safety regulations to institutional procurement standards, educational practices, and high-quality open space, can go a long way in spurring the transition to healthier and more sustainable cities. Some local governments have begun to take into consideration underexplored opportunities to connect schools and community gardens through joint-use agreements, while others have spearheaded the formation of “food animators” programs to help residents in food insecure neighborhoods set up fresh produce markets, community kitchens, and community gardens. Education is understandably one of the centerpieces of most healthy food policies at the local scale. Some of the strategic steps identified by municipalities are the integration of nutrition and garden education in school curricula citywide, the expansion of farm-to-school programs, the raising of awareness about seasonal produce and regional foodsheds as a means to developing a more mindful relationship with food as a system, as well as the advocacy for increased education funding through federal government programs like SNAP.

Aggressive marketing and advertising of unhealthy foods is another area of policy intervention that some cities are beginning to explore. Soliciting healthy food advertising in public spaces and in local media, as well as calling for a ban on unhealthy food ads which target children under 13 years of age, are among the local and higher-tier government actions outlined in urban food strategies. Large-scale institutional procurement offers one strategic entry point for radically transforming the urban food system. Besides school food procurement, where new nutrition standards and restrictions on soft and sports drinks are being introduced, other institutions like municipal agencies and hospitals are also starting to be considered as part of a holistic institutional food procurement reform at the local level. Evidence suggests that changes to the school food environment can cut the incidence of overweight and obesity by as much as a half (e.g., in Philadelphia). Additional policies include municipal bans on trans fats and discretionary bans on animal products from livestock and poultry raised with growth hormones and antibiotics. Local laws requiring calorie-labelling on the menus of restaurants with multiple locations are also part of the policy provisions recently undertaken in large metropolitan areas in North America.

Quality education for all

While efforts to promote education in the urban food system are often associated with healthy nutrition and individual well-being, initiatives to support education throughout the entire food chain – from production through consumption and waste disposal – are as crucial. What is more, food offers a unique set of avenues to advance inclusive and effective learning practices as a whole; it cuts across a broad spectrum of environmental and social sciences and offers multiple opportunities for vocational training and innovative small businesses and entrepreneurship. Local government officials have, in fact, used urban food strategies to pioneer and acknowledge new and existing educational programs at all levels of the food system – from edible schoolyards (e.g., the Grow to Learn program and small grants in New York City) to healthy nutrition workshops, cooking classes, and professional training programs for new farmers,

gardeners, farmers markets managers (e.g., the Youth Greenmarkets program of GrowNYC), and composters.

As municipalities are increasingly recognizing food as an important part of the urban economy, even in industrialized cities, local food systems plans – including the five strategies examined in this paper – have focused on targeted educational initiatives to facilitate the successful establishment of new startups and businesses in the food processing and manufacturing domain of the urban food system. To further knowledge and skills in this sector of the local food economy, cities are weighing a number of promising approaches, among which, the creation of online resource centers for food manufacturers, the organization of regional food business-to-business conferences, and the development of workshops series to assist food manufacturers.

Gender equality

Gender inequality is a structural issue which, unfortunately, permeates all spheres of society and, thus, it is not unique to any single economic sector. The food system, in fact, does not make an exception. Yet, despite its ubiquity, the goal of gender equality has only begun to surface in sustainable food system advocacy through discourses about food justice and the deep-seated disparities in access to affordable nutritious food. This is indeed reflected in this first wave of local and regional food systems strategies, of which the New York City' *FoodWorks* plan (The City of New York, 2010), Philadelphia's *Eating Here* plan (DVRPC, 2011), Chicago's *Food Systems Report* (The Chicago Food Policy Advisory Council & The City of Chicago, 2009), Toronto's *Food Connections* strategy (Toronto Public Health, 2010), and Los Angeles's *Good Food Agenda* (Delwiche, Fox, Klein, & Landsman, 2010) are part. Discussion of gender inequality, and the unique roles of women and girls in the food system, are almost absent in these documents and so are proposals for specific interventions or advocacy for higher tiers of government to take action. There is a lot that can be done at the local level – from support to women's startups and businesses, many of which already successful and underway, to equal pay for equal work in the food sector, to protection and equitable treatment of immigrant women farmworkers. Cities and local administrations are just beginning to chart this new terrain in local food policy but they have a pivotal role to play towards its long-term normalization both in discourse and in practice.

Ensure sustainable water management

The pursuit of the sustainable urban foodshed is inextricably tied to the successful management of the urban watershed and the water distribution infrastructures within the city. Through their food strategies, cities like New York, Los Angeles, Toronto, and Philadelphia are highlighting this vital linkage and advocating for farmland protection from urbanization and support of sustainable farming practices that can prevent farm run-off and the risk of contaminated groundwater in their regions. To prevent water contamination due to urban sewage overflows, cities are creating new green infrastructure grants, whereby the increase of permeable surfaces, including ground-level and rooftop farms and gardens, throughout the urban area can divert storm water from cities' combined sewages, decreasing the risk of contamination of nearby rivers. Rain and grey water collection and filtration systems can instead be successfully deployed to reduce the use of city's drinking water in irrigation for urban farms and community gardens. In addition, the selection and use of drought-resistant plants, mulch and soil that retain humidity, and precision drip-irrigation systems can further increase water efficiency in these projects. Hydroponics and aeroponics systems in rooftop greenhouses can further cut down to ten times water consumption in urban food production, compared to soil-based cultivation techniques.

Sustainable food systems and water management in big cities overlap also at the waste disposal end of the food chain. In New York, for instance, improper disposal of cooking grease can cause clogged sewage infrastructure and cause perilous backups in households and commercial food establishments. Policies to upgrade the urban sewage infrastructure as well as sanctions and incentives to prevent oil and grease from ending up in the water system are among the concrete measures being adopted to this end. Finally, cities are also in the position of reducing their overall water footprint by reducing the consumption of meat in their omnivore diets. Research has shown that the production of 1kg of red meat requires over 10 thousand times more water than to produce 1kg tomatoes (Barilla Center for Food & Nutrition, 2009). Investing resources in campaigns and policies that can bring about cultural change and beliefs about what is a healthy diet, thus, is an essential piece of the city-driven water management strategies that are being advanced.

Ensure access to energy for all

While not the main focus of urban food strategies, the production of renewable energy is an important part of the urban food policy agenda that local administrations have outlined to date. There is indeed a host of opportunities to encourage more efficient energy use and supply throughout the urban food system. Food waste is one underused energy resource that local governments and small businesses are increasingly exploring and seeking to tap into. The collection and recycling of used cooking oils for instance can support the local production and distribution of biodiesel, which, when derived this way, is also less polluting. New York City, for instance, seeks to encourage these practices by mandating by law a minimum percentage (currently 3%) of biodiesel usage in fuels used for residential heating in the winter. In addition, vehicles running on biodiesel, or other less polluting fuels, are suggested as substitute to the trucks used to distribute food to farmers markets as well as the buses in the fleets of public transit. Urban food scraps and organic waste more broadly are yet another potential source of renewable energy in urban areas. The processing of these scraps by means of anaerobic digestion plants, can enable cities to use the methane gases and energy produced during the phase of decomposition to heat water, buildings, and greenhouses. Facilitating the use and production of renewable energy on farms is also key part of the avenues for the successful implementation of SDG-7. The attentive integration of infrastructure that produces wind, solar, and biomass energy can make farms and farming more resilient both financially and environmentally.

Table 1. The degree of overlap between the SDGs and the goals advanced by the food systems strategies of New York, Philadelphia, Los Angeles, Toronto, and Chicago.

	New York <i>FoodWorks Plan</i>	Philadelphia <i>Eating Here Food System Plan</i>	Los Angeles <i>Good Food for All Agenda</i>	Toronto <i>Food Connections Strategy</i>	Chicago <i>GO TO 2040, Food Systems Report</i>
SDG-1: No poverty	②	②	②	②	②
SDG-2: No hunger	③	③	③	③	③
SDG-3: Good health	③	③	③	③	③
SDG-4: Quality education	③	③	②	③	③
SDG-5: Gender equality	①	①	①	①	①
SDG-6: Clean water and sanitation	③	③	③	①	②
SDG-7: Renewable energy	③	③	①	①	②
SDG-8: Good jobs and economic growth	③	③	③	③	①
SDG-9: Innovation and infrastructure	③	③	③	③	③
SDG-10: Reduced inequalities	②	③	③	②	②
SDG-11: Sustainable cities	③	③	③	③	③
SDG-12: Responsible consumption and production	③	③	③	③	③
SDG-13: Climate action	①	①	②	①	①
SDG-14: Life below water	①	①	①	①	①
SDG-15: Life on land: land conservation	③	③	②	②	②
SDG 16: Peace and justice	①	③	②	①	①
SDG-17: Partnerships for the goals	①	③	③	②	③

Legend: ③ - The SDG is present as an explicit goal/objective and supported by proposals for two or more concrete actions; ② - The SDG is an explicit goal/objective or is extensively addressed

as a subpart of another goal/objective; ① - The SDG is only mentioned in the passing or is a small subpart of a goal/objective; ② - There is no explicit mention of this SDG.

Promote economic growth and decent work for all

The urban segment of the system can be a fertile ground for innovative enterprises that work to transition the current food retail and consumption environment to more sustainable models. Holistic incentive strategies like the establishment of so-called “food enterprise zones,” whereby financial and zoning incentives are offered in designated parts of the city, can stimulate the integration of urban farming, healthy food retail, and value-added food processing activities in low-resource communities and underserved urban areas. Philadelphia recognizes that the introduction of such activities can have positive economic effect on the surrounding environment, while evaluation studies in New York have found that the first three stores developed through the incentives brought 93 new jobs and retained 90 existing ones in the communities which used the program. Making sure that public investment is linked to good jobs and small food enterprises is an objective highlighted in the Los Angeles good food agenda, emphasizing the importance of living wages and the quality of jobs created. Investment in new local food infrastructure and the refurbishment of existing facilities to create business incubators (e.g., “kitchen incubators”), more about which in the next sections, is another concrete action that cities are putting forward through their local food system plans and regulatory powers.

Cities are using local and metropolitan food systems strategies also to advocate for economic growth policies to be enacted at the state level of government. Concrete actions to be taken are the investment in education and training of new farmers, access to financial resources (e.g., tax reliefs for farmers supplying local communities, micro-loans, affordable retirement plans), and infrastructure (e.g., business incubators). Preservation of existing farmland and facilitating access to it for new farmers (e.g., by matching interested farmers with landowners or retiring farmers) are also among the key actions advanced to support sustainable regions. In addition, supporting local food growers and processors in marketing their products through targeted branding and campaigning, as well as agritourism initiatives, is yet another economic policy area being activated at the local level. Some policymakers are also calling for a more diversified approach to food safety regulations, often precluding small businesses and startups from joining the sector. Requiring compliance with “whole farm” safety plans rather than crop-specific regulations might be one effective tactic to this end, together with transparent labelling indicating the provenance and the methods of production used.

Build Infrastructure and foster innovation

Sound food producing, processing, and waste management infrastructure can vitally support the development of new local food businesses and the sustainable scaling up of existing ones. Through their food strategies, cities have so far aggressively targeted the expansion of ground-based and rooftop farming initiatives through measure that include their recognition as a green infrastructure – and thereby eligible for financial support through the cities’ departments of environmental protection, the waiving of floor to area ratio requirements and height restrictions for some rooftop greenhouses, reducing the water rates for rooftop gardens, advocating for state green roofs tax credit for food-producing roofs, as well as developing searchable inventories of city-owned property suitable for urban farming. A more streamlined process of obtaining permits and public land leases for community gardens, as well as protecting them from development, is also in the remit of competencies of local administrations, as noted in the Los Angeles food system strategy, and can strengthen the infrastructure of productive landscapes citywide. Making the most of available federal funding, like the HUD Community Development Block Grant in the US, to develop urban agriculture block grants is one underused financial opportunity that can help expand urban food growing infrastructure.

Opportunities for innovation in the food system depend also on the availability of space and training for small-scale food processing entrepreneurs. Promoting commercial kitchen incubators (e.g., like the Hot Bread Kitchen in New York) and making available new industrial space for food manufacturing businesses is thus essential for spurring social innovation in this domain of the urban foodscape. Larger-scale facilities such as regional food hubs (Blay-Palmer, Landman, & Knezevic, 2013; Horst et al., 2011), where processing, packaging, and logistics technologies and infrastructure and professional support are concentrated, are also a recurrent infrastructure element advocated for in urban food strategies. Not only can these multi-functional hubs help food processing startups consolidate and thrive, but they can fill a key gap in the regional food system and help small- and mid-scale producers aggregate and thus meet the high demand for local, fresh produce in nearby cities. Cities are also becoming eager to rethink the role of existing infrastructure, including public city markets and large international food logistics terminals (e.g., Hunts Point in New York City and the Ontario Food Terminal in Toronto), and how they too can support a more inclusive, healthy, and resilient urban food system. One potential strategy suggested to reduce air-pollution and use of fossil fuels, typical for these truck-reliant infrastructures, is to increase rail service and optimize the routes and food distribution modes within the city and between city and region.

Food infrastructure that is inclusive and meets the needs of urban dwellers, however, need not be only made of brick and mortar. Financing the establishment of a network of mobile healthy food vendors, particularly in communities with little to no access to affordable fresh food options is, in fact, one progressive approach to build a resilient urban food infrastructure being implemented by several cities across North America.

Reduce inequality

In a highly globalized yet increasingly consolidated urban food supply, tackling inequality within and among countries can hardly be isolated from tackling inequality within the food system itself. In fact, food can be a strategic entry point for uncovering and addressing multiple intertwined inequalities that are germane to western societies but also to their relationships with the global food supply. In addition to the already mentioned strategies for coping with unequal food access, there is also another host of disparities which commonly pertain to the regional scale of the urban foodshed and state and federal levels of decision-making. While cities can hardly enact farm bill reforms themselves, they nevertheless are using their local food strategies to voice concerns about food justice and point to potential solutions to be pursued by higher tiers of legislation. Among the core inequalities exposed are those between: fruits and vegetables producers and commodity crops producers, small-scale and large-scale farms, farm owners and farmworkers, decision-makers and indigenous populations. Creating federal subsidies for non-commodity producers, enforcing antitrust laws, allowing farmworkers to anonymously file complaints of employer misconduct and abuses, incorporate fairness as a standard in certification and labelling practices, include aboriginal communities in decision-making processes, as well as provide affordable on-farm housing, are some of the concrete policies that local administrations in some of the largest North American urban areas are starting to advocate for.

Inclusive, safe, resilient, and sustainable cities

The rising saliency of sustainable food systems and the growth of urban food strategies developed by local administrations, have importantly started reactivating the local level of food policy in global cities in wealthy nations. The new conceptual, political, and economic relationships between food and the city of the 21st century are turning food into

an important means to the creation of human settlements that are more inclusive, safe, resilient, and sustainable. Smarter food waste management for instance – both organic (e.g., food scraps, cooking grease, sewage) and solid (e.g., packaging) – can significantly reduce the burden of cities on landfills, climate, and the environment. By encouraging the prevention, reuse, and recycling of food-related waste and, when appropriate, its use as a source of renewable energy, large western cities can reduce as much as one third of their waste production. By enacting policies and programs to preserve and expand food-producing landscapes throughout the urban fabric, cities are also creating greater access to safe, inclusive, and accessible green and public spaces. The increased number of permeable surfaces thanks to new urban gardens between and atop existing and new buildings moreover increases the quality of urban environments and potentially makes them more resilient to the adversities of climate change. Finally, through the new healthy, fair, and sustainable institutional food procurement policies cities are seeking to put in place through their urban food systems plans, they are beginning to systemically affect large portions of the food system through small yet strategic actions. A more diverse web of urban-rural linkages and regional foodsheds supplying both nearby cities and the world food economy make regions overall more resilient and inclusive.

Ensure sustainable consumption and production

Global cities are arguably the largest loci of consumption and, thus, have the onus to devise innovative strategies to drive sustainable development both through the choices about what they consume and how they cope with the waste that stems from this scale and pace of consumption. Food consumption plays a central role in the bulk of consumption practices happening in cities because of its sheer scale and impact both on human health and the environment. One of the strategic levers for responsible consumption that cities have begun to consider and enact, through the cooperation of their regional and national governments, is the already mentioned institutional procurement. That is the supply contracts and rules that shape the large streams of food supplied to public schools, hospitals, government agencies, and other institutions. In addition, to explicitly allowing such entities to give preference to local, nutritious, and fairly produced foods, cities are also uniquely in charge of the management of urban food waste and the infrastructure that supports its collection and, in part, on-site processing. To reduce the amount of solid waste generated, local governments have started enacting bans on materials difficult to recycle like Styrofoam food containers and begun to discourage the use of bottled water favoring reusable bottles and funding the installation of water fountains.

Voluntary household composting programs and restaurant grease recycling initiatives are also beginning to be put forward through urban food strategies and, later, formalized in local laws. At the production end of the food chain, cities are seeking to contribute to sustainability by ensuring greater access to energy efficiency programs for food manufacturers, advocating for the integration of sustainable food criteria in green business certification programs, incorporating of food into green jobs plans and employment strategies, as well as by supporting community-based and social enterprises that have the mission to pursue economic growth alongside environmental protection and human well-being.

Conclusive remarks

The urban food system – from seed to fork – offers a host of tangible opportunities to advance the 2030 Sustainable Development Agenda. The rising wave of urban food strategies, aiming to make the most of these opportunities, therefore, constitute an

important avenue for the implementation of the SDGs in practice. To date, over ninety sustainable food systems strategies, and over hundred local food charters, have been devised in industrialized countries. This unprecedented momentum of political attention offers a rare window of opportunity to make key connections between advocates for sustainable development, at all tiers of government, and the healthy and sustainable food systems activists and policymakers joining forces at the urban scale. Yet, there are also a number of potential obstacles and limitations that the current landscape of urban food strategies displays when considered vis-à-vis the implementation of the SDGs. For one, few of these documents are legally-binding or supported by new legislation. Food strategies are, in fact, very susceptible to shifts in electoral cycles and changes in political leadership. The scant staff and financial resources hitherto set aside for the development of urban food plans put the long-term survival and impact of these tools in jeopardy. Moreover, implementing these strategies requires managing multiple trade-offs and the ability to reconcile seemingly conflicting goals, like public housing and community gardens or biodiversity and regional farming, and to do so within the frame of limited municipal resources.

Nevertheless, despite the still precarious position of urban food policy at the local level of government, progresses toward its greater institutionalization have already been made. Organizational innovations like the food policy councils of Toronto, Los Angeles, and Chicago, or the office of the food policy director in New York City, are among the emergent political spaces that can potentially cement the advancements made so far and turn them into a robust institutional infrastructure fostering participatory decision-making and effective implementation. Ultimately, one of the most compelling ideas that the investigation of food, cities, and planning for sustainability side by side brings to the fore is that as cities are truly vital to the transition of the urban food system to sustainability, thus is food for attaining the sustainable city. There has hardly ever been a better time to acknowledge this unique and powerful connection.

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