Section 1 of this chapter explores the links between food and urban planning, which have gradually developed from a situation in which food and urban planning were foreign to each other, to the promising moment of mutual exploration and operational links to which the chapters of this book testify. Section 2 is more conceptual and examines the very notion of urban food system planning, encompassing the various trends and dynamics that are emerging in the cities analysed here and beyond. Section 3 focuses on lessons learned about how food is being integrated into urban planning. Special emphasis is given to the innovative tools and instruments that have been designed, tested and analysed in the selected cities. The last section highlights an agenda for emerging research and policy issues.

This chapter is primarily informed by the narratives included in this book, along with an extensive review of other experiences around the world and a comprehensive literature review covering food, planning food and urban food planning. Special attention was given to the abundant grey literature and evaluation reports from projects such as Cities Feeding People and others implemented by the International Foundation for Urban Agriculture and Food Security (RUAF) and contained in their database. The debates, publications and information exchanged within the food for cities network and in the recently created Urban Food Action Platform under the auspices of FAO generated a great deal of imagination and cutting-edge ideas. Content analysis of various food strategies and plans, over 150 selected international declarations and more than 30 food charters relating to urban and food issues covering the last 40 years brought substantive understanding of the evolution of the links between food and urban planning.
1.1. Links and bridges between food and urban planning

This section discusses the evolution of the links between food and urban planning and explores also the extent to which international declarations and agendas have been slowly establishing links between them.

Urban planning literature still largely ignores food issues, although they received some attention at the turn of the twentieth century from planners and architects linked to the Garden City movement (Howard 1902), which aimed at generating an alternative to the overcrowded and industrial city. The Garden Cities, at least the earliest ones, addressed key elements of the food system, including production, distribution, consumption and waste recycling, as an integral part of the city (Cabannes and Ross 2017; Pothukuchi and Kaufman 2000).

In general, if we exclude the Garden City movement, food remained ‘a stranger to the field of urban planning’ (Pothukuchi and Kaufman 2000: 113) until the early 2000s, when the first studies started in the US to understand why food was not part of urban planning. A survey of 22 US planning agencies in 1997 and 1998 concluded that the perceived urban–rural divide was a central reason: food and agriculture were considered a rural topic; ‘our city is in an agricultural area, but the city doesn’t deal with agriculture or farming issues’ (Pothukuchi and Kaufman 2000: 116). Some years later, Sonnino (2009: 428) reached a similar conclusion: ‘the existent urban–rural divide has misled planners and policy-makers into looking at urban food supply failure as farm failure, rather than as a failure in distribution’. That implies a malfunctioning in the food systems across the rural–urban continuum.

The prevailing sectoral planning and decision-making approach, and its lack of a holistic perspective, seems another reason explaining why ‘food has been a stranger’ to urban planning. Moreover, in most cities of the Global South, master planning has failed to take into account the challenges of food insecurity (UN Habitat 2009). So there is a general disjunction between the prevailing urban planning system, contemporary cities and the needs of their urban residents, including their needs for nutritious food.

That being said, some cities and regions, primarily in the Global North, have made progress over recent years in understanding the benefits of better integration and in starting to build bridges between food and planning. Conclusions from a national survey of planning practitioners in the US in 2014 indicate that ‘food is no longer a stranger to planning practice’: local governments are starting to view food systems as a top
priority and to be involved in food system planning, incorporating food in their planning agenda prioritising comprehensive plans, zoning and other regulatory forms instead of financial investment or physical infrastructure (Chapter 6, this book).

Some of these experiences are discussed in the book, but these are far from giving a complete picture of the wide array of policy and planning documents that have been produced and put into practice. Here are a few of them: (a) food strategies/policies including planning elements, such as London Food Strategy in 2006, Proeftuin Amsterdam in 2007, Seattle Food Action Plan, Melbourne Food Policy in 2012, Vancouver Food Strategy in 2013 (City of Vancouver 2013), a good food plan for Bristol in 2013, Sustainable Providence Food Plan 2014, Toronto Food Strategy 2015 and Gent and Gard Food Policy 2016; (b) comprehensive urban plans with food components, such as Portland Plan in 2012, Toronto Official Plan in 2015 and City of Burlington Municipal Development Plan 2014; (c) thematic food sections in long-term sustainability plans and in sectoral development plans, such as Baltimore Sustainability Plan in 2009 and 2015, Greenest City Action Plan Vancouver 2020, Healthy City Strategy Vancouver 2014–2025, Transportation 2040 Plan Vancouver, Plan NYC 2030 and Chicago Go to 2040 Comprehensive Regional Plan (Ilieva 2016).

However, in most cases this integration is limited to particular sub-sectors of the food system, such as urban agriculture, which provide an easy entry point, in the cities of both the Global North and South, whereas integrated food planning interventions are quite limited (Chapters 6 and 9, this book). In short, although food is beginning to be integrated into planning in various cities and regions, local practices have not yet been made visible to a wider audience and, just as importantly, reflections on their limits and successes remain scarce.

1.1.1. Review of international agenda and declarations over the last 40 years

There are still no global or regional legal instruments such as covenants or declarations that deal specifically with the relations between food and urban planning. However, when we look back to the first summit on Cities and Human Settlements which took place in Vancouver in 1976, we see that these two worlds have been slowly getting closer in international declarations, and have generated a somewhat better local environment for the integration of food into urban planning. Three periods can be identified.
During most of the 1980s and 1990s food and urban agendas were developed separately, largely ignoring each other. On the one hand, the human right to food was fully established as early as 1966, but it was only in 1996 that the urban dimension of food security for all, including urban dwellers, became a central part of the landmark Rome Declaration on World Food Security, which encouraged for the first time ‘urban agriculture … where appropriate’ (World Food Summit, 1996).

The Istanbul Declaration on Human Settlements made during the Second United Nations Summit on Cities in 1996 did not refer to food. The Habitat Agenda, endorsed by governments during the same summit simply mentioned food security, access to food, and nutrition, without any explicit commitments.

A second period opened up in the early 2000s, spearheaded by local governments in a context of decentralisation and under the pressure of a more organised civil society. The Quito Declaration for Latin American and Caribbean Cities (2000) remains a milestone among international declarations bridging food with urban: it referred directly to urban agriculture and encouraged local governments to be strongly committed to developing it. It clearly pointed out the need to include urban agriculture in territorial planning and environmental protection (Cabannes 2012). It was followed throughout the 2000s by a string of city-based declarations such as the Nyanga one on Urban and Peri-urban Agriculture (2002) and one signed in Harare in 2003. A long list is provided in Appendix 1 and analysis of them strongly indicates that over the years these declarations integrated new and each time richer aspects of urban food security that would eventually better integrate food into planning. An illustration is the Malabo declaration, signed in 2014, that raises the importance of local food systems ‘encouraging and facilitating increased consumption of locally produced food items, including the promotion of innovative school feeding programs that use food items sourced from the local farming community’ (African Union 2014, Malabo Declaration: 4).

Since the beginning of 2010s, the integration of food, food security, food systems and new food planning approaches, such as city region food systems (CRFS), into declarations referring to the future of cities has advanced in both quality and quantity. These declarations do not come solely from international organisations such as the United Nations, but also from local and regional governments, international city networks such as ICLEI, and alliances of mayors, and as in the past from local and regional governments.

The Bonn Declaration of Mayors signed in 2013 highlighted the importance of the newly coined concept of city region food systems to
achieving food security in cities: ‘We invite local governments to develop and implement a holistic ecosystems-based approach for developing city region food systems that ensure food security’ (ICLEI, 2013). The Windhoek Declaration of Mayors of Namibian Cities (2014) and the Seoul Declaration (ICLEI, 2015) are other examples of the internationalisation of the message about the need to more effectively consider food and food planning in cities.

The year 2015 and the formulation and subsequent signing of the Milan Urban Food Policy Pact by 120 cities will remain a landmark in the closing of the gap between food and city. The pact proposes a set of measures that cities should take to increase the food security of their citizens, starting with policies and planning: ‘since food policies are closely related to many other urban challenges and policies, such as poverty, health etc. It is essential to adopt an approach that is comprehensive, interdisciplinary and inter-institutional’.

Another important dimension of the pact is that it connects with a rights-based approach that had been promoted primarily by food-related organisations and not so much by cities or urban actors: ‘provide healthy and affordable food to all people in a human rights-based framework, that minimise waste and conserve biodiversity while adapting to and mitigating impacts of climate change’ (Milan Urban Food Policy Pact, 2015).

Another major milestone at the international level in reducing the gap between food and urban planning was achieved in October 2016 when the New Urban Agenda (NUA) adopted in Quito at the Habitat III Summit posited food security and nutrition as an integral part of the Declaration on Sustainable Cities and Human Settlements. Promotion of urban planning and design instruments that strengthen food system planning, promotion of public spaces to improve food security and nutrition, and food security in urban deltas, coastal areas and other environmentally sensitive areas are also topics included in NUA.

One limitation of the NUA as far as food is concerned is the lack of an explicit reference to the right to food, which along with the rights to housing, adequate water and sanitation, and decent employment, among others, is crucial to living with dignity (FAO, Habitat III 2016). In addition, the NUA lacks strategies to address the shrinking of arable land and the evictions of urban farmers which result from the expansion of cities.

In summary, food is less a ‘stranger to urban planning’ than 40 or 20 years ago: local practices are mushrooming and some presented here testify to these developments. At the same time, international declarations and agendas are highlighting the need for better integration. The coming years will be a time of opportunity to make food an integral part of urban
planning at different scales, from neighbourhood to city regions. One challenge now is to turn the good intentions enshrined in declarations into practice, and at the same time to shift scale from experimental or small scale to full city scale and to disseminate planning practice in cities and in professional practices. This remains a precondition to addressing the huge challenges mentioned in the introduction.

1.2. From food systems to multi-scalar food system planning

This section debates various definitions of food systems and then explores conceptual approaches to food systems planning. It proposes an operational definition of multi-scalar food system planning which encompasses the existing notion of city region. It is informed by the different chapters’ conceptual approaches, existing definitions contained in international declarations, and current literature.

1.2.1. Exploring food systems

One widespread definition of food systems was proposed by FAO (2013):

Food systems encompass the entire range of activities involved in the production, processing, marketing, consumption and disposal of goods that originate from agriculture, forestry or fisheries, including the inputs needed and the outputs generated at each of these steps. Food systems also involve the people and institutions that initiate or inhibit change in the systems as well as the socio-political, economic and technological environment in which these activities take place.

One virtue of the definition is that it specifies the various steps of food value chains and embraces not only agriculture but also forestry and fisheries (see Figure 1.1). A second aspect is that food systems are about ‘people and institutions’ and therefore, in planning food systems, the need to initiate processes that involve people and institutions can be underlined. A third interesting aspect is that the definition places food systems within a larger ‘socio-political, economic and technological environment’. These three considerations make clear that food systems are complex. One of its limitations is the lack of differentiation between urban and rural food systems and the connections between them. It
INTEGRATING FOOD INTO URBAN PLANNING

Figure 1.1  Drying of local fish, Djakarta, Indonesia. A good example of a short food circuit. Local fish are sun dried and provide affordable protein to part of the population of one of the largest metropolises in the world. (Source: Yves Cabannes)

also lacks the spatial and multi-scalar dimensions that are crucial to the planning of food systems.

The notion of food systems is gradually being integrated and used by cities and local government, mainly in the Global North, and some food strategies and food charters, which will be discussed below, explicitly make reference to them – as in the case of Hamilton, Ontario, a city of 500 000+ inhabitants: ‘A food system is the complex set of activities and relationships in the food cycle: growing, producing, processing, distributing, marketing, retailing, storing, preparing, consuming and disposing’ (City of Hamilton 2014). This definition again highlights the different steps of the food cycle that lie at the core of the system, echoing the FAO definition.

Academic efforts to move to more conceptual approaches are interesting, since they illuminate the links with environmental and social dimensions and a more metabolism-based focus, insisting on feedback mechanisms: ‘Food systems are social–ecological systems, formed of biophysical and social factors linked through feedback mechanisms’ (Tendall et al. 2015). They comprise, at a minimum, and as similarly expressed in the previous definitions, activities in the food cycle: food production, processing and packaging, distribution and retail, and consumption (Ericksen 2008). ‘These activities encompass social, economic, political,
institutional and environmental processes and dimensions, referred to as scales. The processes play out at different levels, that is, at different positions on a scale’ (Tendall et al. 2015). Again all these contributions underestimate the spatial and territorial dimensions that are essential to make them possible.

1.2.2. Food systems and city region food systems

The literature review of CRFS by Blay-Palmer and colleagues (2015) is the first systematic effort to examine various angles of the notion and to bring an explicit food planning approach. The review identifies ‘food planning’ as one of the four most important approaches to understanding the CRFS concept through the existing literature. Of prime interest to conceptualising urban food systems planning is the review’s conclusion that ‘This approach is driven more by policy priorities, in particular planning, with a view to a healthier and increasingly sustainable development’ (Blay-Palmer et al. 2015). Several of the contributions in this book, primarily those from North America (see Cohen’s chapter on New York, Baker’s on Toronto and Raja et al.’s assessment on the US) do coincide with the healthier city edge of food system planning. The connection between food and health is considered key in various contexts that recognise the crucial role of food systems planners in promoting long-term measures to address obesity, such as a viable urban environment for walking, running and cycling together with public spaces where nutritious food is readily accessible (Morgan 2009). The healthier city edge of food systems planning coincides as well with the perspective of other food system planning city champions, such as Vancouver, which connects its food systems strategy to ‘nutritional well being’ (City of Vancouver, 2007).

Books and journal articles on urban food systems planning are few and far between. They focus mostly on urban architecture and design for urban agricultural production, which are important things to consider in planning (Gorgolewski et al. 2011), or particular components of urban agricultural systems in the Global North (Hanson and Marty 2012; Rich, 2012).

The present book intends to complement, through city-based narratives from the Global North and Global South, various recent books on the planning field, all of them largely focused on urban agriculture. Integrated Urban Agriculture, edited by Robert France (2016), focuses primarily on urban food production in Global North contexts. Cities and Agriculture: Developing Resilient Urban Food Systems, edited by Henk...
de Zeeuw and Pay Drechsel (2015), offers an up-to-date contribution to understanding the role local agriculture plays in feeding cities, but does not focus on urban planning per se. Its opening chapter shows how urban food policies and programs around the world have catered to various development objectives. Food and the City: Histories of Culture and Cultivation, edited by Dorothée Imbert (2015), is mainly concerned with historical perspectives of built-environment disciplines (urban designers, planners, landscape architects) on food activities in the city. The book concentrates mostly on Global North experiences. Its chapter on ‘Urban Agriculture in Cities of Global South: Logics for Integration’ complements our book, since it interrogates how formal planning may take account of the following logics over time: land rent, value adding, multiple functions of particular sites and resource circulation among different agricultural land uses and between these and other non-agricultural land uses.

1.2.3. The spatial dimension of food systems

The territorial dimension of food systems has gradually been allowed to reconceptualise the notions of urban, peri-urban and rural, and to reconceptualise urban–rural linkages and the role they play in food systems (Tacoli 1998; 2006; Sonnino 2014; Dubbeling et al. 2016).

Wiskerke (2015), in introducing the notion of hybrid food systems, brings an original spatial angle to the concept: ‘an urban food system encompasses the different modes of urban food provisioning, in other words, the different ways in which locations where food eaten in cities is produced, processed, distributed and sold’. Here the notion of food cycle is considered again, but stressing the locations where each step of the cycle is taking place. Quite rightly he underlines that ‘the food provisioning system in any city, whether small or large … is always a hybrid food system, i.e combining different modes of food provisioning’. Some cities may be largely fed by their immediate hinterland or region, with little dependency on imports, whereas others are essentially fed through food-provisioning systems located in remote countries. Chapters in the book provide clear illustrations of the city region and local–global nature of urban food systems. The narrative on Tsukiji (Tokyo) Fish Market (Chapter 8, this book), which offers around 2000 species of seafood and fish caught or farmed in multiple countries and is deeply connected to local food systems and neighbourhoods’ life and culture, constitutes an excellent illustration of the hybridity of food systems. One remaining challenge for food planners is how to address this hybridity of food systems.
In the context of hybrid food systems, the capture of peri-urban agricultural production by the demand of larger, richer markets in larger cities of the same country (for example, from Cuenca to Guayaquil in Ecuador), or for export to other countries (for instance, broiler poultry from peri-urban farms in Vietnam to space-scarce Singapore), is becoming a serious issue. A strong tension exists between the export-oriented corporate food distribution sector and local food production supplying local markets. Therefore hybrid food systems can help us to understand how global–local food systems can work without having adverse impacts on the small-scale local production sector. In many cities, large corporations dominate lower-income urban markets by offering cheaper products that are negatively affecting local food production and distribution. At the same time, in larger cities with growing middle-class markets, local producers are developing niche markets for higher-value products and may even supply specialities to corporate outlets. Whether or not food systems planning involving local governments, civil society and the local formal and informal private sector will be able to address in a significant way these tensions between export and import food corporations and local food systems supplying local people remains an open question that needs to be put in a wider political context.

The FAO invitation, in referring to CRFS, is to move ‘beyond city limits’ and therefore brings a clear focus upon the spatial dimension. This is essential if urban and regional planners are to be able to develop an ‘approach that aims to foster the development of resilient and sustainable food systems within urban centres, peri-urban and rural areas surrounding cities by strengthening rural–urban linkages’. Throughout the food chain, an ideal CRFS fosters four interconnected elements: (1) food security and nutrition; (2) livelihoods and economic development; (3) sustainable natural resources management; (4) social inclusion and equity (FAO and RUAF 2015). This definition conceptually demands better connections among cities and towns and between them and their rural surroundings: ‘This holistic and multidisciplinary approach advocates for a strengthened connectivity between urban centres and their surrounding areas’ (FAO and RUAF 2015). The key contribution of the definition is to highlight the key elements that compose a food system and that planning should help to connect in a comprehensive way.
1.2.4. Highlighting the role of planners engaging with food systems

Exploring food systems planning leads naturally to the role that city and regional planners play in the process. Current practice and research results suggest that important changes are taking place. Kevin Morgan (2013) highlights that the emergence of food planning as a movement and a growing practice ‘involves more than professional planners; indeed, it is a highly diverse social movement in which planners are one group among a cocktail of organisations drawn from the professions, civil society organisations and municipal government departments, all of which can lay claim to being part of the food planning movement’. Rositsa T. Ilieva (2016) underlines that ‘food systems planning is a social innovation whereby government planners, architects, researchers and activists step out of their daily routines and the traditional remits of their professions to engage with food systems goals’. She recognises that the purpose is about ‘caring for people in the city … and provide a canvas for collective social actions’. Most chapters from the book are clear illustrations of situations where professional planners are only one of the players, with quite a different role from their predecessors, even those who integrated food into the design of Garden Cities in the UK and elsewhere (see for instance the narrative on Bangkok in Chapter 2, this book).

What it means to shift from being a city planner to a food systems planner is vividly explained by W. Mendes, who for long periods between 2001 and 2015 was a planner at the City of Vancouver and worked on advancing the city’s food systems portfolio and food policy (American Planning Association’s Food Systems Planning Interest Group [APAFIG] 2015). Her reflections on her past practice are interesting because they imply three important issues as far as planning is concerned: (a) the need to educate other planners about food as a system; (b) envisioning food systems as a means for education and a catalyst to bring different people and institutions together; (c) the need to connect food systems to other urban systems:

In the early days of my food policy work, I spent a lot of time educating colleagues about food as a system, and about how the food system is connected to other urban systems … we need to consider connections between transportation, housing, economic development, public space, etc … If you are a systems planner that wants to connect the dots and work within and across systems – you aren’t going to be one particular type of planner. Personally, I think we
need planners who can think using a systems approach, and connect systems, including the food system. (APAFIG, 2015)

1.2.5. Multi-scalar food systems planning

Planning multi-scalar food systems consists of giving an overall coherence to three different spheres that are closely interconnected:

The first concerns the entire food cycle and encompasses the entire range of activities involved in the production, processing, marketing, consumption and disposal of goods that originate from agriculture, forestry or fisheries. In that sense, ‘food systems’ refer to sectoral and inter-sectoral food activities that may interrelate with non-food sectors. In its sectoral and inter-sectoral dimensions planning will aim to define food strategy and food policies and create mechanisms to coordinate with other urban sectors.

The second sphere involves all the actors concerned with food: people of different ages, faith or culture (as producers and consumers), social economy enterprises and corporations, government institutions at local, regional and national levels, research centres and scholars, etc. Food system planning is therefore a multi-stakeholder and community-based process that will involve gradually wider circles in a true public exercise.

Giving consideration to the dimension of people and institutions requires that multi-stakeholder planning should include food social networks at various levels and be conducive to new forms of democratic governance (such as food councils) able to manage the power relations between the different stakeholders to decide upon food charters and strategic plans for the city, the neighbourhood or the region.

The third sphere concerns the multiple spaces and scales where institutions, people, enterprises, etc., develop activities relating to the food cycle, from streets to community, neighbourhoods, towns, cities or regions. These different spatial scales and their multiple relations that justify the term ‘multi-scalar’ encompass the term ‘city–region’ and embrace as well the rural–urban continuum (See Figure 1.2). They draw attention to the way the different spatial levels can complement each other and will specifically contribute to people’s food security, whether we think of the house with its balconies and sometimes its backyard and frontyard gardens; or housing tenements with possibly green roofs and green façades; or neighbourhoods with food assets in their streets, pavements or open spaces; or districts with possibly larger parks, cultivated or not; or cities as a whole, with open fairs, supermarkets, food hubs or
wholesale markets; or peri-urban areas that may have cultivated areas and a rural hinterland. This third component applies the principle of food subsidiarity, a concept at the heart of the decentralisation process that has been gradually taking place worldwide.

Considering food system planning in terms of its spatial dimension will require planning to translate a food strategy and its sectoral dimension into spatial terms, and at the same time to materialise the vision of the different actors, usually through a master plan at city and regional levels, complemented by physical and land use plans as well as zoning regulations at neighbourhood and district levels.

One key finding from this book’s contributions is that when food systems planning processes begin they have quite different entry points, such as hunger mitigation, nutritious food, emergency or economic development. In different cities they can be led by quite different actors, from local governments to activists, to groups of producers or grassroots organisations interested in urban agriculture. And they can start in quite different territories: sometimes a neighbourhood or a group of neighbourhoods, sometimes a district or the city as whole or even a metropolitan region.

Food systems planning lies at the intersection of these different spheres and deals primarily with envisioning a future shared by multiple actors. It

![Figure 1.2 Central Market in Riga. One of the largest food markets in Europe, it consists of four main pavilions (meat, fish, vegetable and dairy) that enclose commercial rows and stalls. (Source: Yves Cabannes)
deals as well with defining which activities should take place in order to satisfy the ambition of food security and good nutrition for all. Finally, it must define and guarantee where such activities should take place.

1.3. Integrating food into urban planning: highlights of lessons learned

1.3.1. Urban food systems planning as a process

One recurrent question in urban food systems planning is whether or not there is a better entry point to generate a sustainable process and high-quality food planning results. Cross-sectional analysis of the different experiences contained in this book and of other successful cases clearly demonstrates that the entry points and early drivers are quite varied, specific and depend a lot on local political, historical and social conditions: acute hunger in Belo Horizonte in the mid 1990s; an anti-poverty programme on the periphery of Lima metropolitan region; a socio-economic emergency proposal in Rosario in response to the collapse of the neo-liberal privatisation model in the early 2000s; encouraging a healthy diet to address food desert, obesity and food-related disease in various North American cities; economic development and environment issues in Milan metropolitan region; the connection between food and waste management for the Tamale, Northern Ghana multi-stakeholder process; the environment in Oregon and Portland in the mid 1970s.

Integrating food into urban planning does not depend so much on the entry point, and the cases mentioned clearly indicate a multiplicity of such, all valid simply because they were the entry points that were possible. What is at stake, to get to a systemic plan that will be sustainable over time, relates to the capacity of the urban food planning process to gradually connect the different dots (hunger, poverty, food waste, health, etc.) in a coherent, comprehensive and systemic way. Bridging these different sectors lies at the heart of food system planning. However, it is only part of the challenge. One could develop a similar way of thinking for spaces (from street to neighbourhood to city to region) and for the actors involved, gradually enlarging the number of stakeholders associated with different sectors and different spatial scales.

Even if systemic urban food planning processes are not that numerous, and various authors underlined this limitation, even in countries such as the US or Canada where they are more frequent,
some of them span more than three decades and allow us to draw some observations about the urban food planning timeline. The first and foremost observation is the length of the planning process to achieve significant results for citizens and for their environment. It can take decades: 15 years for Rosario, Argentina; 14 years already for Providence (‘From 2003–2015, Providence made significant strides in integrating food into urban planning and policy’); Belo Horizonte Food Security Program started formally in 1993; the Lombardy Regional law that established the Agricultural Park of South Milan (Parco Agricolo Sud di Milano – PASM) was passed in 1990, 26 years ago, to keep 47 000 hectares as productive land. None of these cases, even if quite iconic, was a linear process; they all suffered accelerations or stop and go moments. However, and this is the point to be made here, they were able to achieve ‘milestones’ whereby the process had reached intermediate points of no return at planning, policy, legal and institutional levels: a city planning act, comprehensive city plans with a food chapter, land use plans, urban food policies, municipal reform to establish a nutritious food department, specific laws, land development acts, etc. The capacity of the food planning processes we see in these cities to produce formal outcomes (food charter, food strategy, land use plans, zoning ordinances, etc.) and get them approved at city level and legitimised by a large array of actors or stakeholders seems key to successful and long-term integration of food into urban planning. One key lesson, substantiated through most of the chapters in this book is the central role that people and their organisations must play in the planning of sustainable multi-scalar food systems. This conclusion is important because it makes the planner not so much the one with prime responsibility to produce planning documents but, more importantly, the guiding spirit who builds connections among actors, sectors and spatial scales and conducts a participatory process.

1.3.2. Urban agriculture, a trigger for local food system planning

Another lesson learned from analysis of the narratives, complemented by a review of the literature, relates to the role played by urban agriculture, and the urban agriculture community, in sparking a food planning process. The concept of urban and peri-urban agriculture (UPA) needs to be clarified and discussed, since it has generated misunderstanding between urban planners and agronomists, food supply professionals and the rural-based professional community. Definitions of UPA are relatively recent even if quite numerous. Mougeot (2005) was one of the first to
give a holistic definition reflecting also the diversity of local situations. One of its virtues was to go far beyond the limited ‘backyard gardening’ notion that had prevailed for years and was one of the sources of miscommunication:

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

This definition is interesting because it contemplates two important characteristics of UPA. Firstly, in terms of location, urban agriculture is generally not only intra-urban and tends to take place on the fringes of expanding cities as peri-urban agriculture. Secondly, the definition alludes to the spatial and land use dimension of UPA and takes account of the huge variety of spaces where it takes place. These include: (i) houses, on terraces and balconies; (ii) private plots, even if without property title, around the home; (iii) along highways, railways or pathways; (iv) public parks and open spaces; (v) non-urbanised patches of land within and on the fringes of the city; (vi) areas where construction should not be taking place, such as on flood plains and other risk-prone lands; and (vii) institutional properties, for instance schools, hospitals or large enterprises (Cabannes 2012).

Several of the narratives fuel the debate with evidence. Stefano Quaglia and Jean-Baptiste Geissler in their chapter on Milan underline, ‘The creation of the Milan Agricultural District (Distretto Agricolo Milanese) certainly appears to be a key component of the integration of urban planning and food systems in the neo-ruralisation of the city’ (Chapter 14, this book). The narrative on Bangkok again mentions the importance of urban farming: ‘We have also learned that the encouragement of urban farming is an integral part of food planning. Many Bangkok residents, particularly the poor, have moved from rural areas to live in the city and have farming skills’ (Chapter 2, this book). In the case of Providence, a community land trust dedicated to urban agriculture played a seminal role in the whole process and took the lead in the Providence Urban Agriculture Task Force that over the years would play a central role in the different planning instruments that were produced: ‘This upsurge in interest was inspired and urged on by the work of Providence’s earliest food-related NGO, the Southside Community
Land Trust (SCLT). Founded in 1981, SCLT was the first and remains the nation’s only community land trust (CLT) that is uniquely dedicated to urban agriculture’ (Chapter 3, this book). Alain Santadreu, in his narrative on Lima, highlights again the role of urban agriculture movements and early experiences in municipalities on the outskirts of the metropolitan region to explain how and why a metropolitan policy could become a reality: ‘Beginning in 2000, various NGOs, universities, cooperation agencies and some district municipalities started to promote urban agriculture as an activity being carried out both within the city limits as well as on the outskirts … It is likely that the District Municipality of Villa María del Triunfo was the first municipal government to institutionally promote urban agriculture’ (Chapter 5, this book). In Nairobi urban agriculture was a crucial driver of introducing food on to the municipal agenda. In 2015 the Nairobi City County passed the Nairobi Urban Agriculture Promotion and Regulation Act recognising urban agriculture as crucial to boosting food security. Since 2016, Nairobi County with the support of FAO, has nurtured a shift from a sectoral approach focused on urban agriculture to a more systemic, multi-stakeholder and multi-sectoral approach. The establishment of the Food Liaison Advisory Group (FLAG) (food governance mechanism) and the identification of ‘hotspots’ through rapid urban food systems appraisal have prompted the ongoing development of the Nairobi Food Systems Strategy and Action Plan (FAO 2018).

The argument here is that urban agriculture is a catalyst, at least in early stages of a food planning process. Understanding this role helps to reconcile urban agriculture promoters and activists with rural-based or food security champions who may underestimate the role played by urban agriculture as a catalyst to integrate food into wider urban planning processes.

1.3.3. Central role of food distribution within food systems

Various experiences described and analysed in this book illuminate how food distribution is planned through considering the myriad of stakeholders involved in the food system, at which scale planning is taking place and how the planning could be a real opportunity and not an obstacle for enhancing food security and nutrition. At the same time, they confirm the idea (Sonnino 2014) that the food distribution component plays a key role in food system planning. Here are some highlights of the lessons learned. (See Figures 1.3 and 1.4.)
Figure 1.3  Metropolitan region of the capital city of Costa Rica, San José. (Source: Jorge Fonseca)

Figure 1.4  Karwan Bazaar Market, Dhaka, Bangladesh. One of the largest wholesale and retail markets for fresh products in Dhaka and one of the largest wholesale markets in South Asia. (Source: Peter Batt)
1.3.3.1. Addressing food distribution in an integrated and systemic way

Belo Horizonte is an outstanding example from the Global South of a systemic approach to food distribution which encompasses a myriad of initiatives aiming to improve citizens’ access to sufficient, affordable, nutritious and nutritious food and to connect food needs to other planning outcomes. As Cecília Delgado (Chapter 10, this book) describes, the food planning initiatives in Belo Horizonte include: (i) education about healthy food; (ii) market regulation of selected products to make nutritious food affordable for all; (iii) reduction of distance between local producers and consumers and promotion of local food for all; (iv) increasing spatial and social justice, especially for the low-income families living in the most deprived areas; (v) restaurants offering 17 000 nutritional meals a day at affordable prices in various neighbourhoods, including poor ones; (vi) job creation and stimulation of local agricultural product diversification; (vii) management of losses through a food bank linked to the Zero Hunger National Strategy.

Moreover, the municipality ‘developed a unique systemic institutional design approach involving decision-makers, civic society and entrepreneurs from the private sector in food policy planning’. The city food system’s ‘collaborative planning’ includes also legal instruments, spatial planning tools and monitoring systems. As Cecília Delgado states, even the integration of food into the municipal master plan, with the inclusion of a specific subchapter on food supply and distribution, was the result of the systemic approach to food with a strong and continuous interdepartmental collaboration within the municipality.

In a similar way, the experience of Portland described by Nunzia Borrelli (Chapter 4, this book) highlights the interconnections between various planning sectors and the importance of planning along all the food chains. The food system in Portland includes the preservation of agricultural land, a sustainable food programme that aims to foster the inclusion of food in all the territorial planning tools, the Portland Plan Food System report (preparatory for the Portland Comprehensive Plan), the Climate Action Plan (which promotes the local food system among other spatial planning tools) and the Portland food hubs as an online platform that brings together various food actors and many other initiatives at city and metropolitan levels. The food distribution system in Portland, including farmers’ markets, food carts, online food hubs, among other components, cannot be understood if it is separated from other food initiatives.
1.3.3.2. Negative impact on food access when food distribution planning is inappropriate

The retail market system has been changing rapidly with the expansion of supermarkets, which now dominate most of the cities of both the Global North and Global South. As demonstrated in the experience of Cape Town (Chapter 9, this book), the absence of a clear food planning strategy facilitates the diffusion of the supermarkets even in low-income areas with the result that in Cape Town ‘the most commonly used source of food was the supermarket, for both food-secure and food-insecure households’. This ‘supermarket revolution’ has direct impact on small traditional general shops (spazas) that cannot compete with supermarkets on price per unit, which has an impact on both small vendors and the urban poor. The ‘urban food markets do not inevitably have to transition towards supermarkets’; this happens if the local government does not promote or incentivise the local food system, as in the case of Cape Town, where the government gives advantages to the supermarkets also by distributing to vulnerable people state social grants to to be spent in the supermarkets.

Food distribution planning should take into account the powerful market-driven process promoted by large corporations, quite often managing hypermarkets, supermarkets and negatively impacting on food access and diet. In the chapter on Bangkok, P. Boossabong gives a detailed account of how alternative and community-based actors and social enterprises as well as the central government deal with large food corporations. Despite a complex power struggle relation, he identifies good signs of moving forwards in a better way that may enable agribusinesses and civil society to meet at some point along the way (Chapter 2, this book).

1.3.3.3. Food retail distribution planning plays a positive role in improving the diet of urban residents

Food retail distribution planning has an impact on access to nutritious food. As highlighted by Battersby and Watson, ‘the arrival of the supermarkets has made it easier for the urban poor to purchase bulk goods at lower prices’ (Chapter 9, this book). On the other hand, the food distribution planning of Belo Horizonte has a great impact on access to nutritious food for all, fostering connections with local producers, using public procurements to connect local producers to popular restaurants, regulating the price of selected nutritious products in food shops, institutionalising permanent and non-permanent (evening market) open air farmers’ markets and organic food markets.
Mobile street food vendors’ ‘food carts’ could be an additional innovative solution to increase access to fresh food in underserved areas. For example, Green Food Carts sell fruit and vegetables in New York City, in the neighbourhoods that have limited access to nutritious foods (Kapell et al. 2008). Moreover, as highlighted in the paragraphs below on innovative planning tools and instruments, even spatial planning tools such as zoning or the development of food hubs can help people to have healthier diets.

1.3.3.4. Pro-poor, inclusive and flexible planning to optimise food distribution

Street food vendors and informal markets are increasing in many cities, playing a significant role in reaching the poor in slums and underserved areas to make food more accessible and affordable. As Battersby and Watson highlight, street food traders and informal markets sellers continue to play a key role even in the South African context of steady supermarket expansion in both low- and high-income areas. The informal traders are able to reach the underserved ‘food desert areas’ anytime, selling in small units and sometimes offering credit. Even in the low-income areas of Cape Town, where the supermarkets are the main source of food, ‘day-to-day purchases [are] made from the informal sector’. Despite the key role of the informal sector in facilitating the urban poor’s access to food, the Cape Town Development Plan refers to food only in relation to food safety and control regulation. In general, the eviction of urban informal workers is common practice in African cities. Planning could play a much more positive role in facilitating the integration of their activities. This is what some of the cities included in the book are aiming to do.

Both Indonesian cities discussed in this book (Chapter 11) illustrate how planning can positively impact on or limit the integration of informal food distribution within cities. As Song and Taylor highlight, participatory planning needs to go ‘far beyond persuading informal food vendors to abandon public spaces’ and offering property rights in a new market. It is necessary to move from an aesthetic approach to a pro-poor inclusive spatial interventions that pay attention to both the real needs of the vendors and the timing and rhythms of urban life. Song and Taylor highlight also the importance of integrating spatial planning interventions with socioeconomic interventions that pay attention to the needs of vendors, such as facilitating access to credit and supporting vendors’ organisations.
1.3.3.5. When the formalisation of the informal food distribution system is inclusive, ‘formal exclusion’ of low-income vendors and consumers is avoided

In the case of Hangzhou City, Shuwen Zhou (Chapter 12, this book) describes how the government, with a top-down approach, could develop an efficient food distribution system: (i) increasing the number and the capacity of wholesalers, retail markets and community-based fresh food markets so that ‘a resident of Hangzhou need walk for 10–15 minutes at most to buy food’; (ii) increasing the variety of food products prioritising local production; (iii) improving the food safety standards and monitoring system (‘each food market is equipped with a special office to test chemical residuals in fresh food. Consumers can just walk in to check whether the food they bought and put in their basket is safe’); promoting consumers’ participation in the planning and supervision process. The main questions are how inclusive are such efficient food distribution systems and what are the real costs for the low-income vendors and consumers? In Hangzhou ‘food in formalised neighbourhood fresh food markets is in general 50 per cent more expensive than in informal ones’, the rent is too high for small vendors and even the food transport costs are higher because of the change in the means of transport from man-powered tricycles or carts to fuel-powered vehicles.

1.3.3.6. Food distribution planning sustains social vitality and preserves the food culture of retail marketplaces

Historically, food retail markets have been part of neighbourhood life, places for social interaction, connection and exchange. As highlighted in Alice Covatta’s chapter, Tsukiji wholesale fish market in Tokyo functions at a global level, but is also a neighbourhood fish market that influences strongly the life of the surrounding communities. Tsukiji is not just a physical place; it is a complex system that includes all the social and economic activities accumulated in its long history and all its spatial transformations. Despite its traditional importance and its social and economic function, Tsukiji market is going to be relocated to an artificial island, which shows how current city planning fails to preserve the traditional shopping environment or to recognise the key role of the market in neighbourhood vitality.
1.3.4. Innovative planning tools and instruments

An important lesson learned from examining the contributions to this book is that a solid set of food system planning tools have been designed, experimented with and adapted to local realities. This may well be one of the book’s most significant contributions, since these tools and instruments, put together, clearly demonstrate that we are technically equipped to address food security challenges in cities and to shift from limited-scale to multi-scalar food systems planning. All these tools have been organised into six blocks (below) and probably deserve to be better documented and to be integrated into a manual for urban food planners which highlights their applications. Together they constitute a huge asset that should be applied to the planning steps of the different food systems, even if they are rarely, as previously highlighted, sequential or linear. This emerging issue will be further addressed in the section on emerging research and policy agenda.

1.3.4.1. Food asset mapping, land mapping, green mapping and food retail environment mapping

Food asset mapping is well explained and illustrated by L. Baker in the chapter on Toronto and the Greater Golden Horseshoe Region. The interesting thing here is that two complementary mappings were worked out, one for the metropolitan region and the other at ward level for the City of Toronto. Asset mapping at various levels (metropolitan or regional, municipal, ward, communities) is essential not only to ‘provide an important baseline of information to understand how the agriculture and food sector changes over time’ (Chapter 13) but to allow multi-scalar planning, and to define (Chapter 2, this book) the respective roles and contributions of public, community and private actors.

In addition to food asset mapping, land mapping of potentially cultivable areas and areas for food systems (e.g. markets, street vendors, etc.) has been developed and tested in cities such as Cienfuegos (Cuba), Valladares (Brazil) and Rosario (Argentina), where it was consolidated and systematised in the early 2000s as part of the Municipal Urban Agriculture and Food Related Program and the Master Plan for the Metropolitan Region. The method was further simplified for cities in the Global North and tested in London as ‘green mapping’ (Cabannes 2009).

In Bristol (Carey 2011), mapping and audit of productive land, including identification of the best agricultural land and of risks and threats from impacts such as change of land use and flooding, are
proposed as an effective baseline for the preservation of agricultural land in pursuit of a more sustainable and resilient food system. In the case of Rosario, land mapping not only helped to identify where food-related activities should take place and become part of the municipal plan, but was the starting point to the establishment of a municipal land bank, to make land accessible to poor urban farmers, through fiscal incentives for the owners and temporary leases to the producers (Mazzuca et al. 2009).

In Baltimore, a food environment map has been developed with the aim of addressing inequality in access to nutritious food. The process includes the identification of criteria for the nutritious food priority areas, and an in-depth analysis to identify geographical areas that should be prioritised for nutritious food access. The maps consider different components of the food retail environment, including farmers’ markets, nutrition assistance programmes and urban agriculture (see Figures 1.5 and 1.6). The maps support the development of the Baltimore Healthy Food Environment Strategy addressing aspects of food access beyond food retail. The approach recognises the importance of engaging with residents and working across sectors with multiple actors to develop integrated solutions (Misiaszek et al. 2018).

Another ground-breaking experience took place in Fortaleza, a city of three million inhabitants in north-east Brazil. With the international support of the Urban Management Program, and the drive of a local NGO, Ágora XXI, social movements and other local hunger-related actors, a first-of-its-kind hunger map was produced to locate in which favelas and neighbourhoods hunger was more intense (Melo Neto Segundo 2002). This map with a single qualitative indicator (felt hunger) mirrored the answers to the question, ‘How many times a week have you felt hungry during the last few months?’ The key dramatic and shocking finding was that 48.3 per cent of the population suffered hunger at least once a week, and close to 10 per cent every day, data quite far from official statistics. The map highlighting this data was the starting point for a media campaign that quick-started a zero hunger plan. It played a seminal role in the Brazilian Zero Hunger policy that was launched a couple of years later under the newly elected left-wing government. Such an experiment echoes FAO’s Voices of the Hungry, 5 which measures food insecurity (moderate and severe levels), based on eight questions relating to how people access – or do not access – adequate food. These instruments are paving the way for an emerging research agenda that will be developed in section 4.
Figure 1.5  Baltimore City 2018. Healthy food priority areas typology. (Source: Johns Hopkins Center for a Livable Future, Johns Hopkins Bloomberg School of Public Health)
Figure 1.6  Baltimore City 2018. Urban agriculture. (Source: Johns Hopkins Center for a Livable Future, Johns Hopkins Bloomberg School of Public Health)
1.3.4.2. Spatial indicators

A second set of instruments that can be part of a baseline survey and help planners and actors to make decisions are what Bristol calls ‘multiple deprivation maps’ (Carey 2011), a method fairly similar to the pioneering Index of Urban Life Quality (IQVU) presented in this volume as part of the Belo Horizonte narrative.

Various methods have been developed; in a nutshell they consist of ‘spatialising’ indicators by wards, communities or even census units in order to visualise better-off areas and the most deprived ones. What is new is that one of the dimensions of these maps relates to food deprivation (or quality of access to food) and takes account of consumers. Local actors have a key role, usually, selecting city-specific sets of indicators. The maps are very useful for (1) land use planning and food zoning, (2) channelling public or private investments, as brilliantly shown for Belo Horizonte, and (3) monitoring the implementation of the plan and the improvement of the access to nutritious food. We shall come back to this point shortly.

1.3.4.3. Food charters

A food charter is usually a ‘vision of values, principles and priorities’ (City of Hamilton, 2014) which results from a process involving different food-related actors. Its nature, length, substance and level of legitimacy vary slightly from place to place but in most cases they ‘outline, in one or two pages, the vision and the principles about the food that a county, a city or a region consider most important’ (Simcoe County, 2012). In Simcoe, ‘rather than a policy document, a charter is a guide for making decisions intended to improve the local food system for all residents’.

Food charters emerged in Canada in the 2000s, with beacons such as Toronto (2000) and Vancouver (2007), and have expanded swiftly since then to at least 16 more locales. Since the late 2000s they have spread into the US (Philadelphia, 2008; Durham Region, North Carolina, 2009; Michigan Good Food Charter, 2010; etc.) and into the UK with the landmark London Food Charter (2010), followed by cities such as Plymouth (2010), Newcastle (2013), Birmingham, Cambridge and Oxford (2014). They have reached Australia as well. (See Appendix 1.)

Interestingly enough, the 32 food charters analysed referred to quite different spatial and political/administrative scales: seat of district, district, county (Simcoe County), city (London), metropolitan region (Toronto and Greater Golden Horseshoe Region), region (York, Canada) or state (Michigan Good Food Charter, or Minnesota Food Charter).
A food charter is an important tool for food systems planning and especially for strategic long- and medium-term plans. They facilitate the gathering of all kinds of different actors and food champions to discuss their visions of the city they want, as far as food is concerned. A key moment is the collective and multi-actor envisioning of the city, ideally through consensus building. A vision will then help in defining basic principles to guide the formulation of a proper food plan, as in the vision presented for Vancouver:

The City of Vancouver is committed to a just and sustainable food system that:
- Contributes to the economic, ecological, and social well-being of our city and region;
- Encourages personal, business and government food practices that foster local production and protect our natural and human resources;
- Recognizes access to safe, sufficient, culturally appropriate and nutritious food as a basic human right for all Vancouver residents;
- Reflects the dialogue between the community, government, and all sectors of the food system;
- Celebrates Vancouver’s multicultural food traditions.

(City of Vancouver, 2007)

Food charters can help to frame food planning interventions within an ‘overall initiative to address food system governance at the local government level’, as Battersby and Watson suggest in their conclusions (Chapter 9, this book). A challenge still to address is to understand why food charters have been limited to Anglo-Saxon countries and what should be done to get them developed in cities and spaces in the Global South. The narrative on Bangkok presented in this book illuminates the difficulty of having a single vision that is intended to embrace quite different and antagonistic logics and interests.

1.3.4.4. Multi-stakeholder and community participatory planning

A fourth set of approaches concerns multi-stakeholder and community participatory planning. Again, various tools have been designed, tested and refined for food planning, and probably the one that has been most widely implemented in different contexts is the multi-stakeholder policy formulation and action planning (MPAP) method. The method draws
from a vast array of pre-existing partial methods and was implemented by RUAF and its partners over a period of 10 years in 20 cities in 17 countries (Dubbeling et al. 2011).

Among its innovative aspects one should underline the linking of policy formulation with concrete and immediate planning of actions, and at the same time the importance given to setting up a multi-stakeholder council or group that should mirror the different interests of all the food system’s actors. The narrative on Tamale, Northern Ghana, in this book highlights the tensions that can exist between different actors and indicates how such issues can be addressed. A recent assessment of various MPAP experiments in cities such as Beijing, Cape Town, Bulawayo, Lima and Amman (Veenhuizen, 2016) confirms the validity of this planning method and the need to link up MPAP outcomes with policy formulation and implementation: ‘When working in complex urban agro-food systems it is highly recommended to apply a multi-stakeholder approach in the analysis and planning of a sustainable food system, and further coordinating policy and planning.’

1.3.4.5. Land regulations, land zoning and land uses
A fifth set of instruments are better known to planners and consist of land regulations, land zoning and land uses, the only difference being that these instruments consider land in terms of land for production, retail and wholesale markets, mobile vendors or agro-industrial zones. In many cities cultivating land is not legal (even if it is sometimes tolerated). The various impacts on the food system that came from legalising some areas for cultivation in Kampala (KUFSALCC 2005), along with the voting in of various food ordinances, are extremely significant and strongly linked to urban planning. Land zoning can be also used to limit unhealthy food outlets and as an obesity prevention strategy, as highlighted by Cohen (this book) in East Harlem, New York City.

Among the book chapters dealing with land regulations and land zoning, Chapter 14 is of particular interest because it links up two scales of land regulations: one at regional level (PASM) and one at the level of municipal districts. In both cases, the land regulations were quite well crafted and as a result PASM is one of the main agricultural parks in Europe, covering as much as a third of the Milan metropolitan area, encompassing 61 municipalities and 1400 farm activities. The productive nature of this space is different from the green belts of other cities such as London’s and the peri-urban parks of Paris. The creation of the Milan Agricultural District (Distretto Agricolo Milanese) certainly appears to be a key component of
the integration of urban planning and food systems into a neo-ruralisation of the city. The strategic plan ‘piano del distretto rurale di Milano’ is oriented towards the promotion of production, marketing, territorial protection and safety, and ecosystem and landscape services improvement. An important lesson to be learned is that a city can be well known for economic growth, and an epitome of fashion and design, and at the same time have an expanding agricultural base. Planning and political will were probably, as the authors highlight, key reasons for such a positive outcome.

1.3.4.6. Monitoring tools
A sixth set of instruments comprises the monitoring tools of both community initiatives and local governments. Food deprivation maps such as those of Bristol (Carey 2011) and Belo Horizonte are excellent examples. They allow us to see in a blink of an eye the progress made to reduce food access inequities and map the changes that are occurring in the city in question. In the case of Belo Horizonte the IQVU map enables one to locate the various actions undertaken by the municipality as part of its food plan. More importantly, it provides clues to perceive to what extent food inequities have been reduced over time.

1.3.5. Key role of food councils in accomplishing food planning and democratic governance

One of the major lessons learned in this book and from the cities analysed is the critical role played by city food councils in generating participatory urban food plans, and, more importantly, in implementing such plans without their losing too much of their community or informal sector angles and the proposals from these two groups during the planning process. The experiences of Belo Horizonte in Brazil, Providence in the US and Toronto in Canada are of prime interest to better understanding the essential role played by city food councils, which can have quite varied names and forms and certainly deserve serious comparative research.

As explained by Lauren Baker in Chapter 13 of this book, the Toronto Food Policy Council, established in 1991, has made a significant contribution to key documents such as the Toronto Food Charter and the Official Plan. The City Council has also played another key role in planning where it links up with the metropolitan level – it ‘facilitated city engagement with the Greater … and Farming Alliance’ – and with the community level through community asset mapping.

Similarly, as described by Cecilia Delgado in Chapter 10, in order to comprehend why the first municipal master plan in Belo Horizonte, in
1996, included quite an innovative food supply and distribution subchapter, one needs to recognise the critical role of the multi-stakeholder municipal council, COMASA (Conselho municipal de abastecimento e segurança alimentar). This food council, composed of members from the municipal executive, civil society, consumers’ organisations, workers, inhabitants and entrepreneurs, played a critical role in policy-making. In both cases (Toronto and Belo Horizonte) a council tailored to the complex local institutional landscape provided conceptual guidance so that plans could be implemented over long time frames without losing the original vision and plans.

The Providence narrative in Chapter 3 of this book illuminates the process through which local actors grouped together to advocate for local food systems, then created an Urban Agriculture Task Force in 2004 that became instrumental to formulating Providence Interim Comprehensive Plan. Later this task force guided the development of the final comprehensive plan approved in 2014, which provided ‘even more robust treatment of food systems objectives and strategies relating to various components of the food system’. Food planning, in most narratives, appears to be not only a means to formulate an adequate plan, but just as importantly a catalyst for gathering local food champions and actors together in a formal entity, in most cases a food council.

The lack of a strong and legitimate food council, involved in food planning and able to remain a driving force when plans were implemented, contributed to the partial failure of street vendor relocations in Solo and Yogyakarta. What is remarkable is that in Solo, as narrated in Chapter 11 by John Taylor and Lily Song, a strong participatory process was put into place and the mayor ‘invited the street traders and other stakeholders to over 50 open dialogue meetings’. ‘However, further examination reveals that the success of such policies is limited, many relocated vendors returning to the streets within a few years.’ This indicates the limits of participatory planning and it seems that new forms of democratic governance such as food councils can be a place where problems can be anticipated and discussed and solutions found. At the same time, these councils can become unique spaces in which to monitor the implementation of an urban food plan, to formulate specific policies to implement the plans, and, just as importantly, to develop adaptive measures to guarantee that the interests of the community and the informal sector, among other interests, are not set aside. It goes without saying that strong, permanent political will is critical for plans’ successful implementation.
Both John Taylor and Cecília Delgado, in quite distant locales (Brazil and Indonesia), highlight the importance of more democratic forms of urban food governance. For Belo Horizonte, it seems that collaborative governance forms that developed throughout the 20-year process largely explain the success of the food policy. On the other hand, Taylor suggests that a shift from top-down to adaptive and collaborative governance as conceptualised by Healey (2006) might have avoided the failure of the food markets’ relocation in Solo and Yogyakarta. These changes should happen first among vendors (promoting vendors’ organisations) and second between vendors and civil society groups. It is only then that vendors will be in a position to engage with government planners. What remain to be discussed and envisioned, however, are more permanent forms of collaborative governance that will endure and strengthen once the planning exercise has taken place. Lessons from experience in the field and from beyond the scope of this book suggest that city food councils should be broad and inclusive enough to gradually provide a space not only to organisations, institutions and actors, formal and informal, dealing only with one particular stage of the food chain, such as street food vendors, but to all those with a stake in the food chain, from production to transformation and distribution, and to consumption and waste recycling.

Chapter 15 in this book illuminates the capacity of MPAP to kick off a process that could end up generating the kind of longstanding democratic governance that will be instrumental to properly implementing a city agenda resulting from MPAP. The experience highlights difficulties and limitations despite apparently huge efforts to keep the process as participatory as possible. A multi-stakeholder platform and a core working group for MPAP like those set up in Ghana’s capital city of Accra (AWGUPA, Accra Working Group on Urban and Peri-urban Agriculture) could not be established and this probably explains the shortfalls and difficulties in implementing the city agenda that was formulated in Tamale. This facilitation role is central for accomplishing a city agenda or urban food plan that takes into account the diverging and converging interests of the various groups. However, the big challenge that MPAP processes and more broadly community and multi-stakeholder planning processes face is whether or not these fora, working groups or animation groups will have the capacity to transform and consolidate into a more permanent governance structure such as a food council. A second challenge is how to sustain the energy of the planning stage beyond the approval of a
city agenda or a food plan. Some cities, including those mentioned in this section, are lighting the way and showing that a food planning process can be a facilitator for new forms of democratic governance which, in their turn, are indispensable to the implementation of urban food plans.

1.4. Emerging research and policy agenda

Despite innovative food system planning practices at neighbourhood, county, city, metropolitan or regional levels and despite the growing recognition at international level, building up a twenty-first century urban development planning theory that would fully integrate food remains challenge for the years to come. An emerging research and policy agenda if properly addressed could pave the way in such a direction. Some of them will be briefly highlighted.

1.4.1. Going beyond city region as a metaphor

The term ‘city region’ when referring to food systems emerges in the literature, in professional practice and in several of this book chapters as a central notion for food systems planning. Commonly understood to be ‘a given geographical region that includes one or more urban centres and their surrounding periurban and rural hinterland’ (Dubbeling et al. 2017), ‘City region’ encapsulates quite different realities from country to country, or from region to region. An earlier definition coined by FAO and RUAF highlighted the dynamic and complex nature of a food system – ‘complex network of actors, processes and relationships to do with food production, processing, marketing, and consumption’ – and clarified the term ‘city region’ as referring to ‘a given geographical region that includes a more or less concentrated urban centre and its surrounding peri-urban and rural hinterland; a regional landscape across which flows of people, goods and ecosystem services are managed’ (RUAF 2015).

The term works far better as a metaphor than as a concept, from a strictly planning perspective. However, this metaphor is quite useful to move from one level of food planning (be it a city, a town, a region, a county or a district) to a multi-scalar approach intended to link up spatial scales of quite different sizes (small agriculture-based urban settlements, towns, medium-sized cities, megacities, metropolitan regions, etc.) and their hinterland.
A comparative analysis published by the International Society of City and Regional Planners (Cabannes et al. 2017) looks at how four food planning experiences (Rosario, Argentina; Garden Cities in the UK; Portland, US; Milan, Italy) approached and defined city regions. Each of them introduced a specific definition and it seems difficult to place the ‘social city’ of the Garden City movement and its implementation around Letchworth in the United Kingdom in the same category of ‘region’ as metropolitan Rosario or Milan or Portland and its hinterland. Additional research to better define a city region in political, governance, administrative, geographical or environmental terms will be needed for the planning agenda of the future and to give it a more universal and therefore scientific value.

In addition, the region side of the city region may be misleading in some contexts, since it does not apply well for small nations, including most of the 49 island nations, primarily in the Pacific and the Caribbean. From a planning perspective, ‘city region’ is not quite appropriate for small island nations such as Grenada, the Bahamas or Tuvalu, since none of these is a ‘region’ as such and most of them have only towns and no cities. And yet these island nations represent about 20 per cent of all existing nations according to conventional United Nations definitions. More importantly, they are particularly vulnerable to climate change hazards, to peak oil effects and to threats to their residents’ food security. Specific policy research is needed to adapt the notion of city region to their geographical and environmental specificities as well as to their farming systems.

Another ambiguity of the term ‘city region’ which needs further exploration relates to its definition in the English language, including in the UK, where ‘cities’ and ‘towns’ are quite different entities. To move beyond the term’s metaphoric value, planners need to explore diverse food system realities in order to appropriate the concept and use it in their daily practice.

1.4.2. Mechanisms to better include the informal food sector in food system planning

Much still needs to be done to define planning methods and instruments that properly connect informal and formal food-related activities and actors. A major point of concern, on which the present book’s contribution is limited, is how to address in urban food planning the needs and specificities of the informal sector, which is commonly greatly involved, at least in cities of the Global South, in UPA, food distribution and limited processing of locally produced food. Addressing this question forces us to explore the specificities, differences and connections between two
notions: the ‘community’ of residents involved in food-related activities for part of their time, on the one hand, and the informal food sector, on the other. The second research question that emerges is why, despite innovative efforts in some cities and despite its clear contribution to the food security of the poor, the informal sector in its multiple expressions remains a stranger to urban food planning.

1.4.3. Potential and limitations of information and communication technologies (ICTs) in urban food systems planning

A quickly developing field of practice is the multipurpose applications of ICTs and open data to food-related activities in cities; not only value chains from production to distribution, but also the geography of such chains and the ways in which they interact with other urban activities, particularly in the larger cities. They are transforming business models of urban agriculture in the Global North (e.g. urban farms); they may also be transforming some of the informal sector activity in cities of the Global South.

Evidence from the chapters of this book and a review of existing literature indicates that ICTs are playing a growing, critical and innovative role in food systems in terms of:

- producing information on formal and informal food systems;
- mapping the food retail environment and food assets utilising geographic information systems (GIS) and geospatial tools, for instance satellite maps to identify vacant land and food desert areas;
- facilitating the exchange of information, for instance using innovative digital technologies such as big data;
- coordinating mechanisms to shorten and simplify the supply chain (e.g. food hubs using web-based technologies to coordinate food and information exchanges and the virtual supermarket);
- virtual learning to enhance capacity development and facilitate exchange on food systems policy, planning and action in urban areas.

Despite the existence of ever more examples of integrating ICTs into food systems planning, more research is needed to critically document these practices in order to better understand to what extent ICTs contribute to the sustainable and equitable development of cities and in order also to better explore their risks. How urban spatial planning should take account
of and support the role of ICTs is another emerging field of research that needs further discussion in order to better appreciate the strengths, the pitfalls and the potentials of ICTs in urban food system planning.

1.4.4. Food systems assessment and analysis tools for policy-makers

Another key component of food systems planning are the food systems assessment and analysis tools that, locally, regionally and globally, can inform planners and policy-makers about food system hotspots in order to prioritise interventions, to measure progress in interventions and, just as importantly, to draw lessons on how to effectively integrate food into urban planning. There are a number of experiences from cities of both the Global North and Global South. Some tools analysed in the present book, like food assets mapping in Toronto, food environment mapping in Baltimore, food deprivation maps in Bristol, IQVU in Belo Horizonte, are quite promising and usually focus on some key aspects of food systems (food distribution, access to nutritious food, land availability for urban agriculture, zoning practices). Developing a comprehensive food system profile as a tool for urban policy-makers without losing the systemic approach to food is the main challenge. FAO is currently developing a comprehensive food systems assessment tool and a set of comprehensive indicators for food systems monitoring based on the Milan Urban Food Policy Pact. Despite these experiences a specific research agenda is needed to combine all the existing instruments and propose a comprehensive food systems assessment tool to support food planning.

1.4.5. Food security and nutrition index

Global data on urban food security and nutrition which reflect local realities are still quite limited, even if a wealth of city-based studies provide evidence on the scale and nature of urban food insecurity. The development at local level of an urban food security and nutrition index would greatly enhance understanding of global food insecurity today. It would also be helpful for international organisations such as FAO, national and local governments, and civil society organisations and food producers to have better knowledge of urban hunger, food insecurity and all forms of malnutrition in a specific locale. FAO has made significant refinements to its monitoring methodology, particularly since 2011/12, and has launched initiatives that include food security indicators through the
State of Food Insecurity in the World reports. However, currently there are no well-documented or accepted indices or indicators particularly oriented to understanding the conditions of urban food insecurity and malnutrition.

As a result, one line of research and policy in the years to come will be the design, testing and monitoring of a community food security and nutrition index that will locally and globally be able to inform planners and decision-makers about the progress made and, just as importantly, to draw lessons on how to properly integrate food into urban planning. Some tools critically analysed in this book are paving the way in such a direction.

1.4.6. Optimising the last food mile remains a key challenge for urban food systems planners

The ‘last food mile’ is generally understood to mean ‘the physical distribution of food occurring in the last part of the food supply chain. It refers to the final delivery of perishable goods to urban food outlets’ (Morganti 2011). The limited space for storage capacity and the general change there has been in the last food mile (e.g. just-in-time deliveries and higher delivery frequencies with time flexibility) have had a tremendous impact on city congestion in the absence of any kind of coordination among all the vehicles that deliver the same products in various parts of the city (Morganti 2011).

Innovative answers have been given by a growing number of cities, such as Parma or Paris, but remain little documented. These are, however, a major field of research and policy agenda for food systems planners and for improving access to fresh food while complying with climate change imperatives. One of the innovative answers is food hubs, supported by cities and/or regional authorities, that actively connect the food supply side and demand side. As Morganti 2011 highlights, they can be wholesale or retail markets or even a producer cooperative carrying out food-hub activities, usually including services such as coordination or technical assistance not traditionally provided by wholesalers. The successful experience of the Centro Agro-alimentare e Logistica (CAL) is one of the few that has been documented. It supports the last food mile within the historic and traditionally heavily congested city of Parma, delivering products through electric vehicles and facilitating access to fresh and locally produced food. Its positive impact on reducing city congestion and carbon emissions in a relatively short period of time and for a reduced cost invites more attention to last food mile solutions as an eminent field of research in the urban and regional planning fields.
1.4.7. Urban food systems planning in an urban metabolism perspective

*Urban metabolism* refers to the analysis and understanding of the flows of materials, people, fluids and energy within cities considered as an ecosystem. An early definition by C. Kennedy et al. (2007) defined the model as ‘the sum total of the technical and socio-economic process that occur in cities, resulting in growth, production of energy and elimination of waste’. Over the last decade, theories on urban systems as urban metabolisms have been developing primarily from a political ecology perspective (Biel 2016). They have introduced innovative and essential understanding of urban systems as a whole, refining earlier definitions:

Cities are dense networks of interwoven socio-spatial processes that are simultaneously local and global, human and physical, cultural and organic. The myriad transformations and metabolisms that support and maintain urban life, such as, for example, water, food, computers or hamburgers always combine infinitely connected physical and social processes. (Heynen et al. 2006)

On the other hand, progress in connecting food systems to the other elements of urban metabolism has been rather limited, even if significant (Biel 2016); various food nexus primarily with energy or water are increasingly emerging in the literature and in cities’ planning practices. Two chapters in the present book contribute to bridging the knowledge gaps: Chapter 7 connects food and the recycling of urban solid and liquid waste, and Chapter 6 explores growing food connections through planning in the US. An emerging research and policy agenda essential to integrating food as an urban sub-system to cities as urban metabolism, and especially to waste, water, energy and transport. Much more needs to be done to turn this knowledge into planning practice, and ‘integrating food system planning into urban metabolism’ will remain a challenge for the years to come.

1.4.8. Planning regulation and integration of informal and street markets and use of open spaces

Street food vendors and informal markets are increasing in many cities, playing a significant role in responding to citizens’ needs and in reaching the poor in slums and underserved areas, making food more accessible and
affordable and consequently contributing not only to the local economy but also to food security and nutrition in urban areas. The most common interventions with respect to street food vendors relate to food safety and relocation owing to road congestion, hazardous location and re-zoning and rarely address the integration of the informal sector in urban planning.

Research acknowledging the economic and social importance of this sector has become quite significant over recent years. However, an emerging connected field of research that requires more attention is the extent to which urban food planning could facilitate the development and the optimisation of these activities so they may flourish in a harmonious manner. A sensitive policy issue that is also emerging as an important research field for planners are the planning instruments that could help to regulate street and open-space food-based activities to allow a city for all. Participatory planning methods that pay attention to both the real needs of the vendors and the rhythms of urban life are emerging as a crucial topic to investigate. The visibility of the market, connectivity with residential or commercial areas, authorisation to sell in public spaces when people are going to or from work are just some of areas relating to the integration of street food vendors into urban planning that deserve more attention. Ways to include street food vendors in the development of regulations for the use of public spaces is also emerging as a crucial field that could help to avoid the usual approach of considering informality a problem to be controlled instead of a possible solution that needs innovative participatory planning mechanisms.

Another key challenge is the importance of integrating spatial planning interventions with socioeconomic interventions that attend to the needs of vendors, such as facilitating access to credit and supporting vendors’ organisations. These city-based solutions trigger our imagination to recognise that, from a planning perspective, how to deal with the multiple informal food systems is still an unsolved question.

1.4.9. Food planning in an urban–rural continuum

Integrating food systems planning within an urban–rural linkages framework remains another crucial research and policy agenda. On the one hand, some progress has been achieved in integrating food into multi-scalar and city region planning. On the other hand, research and policy papers on the role of rural–urban linkages and a rural–urban continuum after years of an urban–rural divide have greatly contributed to better understanding of the multiple interconnections among spaces, peoples and activities. What remains to be explored is how to
better integrate and link up food systems planning and urban–rural linkages and draw lessons on the new forms of governance at various levels which are needed to transform planning documents into transformative actions.

Some of the experiences presented in this book demonstrate that local governments and deepening decentralisation processes are key players in food system planning. The integration of food into the local agenda is crucial to stimulating articulation between urban and rural areas and fostering integrated spatial and sectoral planning among regions, cities and towns. What is less known and deserves further attention are innovative governance mechanisms such as food policy councils or similar mechanisms that could play a driving role in fostering connection among food systems stakeholders, promoting partnership and strengthening the linkage between urban and rural areas.

1.5. Concluding remarks

Various experiences suggest that urban and regional food system planners need to go beyond their professional boundaries and promote a holistic and multidisciplinary approach using the multi-functional character of food. Their role could be crucial to connecting the different actors and sectors involved in food systems and related sectors. At the same time, they could significantly contribute to linking the different spatial scales involved in food-related issues. Participatory planning research grounded in transformative practices, the mainstreaming of food in urban-related policy at all levels, and research to nourish existing and future practitioners as well as engaged citizens and committed decision-makers all remain essential if we want to effectively integrate urban planning and food in order to improve food sovereignty in cities.

Notes

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References


