

5

URBAN AGRICULTURE AND SHORT CHAIN FOOD MARKETING IN DEVELOPING COUNTRIES

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Introduction

In this chapter, we focus on the specific role of urban agriculture and short marketing chains in urban food supply and distribution, with an emphasis on developing countries. Markets in the context of urban agriculture are often characterised by short supply chains and social relations based on proximity in which we may distinguish the traditional, mainly informal forms of short marketing chains and innovative new forms of more direct producer-to-consumer food supply that are developing more recently.

To sketch the context, we will first briefly discuss presence and economic performance of urban agriculture in cities of the Global South and subsequently discuss the specific and complementary role of urban agriculture in total food supply and related ways of marketing locally produced food. In the following section a number of innovative types of short chain food supply and distribution are discussed. We will conclude with listing a number of consequences for policy development on urban food supply and distribution and some challenges for research.

Presence and economic performance of urban agriculture in developing countries

Presence

Numbers on involvement of urban residents in agriculture in countries in developing countries are substantial, although the percentage of participation in urban agriculture is highly variable from one city to another. A recent study of the FAO confirms that in Latin America and the Caribbean the practices of (intra- and peri-) urban agriculture are widespread. Urban agriculture activities include a

wide range of activities, varying from backyard and school gardening, to intensive production of flowers and small animals. It is practised, for example, by 40% of households in Cuba, and 20% in Guatemala and Saint Lucia. In Bolivia's main cities and municipalities, 50,000 families are (also) food producers. In Bogotá, 8,500 households produce food for home consumption. In Haiti, 260 hectares of land in and around Port-au-Prince and other towns are cultivated by 25,500 families (FAO 2014).

Similarly, for Africa another FAO study (FAO 2012) estimates that 40% of households in sub-Saharan cities are involved in intra- and peri-urban horticulture, either in "grow-your-own" schemes or as in market-oriented gardening. Ten countries provided estimates of the extent of horticulture practised in their principal cities and towns. The data indicate that horticulture was practised by almost half of urban households in Cameroon, one-third in Malawi, one-quarter in Ghana, and one in ten in Nigeria. In others – Botswana, Cape Verde, Gabon, The Gambia, Namibia and Senegal – participation was less than 10%. For capital cities, highest shares were reported for Lilongwe and Yaoundé, with 35% of households engaged in horticulture, followed by Nairobi (36%) and Accra (25%).

In a survey conducted in 2008–2009 in 11 Southern African countries, representing a total of 6,453 households in poor urban neighbourhoods, the authors concluded that 22% of them grow some food (Crush et al. 2011). The percentages are the highest (between 30 and 64%) in four cities with a high level of food insecurity and a local government with a positive or neutral attitude towards agriculture (Harare, Blantyre, Maseru, and Misunduzi). However poorer areas in some other cities were well below the average such as Johannesburg (9%), Gaborone and Cape Town (5%), and Windhoek and Lusaka (3%). This implies that poverty per se does not adequately explain the resort to household production as a source of food. On the other hand, the extremely low rates of participation by poor households in some neighbourhoods of Cape Town and Johannesburg may not be typical of the city or country as a whole.

While the above given figures mainly relate to participation of urban citizens in agriculture, a recent study, based on global data on croplands and urban extents using spatial overlay analysis, indicated that 60% and 35% of, respectively, all irrigated and rainfed croplands fall within a distance of 20 kilometres of a city (Thebo et al. 2014). Croplands *within* urban extents constitute a small, but not negligible portion at 67.4 million hectares (5.9%) of the sum of the maximum monthly irrigated and rainfed cropland area. A greater proportion of croplands *within* city extents are irrigated (35.0%) than their non-urban counterparts (17.7% irrigated). Urban croplands also proved to be extremely prevalent globally, with 87% of all urban extents with populations of over 50,000 people containing at least some area of irrigated urban cropland and 98% containing at least some area of rainfed urban cropland.

Economic performance

The economic performance of (intra- and peri-) urban agriculture builds on a number of complementary mechanisms that are differentiated according to specific geographical settings and types of socio-economic profiles of involved social actors. Depending on the specific combination of mechanisms, urban agriculture in different degrees may contribute to poverty alleviation and/or generating monetary income.

Subsistence-oriented urban agriculture activities enhance dietary improvement especially by including more fresh vegetables and livestock products and reducing food expenditures. Dubbeling (2013) discusses the role played by urban agriculture in reducing the vulnerability of the urban poor and vulnerable groups and enhancing their coping capacity by diversifying their food and income sources and increasing the stability of household food consumption and savings on food expenditures against seasonality, disturbances in food supply from rural areas or imports, increases in food prices and (temporary) losses of income from other sources. Also Zezza and Tasciotti (2010), on the basis of a review of various studies, indicate that there is a correlation between income derived from agriculture (mostly from livestock) and household dietary diversity. In addition, the self-production of food (e.g., vegetables, poultry) results in cash savings on food expenditures that otherwise would have to be purchased (Prain and Dubbeling 2011).

Urban agriculture activities with a semi- or full market orientation contribute to the generation of (complementary or main) monetary family income and the creation of employment opportunities in the city. The provision of monetary income by urban agriculture appears to be related to the nature of products and the amount of invested capital (in particular irrigation, value of animals, input use). Monetary income tends to increase from staple food (e.g., rice, maize or cassava) to horticultural crops and more so: aquaculture and livestock; and from seasonal-dry to all-year irrigated crops (Moustier and Danso 2006, van Veenhuizen 2007).

A systematic assessment of intra- and peri-urban agriculture activities in four cities (Accra, Ghana; Bangalore, India; Lima, Peru; and Nairobi, Kenya), implemented by RUA Foundation for the World Bank between March 2010 and May 2011, demonstrated the role of urban agriculture as an economic livelihood strategy (stable occupation and income) for low-income urban households (Prain and Dubbeling 2011). The same study found that urban agriculture is better rewarding than petty trading and casual labouring. Moreover, urban agriculture is highly compatible with several other kinds of employment and allows combining multiple income sources, which – for resource poor and vulnerable households – is a very important risk-reduction and adaptation strategy.

Mougeot summarised the research on the contributions of urban agriculture to urban employment and income as follows (Mougeot 2013):

124 Paule Moustier and Henk Renting

- Urban agriculture contributes to considerable low-cost job creation in periods of crisis; and has the ability to grow in periods of recovery (as in Cuba after the oil crisis, in Argentina after the 2001 monetary crisis and in many other countries after the 2007–2008 food price hikes).
- The higher the market value of the produce, the larger its contribution to household income.
- Incomes and wages in market urban agriculture compare favourably to those of unskilled construction workers, even of mid-level civil servants (up to five times higher than national per capita income in Dakar and Nairobi and four times higher than the national poverty line in Maputo; FAO 2012).
- Annual savings on food expenditures can add up to several months of a minimum wage;
- Savings and incomes from home-based urban agriculture allow re-investing in other income-generating home business to improve household well-being.
- Market oriented urban agriculture provides a relatively accessible entry on job market for youth (with beneficial impacts on income, food, trade learning, own small business, and self-esteem).

The specific role of urban agriculture in urban food supply

Though it is recognised that (intra- and peri-) urban agriculture will by itself not be able to feed entire cities (Cofie et al. 2003, Moustier 2007), it provides important and specific contributions to urban food supply and nutrition especially in the provision of perishable food commodities. For fresh perishable vegetables the relative contribution of urban agriculture in total urban food supply in many cities is around 60–70% (and during the dry season even higher), whereas for other fresh vegetables, eggs, milk, poultry meat, and pork these percentages may reach levels of 40% or even higher with large variations between the cities (see Chapter 6 for more details).

The specific role of urban agriculture in the urban food supply is characterised by complementarity of food supply flows and advantages of proximity in market organisation.

Complementarity of food supply flows

A growing body of evidence supports the complementarity between urban food supply from within the city region and from outside the city region including rural areas and imports (Moustier 2007).

Perishable food products

Basic food products (cereals or tubers) and dry vegetables (onions) come mostly from rural areas in the country or are imported from abroad, whereas urban agriculture in the provision of fresh perishable vegetables, mainly leafy vegetables, poultry and dairy products come mostly from peri-urban areas.

Fresh vegetables in this category are mainly leafy vegetables such as amaranth, water convolvulus, sorrel, okra, morel, cabbage, lettuce and chives and related leafy plants. These vegetables top the list of vegetables consumed in Africa and in Asia. These vegetables are well known for their short shelf life: after one day they are no longer fresh – and in many countries, freshness is an important criterion for consumers, most of whom do not own refrigerators. These leafy vegetables are mostly brought into town from distances of less than 30 kilometres from the city centres. The (intra- and/or peri-) urban percentage of supply in most cities in Africa and Asia is above 70%, depending on the administrative city boundary.

In the case of less-perishable vegetables, such as tomatoes and cabbage, which can stay fresh for a few days, supply varies from peri-urban to rural production and the peri-urban percentage of supply is highly variable according to the city under study and season. Dry onion, which is even less perishable, originates only from rural areas or was imported in the investigated cities of Africa and Asia.

Improved broiler chicken, milk and eggs come from city farms or from the suburbs. These farms are run by city dwellers, whereas local beef comes from traditional pastoral or agro-pastoral farms. Urban animal food products are also imported from lower-end European production facilities and pose strong competition to certain local products, such as chicken, despite differences in quality (Laroche-Dupraz et al. 2009).

Most fresh milk found in Kumasi is produced in the urban area at the local university. In the peri-urban areas of Kumasi, large poultry farms produce 80% of the eggs consumed in the city, while these farms suffer increasingly from cheap poultry meat imports, especially from Brazil (Cofie et al. 2003).

Complementarities in time

A comparative advantage of (intra- and peri-) urban agriculture is lying in the continuity of product supply, either because of specific natural conditions, or because urban farmers are able to sustain continuous production due to more specialised and irrigated systems – characteristics they may share with some specialised rural areas. This comparative advantage is observed especially in the dry season and for temperate vegetables (Moustier and Danso 2006).

The seasonal advantage of intra- and peri-urban agriculture is further enhanced by access of intra- and peri-urban producers to piped and recycled urban wastewater, which allows (part of) the urban producers to produce year round (Raschid-Sally and Yayakody 2008).

The advantage of proximity in market organisation

Short marketing chains

Food produced in and around cities in Africa and Asia is normally distributed through very short marketing chains. More often than not, the producers sell their produce to retailers/collectors at their farm field (often many of these collectors

are producers themselves) or at night at wholesale markets (e.g., 100 to 200 kg/day⁻¹ brought to the markets on overloaded bicycles, scooters or in minibuses). Another (smaller) part of the production is traditionally sold directly by the producers to consumers living nearby.

The short chain in the marketing of their products has a positive impact on the reduction of transaction costs in the marketing of perishable products of varying quality standards. The small-scale of production and low market prices make it attractive for producers to spend some hours in transportation to get as much as possible of the final price. Yet these characteristics contribute to further fragmentation of the final supply, while economies of scale could be reached by collective marketing. Experiences of collective marketing, until recently, are hardly developed in urban- and peri-urban areas though, or have had little success, given the variability of production in quantity and quality that makes farmers reluctant to “put their eggs in the same basket” as other farmers. Well-known success stories include the Horticulture Cooperative Horticulture Marketing Society (HOPSCOM) established in 1959. HOPSCOM buys vegetables and fruits from their members (over 16,000 horticulture producers in/around Bangalore and Mysore) in 13 procurement centres (direct cash payment) and sells these to consumers through a network of over 230 outlets located near bus stations and other easily accessible locations in the city (Chandrashekar 2011). Another success story is the AMUL Kaira District Dairy Co-operative Union, established in 1944, that buys milk from 231 primary cooperatives and sells fresh and packaged milk to consumers through its own distribution network (Laidlaw 1977). More recently, new innovative initiatives are found where intra- and peri-urban producers have identified reliable collective ways to market their products directly to urban buyers (consumers, restaurants, social food distribution programmes, etc.), as will be discussed in more detail in a later section of this chapter.

Geographical proximity is still important in the supply of perishable food commodities in Africa and Southeast Asia, especially for leafy vegetables, which play a strong role in the livelihoods of the poor, be they farmers or consumers. This situation can change with the development of transportation, cooling/storage facilities and increased pressure on urban land. For example, the comparison of areas supplying Hanoi between 2002 and 2011 (Sautier et al. 2012) shows that Hanoi province (which has been extended) supplies 75% of water convolvulus (rather than 89% in 2002), and nearby provinces have increased their share of supply. Cucumber is no longer supplied by Hanoi province, but is sourced in nearby provinces.

Next to geographical proximity, relational proximity plays an important role: the opportunities that urban producers have to establish direct linkages with consumers and other urban market parties especially to trade perishable products, as well as with urban sources of water and nutrients, or to gain direct access to information on market demand and consumer preferences.



FIGURE 5.1 Direct sales to consumers in Hanoi by a vegetable producer

Source: Moustier.

Low price differential

Short marketing chains contribute to a low price differential for products between farm and final consumption: in Hanoi these account for 30% on leafy vegetables, 35 to 50% for cabbage, and 75% for tomato (Gia 1999). In rural chains, wholesalers' incomes may be up to ten times higher than that of farmers, but the risks of bankruptcies are higher. Price differentials are higher for rural products due to higher transportation costs and higher wholesalers' margins. The references indicate the need for an update on the comparison of food price generation between rural and urban areas for a same commodity. Actually this kind of comparison is not easy because it is difficult to find the commodity with the same quality characteristics being available at the same time of the year, and with two possible origins, urban and rural. Simulations could be made on different scales of urban and rural production and transportation, and on their consequences on the final price formation.

Information on quality and control

The proximity of production areas to consumers and other urban market parties (e.g., restaurants, hotels, hospitals, school food programmes, supermarkets) makes it easier for consumers and other actors in the short chain to control quality, and at the same time, keeps producers from cheating on product quality. Proximity

enables frequent contacts between farmers, traders, and consumers and checks on the production process. Proximity between farmers and consumers is not a perfect substitute for independent public control, which is still deficient in many countries, but it does reinforce the incentive for farmers not to deceive their customers. A survey of 356 consumers in Senegal showed that the first two factors influencing purchase decisions are: (i) trust in the vendor; and (ii) safety of food. They complain about illnesses having increased, one possible source being the growing use of pesticides by farmers. Half of those interviewed worry about food safety (Badij 2008).

Freshness

In situations of limited access to fridges, freshness of produce is especially valued by urban consumers. In Thiès (Senegal), more than 90% of 150 interviewed housewives thought that vegetables should be grown nearby, for freshness and quick access (Broutin et al. 2005). In Hanoi, freshness is the advantage of peri-urban vegetable production cited by 74% of the respondents (out of 500) (Figuié 2004). However, production in urban proximity can also affect produce quality negatively where, for example, polluted irrigation water is used (see Chapter 7 for more details).

The development of innovative collective short food chains in city regions of the Global South

During the last two decades several important changes have been taking place in developing countries regarding the urban food supply and distribution system, including – amongst others – the rapid rise of supermarket chains and the rise of new types of short food chains in the city region.

The impacts of the supermarket revolution

The rapid spread of supermarket chains in developing countries started in Latin America in the second half of the nineties, followed by Asia some years later and most recently in Africa. A crucial factor was the liberalisation of retail foreign direct investment in the early nineties, while domestic policies have often included tax incentives for supermarkets. The spread was further accelerated by intense competition, consolidation and multi-nationalisation in the supermarket sector seeking to improve their competitive positioning. The supermarkets first established in the larger cities serviced the higher-income groups but over time gradually also spread into the food markets of the middle- and lower-income sections of the population and into smaller towns (Reardon and Gulati 2008).

The description that Reardon and Gulati give of the impacts of the quick spread of supermarket chains in developing countries may be summarised as



FIGURE 5.2 Supermarket selling fresh vegetables, Vietnam

Source: Moustier.

follows: Supermarkets – due to their economies of scale and efficient procurement systems – tend to charge consumers lower prices (first only in the processed and semi-processed food segments) and offer more diverse products of constant and good quality. However, the food security and nutrition impacts on poor consumers may be limited where price savings may accrue to the middle class, mainly due to uneven physical access to supermarkets for the urban poor and/or because the offer of the supermarkets does not include fresh vegetables and fruits or only at higher prices.

As supermarkets modernise the procurement of fresh produce (some 10–15% of supermarkets' food sales in developing countries), they increasingly source through wholesalers that are specialised in certain product lines from larger, more reliable and better-equipped farmers (land, irrigation, etc.) and good access to infrastructure (like roads and cold chain facilities). Where supermarkets cannot source from medium- or large-scale farmers, supermarket chains may – in partnerships with other organisations – provide assistance to local small producers with training, credit, and other needs in order to secure sufficient supply of required quality. Such assistance is not likely to become generalised, however, and so over time asset-poor small farmers will face increasing challenges surviving in the market since they can't make the higher up-front investments, nor meet the greater demands for quality, consistency, and volume.

They recommend developing-country governments to put in place policies to help both traditional retailers and small farmers to pursue “competitiveness with inclusiveness” in the era of the supermarket revolution. “Some countries are already taking such steps, and their experiences offer lessons for others” (Reardon and Gulati 2008).

Innovative short food chain initiatives

Especially during the last decade, in cities in developing countries, more and more initiatives with several types of innovative collective businesses for the direct sales of food products to consumers and other urban markets parties could be observed. Such innovative short supply chains include, amongst others:

- Box schemes (e.g., Harvest of Hope in Cape Town, pooling vegetables grown ecologically by community gardeners in low-income neighbourhoods and delivering these weekly in boxes to their clients in better-off areas of the city; Hoekstra and Small 2010).
- Door-to-door delivery (e.g., by fresh mushrooms producers in Accra; Danso et al. 2002).
- Farmer shops (e.g., the Dang Xa Cooperative in Gia Lam (peri-urban Hanoi, Vietnam) selling “safe” vegetables directly to consumers in their own shops in Hanoi; Moustier and Nguyen 2010).
- Farmers’ markets (e.g., in Rosario where the municipality supported the establishment of seven farmers’ markets in different parts of the city where urban producers can sell their produce directly to interested customers; Mazzuca et al. 2009).
- Online food shops (e.g., the Jinghe online store in Beijing that delivers seasonal vegetables, fruits, eggs, milk, oil, poultry meat, etc., produced by several cooperatives of peri-urban producers to staff of government offices and universities in Beijing that order these food products through the Jinghe website; Renting and Dubbeling 2013).
- Producers cooperatives directly delivering to restaurants, hotels, schools, institutions (such as, for example, the Van Noi Cooperative in Hanoi) that deliver fresh vegetables directly to vegetable shops and food stalls at markets as well as directly to METRO Cash and Carry Supermarkets (Ho Than Son and Dao The Anh, 2006, Moustier and Nguyen 2010).
- Food buyers cooperatives (for example, the Canastas Comunitarias in Ecuador: groups of urban poor that bi-weekly collectively buy a basket of ca. 15 food items from ecological producers in the city region; Sherwood et al. 2013).
- Mobile food carts (for example, the Kedai Balitaku social business in Djakarta that buys food from ecologically producing small-scale producers in the city region and provides “healthy and affordable menus” to mobile food vendors that sell these menus to children in underserved areas of the city; Rosenberg 2011).

A recent analysis of 26 innovative short food chain initiatives in developing countries (Renting and Dubbeling 2013) and of eight cases in Asia, Africa and Brazil (Moustier 2013) showed that these initiatives have a wide diversity in various characteristics: the products marketed, the ways in which the products are distributed to the clients, the quality attributes that are brought to the fore in the marketing (ecologically grown, fresh, produced within the city region, by small-scale farmers, fair prices for farmer and consumer, safe, . . .), the degree and type of certification, the degree of external support received and the degree and speed of growth.

Yet also some common characteristics can be identified:

- These new short food supply chain (SFSC) initiatives use in their marketing often specific attributes of their products and process of production which address consumer concerns (e.g., reduction in use of agro-chemicals, food safety, solidarity with poor small-scale producers in the city region) and in this way create a special market niche for their products, generating better price margins by excluding intermediaries in the value chain and by valorising distinctive product qualities.
- Many SFSCs mainly concern fresh foods (vegetables, fruits, eggs, and exceptionally dairy) and often focus on a limited number of products. SFSC initiatives are often crucial in developing markets for local and organic food where these did not exist yet.
- Even when there is expansion of the SFSC, its share in the total food supply is in general rather low. In general there is a considerable demand for the food products produced by intra- and peri-urban producers that often is exceeding the production by the producers associated with the SFSC. Urban consumers appear to be increasingly interested in urban, locally produced and healthy food, especially when they receive reliable information about where, by whom and how (food safety, ecological practices) these products are produced.
- Many SFSC initiatives are “social enterprises” in which profit maximisation is not the main driver, but the realisation of certain social goals (e.g., to enable marketing against fair prices for small-scale urban producers and/or create jobs for jobless youth and/or facilitate access to healthy food from known sources) although – of course – also social enterprises need to – at least – break even. Eventual surpluses are reserved for future investments rather than distributed to owners/shareholders.
- Many of these new SFSC initiatives are supported by some external organisation, be it an NGO or governmental organisation, during their establishment and early development. The degree and length of this support varies a lot. SFSC initiatives which build on a well-balanced mix of governance (public, market and civic) mechanisms appear to be relatively successful and more sustainable in the longer term.



FIGURE 5.3 An organic farmers' market in Laos

Source: Moustier.

Main drivers for the development of such innovative short food chains include:

- On the producer side: new channels for selling products, obtaining higher margins, more security of sale, more working capital (advance payments by consumers).
- On the consumers side: obtain healthier and/or safer food, solidarity with small farmers, strengthening the regional economy, facilitate ecological/responsible production and nature conservation in the city region.
- Local authorities may value also other benefits, e.g., reduction of urban food(t) print, or enhancing the resilience of the urban food system, or improving food security/nutrition of the urban poor.

The above-mentioned study by Renting and Dubbeling also observed that the development of innovative short food supply chains often reinforces the development of multi-functional (intra- and peri-) urban agriculture, and that the latter reinforces urban agriculture. The direct contact between producers and consumers during the food-selling activities in the city (at farmers' markets, in home delivery schemes, cooperative shops, etc.) leads to involvement of the citizens in activities in the surrounding agricultural areas, e.g., for recreational activities, or – the other way around – increased recreational visits by citizens to the surrounding countryside may lead to more direct food sales (on farm or through participation in direct marketing schemes).

Moreover, local authorities start to value eco-services provided by urban producers (such as management of flood zones, city greening, capturing CO₂ and reduction of urban food(t) print and reuse of recycled urban organic wastes and wastewater). Services that may lead to cost savings for public goods compared to state provisioning (e.g., waste disposal, green space management) and cost avoidance (e.g., health costs due to floods and rising temperatures due to climate change). This may result in more local government support for urban agriculture producers and their marketing efforts through various measures like preferential procurement of ecological food produced in the city region by small farmers, support for the establishment of farmers' markets and other direct marketing enterprises, and other measures (Renting and Dubbeling 2013).

Some lessons learnt by SFSCs in the South

Collective marketing schemes by small-scale urban producers often have limited access to mainstream food trading and distribution systems due to the requirements of supermarkets (demanding large volumes, uniform and high quality of the products, secured delivery throughout the year, timely delivery, etc.) and public administrations (product safety regulations, etc.), as well as their limited scale of production that make it difficult to compete with other suppliers due to economies of scale in production and transport and resource limitations that make it difficult to make larger up-front investments.

Market-diversification appears to be an important factor to reach scale. Two or more marketing channels may be combined: e.g., an outlet at farmers' markets with an arrangement with local institutions or restaurants and/or an online food shop.

In order to ensure stable consumer demand, it turns out to be important that food safety is secured and that the origin of the products is traceable by the consumers, that product quality is guaranteed and standardised, and that attention is paid to the presentation of products (branding, packaging, barcode, etc.). Also accreditation with local government or establishing a participatory quality control/guarantee scheme helped SFSCs to enhance consumer confidence and outreach.

Building stable relations with specific consumer groups is instrumental for the creation of stable demand and the articulation of consumer preferences. Various of the SFSC initiatives involve the consumers in one way or other in the planning of production and market organisation (consumer supported agriculture), e.g., farmers inviting consumers to the farms to get to know how the food is produced, consumers making orders in advance (allowing the farmer to plan the production better and secure sales) and jointly defining quality criteria for the products and production practices to ensure safe, healthy and sustainable production.

Customer convenience plays another important role in generating demand. Enabling ordering by mobile phone or internet and home delivery of fresh food saves the consumers time and money (transport costs) and widens the group of clientele of the SFSC substantially.

Also product differentiation plays an important role in enhancing the customer satisfaction of SFSCs. Many SFSCs still mainly market a limited number of products, often starting with basic seasonal fresh vegetables and fruits only. In order to enhance sustainability of the SFSC it is important to broaden the product offer to a broader range of vegetables and fruits, and also include eggs, vegetable oil, kitchen herbs, etc., as well as transformed and conserved food products (produced by cooperative agro-enterprises in the city region).

Consequences for local policies and key issues for research

Consequences for local policies

Local governments can play an important role in the development of SFSCs in the city region by facilitating public–private linkages, especially by creating a facilitating legal framework and enabling conditions for SFSCs and specific support for new SFSC business, especially small and medium and social agro-enterprises involving small-scale producers from the city region.

Such facilitating policies might include the following:

- Promote networking and cooperation among ecologically producing small-scale producers in the city region and between them and urban consumer groups and service providers.
- Establish a city region SFSC development centre that provides start-up funds, such as low-interest matching loans, and training, technical assistance and business development services to new SFSC initiatives and during their first phase of development: support in-business planning, assisting in establishing quality control/certification schemes and commercial brands, start-up matching funds and soft loans, access to information on processing and packaging technologies and relevant policies and regulations (e.g., on food safety, waste management, etc.).
- Address the infrastructure needs of SFSCs for procurement, processing, warehousing, and distribution (establishment of farmers' markets or shops, regional food hubs/food procurement centres, provision of land/buildings for processing, storage and packaging).
- Adopt legislation and establish programmes regarding preferential local government food procurement of (nutritious, ecologically and fairly produced) food from small farmers in the city region (for canteens in offices, schools, hospitals, jails, food aid programmes, community centres, etc.).
- Organise and support campaigns to enhance consumer awareness about the need to eat healthy food and the importance of supporting ecologically produced fresh foods from the city region.

Box 5.1 provides an example of the many municipal or metropolitan programmes that support the development of short food supply chains in Latin America, Asia, the Middle East and Africa.

BOX 5.1 URBAN AGRICULTURE PROGRAMME ROSARIO, ARGENTINA: PROMOTING URBAN PRODUCTION, PROCESSING AND MARKETING

In response to the economic crisis of 2002, the municipal government of Rosario established the Municipal Urban Agriculture Programme with a very clear vision of establishing urban agriculture as a permanent and commercial activity in the city.

Vacant land in the city was mapped and areas that could not be built on and were suitable for farming were provided to citizens for gardening and agriculture. Basic equipment, training, seed, tools and compost were supplied. Within two years, some 10,000 low-income families were producing (organically grown) vegetables, earning from sales up to US\$150 a month, well above the poverty line. To enhance security of tenure and facilitate permanent urban agricultural cultivation, in 2004 an ordinance was adopted that formalised grants of vacant urban land to residents for agriculture, and the Municipal Planning Secretariat integrated agriculture into Rosario's urban development plan.

A key part of its long-term strategy was the establishment of a system for the direct marketing of gardeners' produce amongst others by providing space, funding and technical support for the establishment of farmers' markets and associative agro-enterprises for the processing of vegetables, fruit, and medicinal and aromatic plants.

Also the city's commercial gardeners were supported to organise themselves in the Rosario Gardeners' Network and have been enrolled in the National Registry of Family Farmers, which entitles them to apply for municipal funding for their own investment projects, technical assistance and social benefits.

Source: FAO 2014.

Emerging themes for future research

On-going research in the context of the EU funded SUPURBFOOD programme (www.supurbfood.eu) shows that information on the business models applied by SFSCs in the Global South and their costs-benefits, their organisational and logistical setup, customer segments and market demand is still very scarce. Especially very few quantitative data can be found on costs and profits made and the economic margins realised by SFSC initiatives. This can be because of a real lack of data available, or, in other cases, the information is available but restricted because it is considered market-sensitive information or of poor quality. This constitutes an important bottleneck for the further analysis and development of business models for urban agriculture-based short chain enterprises.

Another research gap identified is the need to better understand the specific roles of governmental organisations, private entrepreneurs and civil society groups play in the organisation and development of SFSCs, and how these roles influence the sustainability of the SFSCs. What should be specific roles played by each of these sectors? What specific mix works best? This includes facilitating and supporting roles as well as taking part as a partner in the constitution and implementation of the SFSCs and their governance mechanisms.

Moreover, existing concepts and methods for business analyses are not always well-suited for application within the framework of SFSCs indicating a need for conceptual and methodological development, e.g., adaptation of the “business model canvas” approach to urban food procurement, processing and distribution in SFSCs in the context of countries in the Global South.

More research is needed into specific constraints encountered by SFSC initiatives in developing countries and through which strategies these might be tackled best. Issues related to enhancing scale and economic sustainability need special attention as well as issues related to access to (soft) financing and technical, marketing and management support services.

Also the value of urban agriculture and short food chains to the urban economy needs to be better estimated. This is first in terms of updated data on the contribution of short food chains to urban food consumption through self-consumption and market access, which requires rigorous consumer and market survey. This is also in terms of jobs and income generated. But also the economic value of the social benefits and eco-services provided by urban food systems should be estimated. A related challenging question to be further explored is how these social benefits and public costs savings provided by urban agriculture can be translated into economic opportunities for the urban producers and related SMEs in the city region.

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