Shortening food supply chains: A means for maintaining agriculture close to urban areas? The case of the French metropolitan area of Paris

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A B S T R A C T

The development of short supply food chains (SSFCs) is a noteworthy phenomenon in Europe. This paper questions whether these SSFC contribute or not to the preservation and/or development of urban agriculture in the Ile-de-France Region (Paris and surrounding areas), where agriculture still represents a major land use activity (more than 50%). Based on documentary and empirical research the analysis shows that a quarter of farms are involved in SSFC in this region. Taking different forms, these SSFC initiatives are for the majority very recent, they often develop in the frame of hybrid forms of farming. Even though the contribution of SSFC in the total food supply of the Parisian region is poorly informed, and probably very small, the recent interest of consumers, inhabitants, and territorial stakeholders in organic and/or local food is real and has encouraged various types of incentives and commitments. The development of SSFC in the Paris region nevertheless faces numerous obstacles such as the scarcity of land and labour and the environmental impacts that still remain controversial. Promoting the role of SSFCs in the preservation of a sustainable urban agriculture requires access to more statistical and comparative data, which are currently unavailable.

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Introduction

During the 20th century, the countryside around Paris and its neighbouring towns virtually ceased to supply these urban areas with food. Whereas until then they had been the main source of the city’s food (Fleury, 1996; Fleury and Moustier, 1999), the development of transport, the rapid growth of globalized agri-food systems via the internationalization of markets, and the development of mass retailing (Morgan et al., 2006) all but disconnected the city from its surrounding agriculture. At the same time, the vegetable green belts that had formerly supplied most of the fresh products needs of cities were partially urbanized (Poulot-Moreau and Rouyres, 2000), pushing agriculture further away. Yet the food function of this urban agriculture has not entirely disappeared, at least not in Europe. In cities like Paris, the persistence and success of farmers’ markets has been perpetuated at least as a cultural phenomenon. Moreover, since the food safety crises of the late 20th century, mistrust in the globalized agri-food system has resulted in the development of so called “alternative food chains” providing people with local quality products, mainly through short supply food chains (Renting et al., 2003; Sonnino and Marsden, 2006). The development of these alternative food chains (CSA’s schemes, box schemes, direct selling, producers’ shops, etc.) re-creates forms of proximity relations between producers and consumers through a niche market expected to be more profitable (in comparison to standard long supply chains). As such it opens new opportunities to local urban agriculture that is severely threatened by global competition and urban sprawl.

Supplying cities via short supply food chains (SSFCs) may be a way of maintaining or even of developing local agriculture, particularly specialized activities such as market gardening and fruit farming. The question is whether this is actually feasible and, if so, under what conditions. In Western Europe in particular, a tension exists between, on the one hand, the ongoing urbanization of agricultural land and, on the other, diverse public and private attempts to protect this land, often for its newly-discovered food function (Overbeek et al., 2006; Bontje, 2001; Tötzer, 2008; Vejre, 2008). Evidence of this includes the development and use of industrial land by certain cities in the US (i.e. Pittsburgh and Detroit), and the growth and diversification of food SSFCs even though their urban forms are still not well known (Marsden et al., 2000; Aubry and Chiffolleau, 2009).

The objective of the paper is to investigate the role of SSFCs in a potential revival of the food supply function of agriculture located close to cities. The challenge is then to analyse whether SSFCs con-
tribute to the development of urban agriculture, that is, an “agriculture located within a city or on its periphery, the products of which are at least partly destined for the city, and for which alternative agricultural and non-agricultural uses of resources are possible” (Moustier and Mbaye, 1999, 8). This paper is based on a conceptual framework grounded on proximity relation analysis (Torre and Rallet, 2005; Boschma, 2005) and on the combined analysis of the different stakeholders involved in SSFC initiatives. The former is used to analyse the great variety of SSFCs, the latter to understand the main constraints and opportunities of their development. The paper draws on the analysis of the case of the metropolitan area of Paris (the city of Paris and its outskirts), which constitutes the NUTS 2 Region of Ile-de-France.

After presenting key concepts on SSFC and a typology of SSFCs based on the type of proximity relations they induce (Part 1), Part 2 explains the methods used for the case study. Part 3 presents the development of SSFCs in the Ile-de-France Region (Section 3.1), the forms of involvement of consumers and inhabitants in the process (Section 3.2) and the role of local authorities in the promotion of SSFCs (Section 3.3). Finally, the paper concludes on a critical discussion and a synthesis of the obstacles and opportunities for the future development of SSFCs in this region.

Key concepts about (SSFCs)

Short supply food chains have been central to a wide range of research on the recent emergence of alternative forms of agriculture and food supply in countries of the global North and West (Goodman, 2003). They have often been linked with the so-called quality turn in food as they are associated, among others, to more traditional, locally embedded and sustainable farming practices (Ilbery and Maye, 2005a; Goodman, 2003). Some authors (Watts et al., 2005) have nevertheless shown that this link is not automatic, as the “local” alone is not a guarantee of “a strongturn to quality based production” (Winter, 2003, see also Ilbery et al., 2004).

In relation to these alternative food chains or networks (Renting et al., 2003), SSFCs induce forms of food relocation through the shortening of supply chains. Parker (2005) characterizes these chains by the very small number (or even the absence of) intermediaries between producers and consumers, and/or by the short geographical distance between the two (they idealistically fulfill both conditions). In other words, SSFCs are about the rebalancing of proximity between producers and consumers. SSFCs have very different forms: direct selling in farmers’ shops or on farmers’ markets; box schemes; Internet selling, etc. Various typologies of SSFCs have been provided to analyse this diversity. Marsden et al. (2000) and Renting et al. (2003) distinguished “face to face”, “proximate” and “spatially extended” SSFCs, as they focused on the mechanisms which enable these relations between producers and consumers to be extended in time and space. Other authors have provided typologies based on the number of intermediaries (direct selling on farms, indirect selling in supermarkets for example) and the individual/collective character of the chain (Chaffotte and Chiffoleau, 2007), as they are more interested in the nature of social relations between the two.

These typologies emphasize the centrality of proximity relations in SSFCs, be they geographical or social. The revival of the food supply function of agriculture will thus depend on the reinforcement of these proximity relations. The next section presents a typology enabling us to understand more fully the proximity relations involved in SSFCs.

Proximity analysis towards a proximity-based typology of SSFCs

According to the proximity approach (Torre and Rallet, 2005; Boschma, 2005), proximity can be either geographical or organized. Organized proximity (Torre, 2010) relates to the way in which actors can be close, irrespective of the geographical distance. This proximity is based on two fundamental logics: membership (the feeling of belonging to the same network or club, e.g. member of an AMAP®) and similitude (the fact of recognizing oneself in a common project, mentally adhering to common categories, sharing values, sharing a certain idea of quality of life and agricultural products). Thus, participating in an AMAP, ordering online a specific wine that one bought on holiday at a producer’s wine cellar, buying food at the farmers’ market from the same producers that one has known for years, and so on, are all based on this type of proximity and on the implicit sharing of values and objectives. As such, Renting et al. (2003) see organized proximity as a necessary condition for fundamental “value laden information” held by the food sold through alternative food chains; that is, information (about origin, specific quality, etc.) that connects/relates the consumer to the place of production (Ilbery et al., 2004; Ilbery and Kneafsey, 1998). As Ilbery et al. (2004) put it, this information has a “strong territorial focus”. Generating closer relations between producers, consumers and institutions is therefore a fundamental aspect of the potential endogenous (rural) development dynamics of alternative food chains.

Geographic proximity relates to the distance between actors. However, as Torre (2010) explains, although measurable, this proximity is relative to the morphological characteristics of the territory and to available means of transport. Therefore, it is not experienced in the same way, depending on whether the journey is on a comfortable main road, on small mountain roads, or through city traffic jams.

The limits of what is geographically close or not vary with the actor’s perceptions. In the case of SSFCs, this limit varies according to, for example, the context (urban/rural) and the type of actors (producers/consumers) (Sefá and Qazi, 2005). In France some see 200 km as the right distance for SSFCs (Locavore Guide: Novel, 2010). In 2009, the French Ministry of Agriculture adopted an official national definition of SSFCs: a supply chain is said to be short when it has at the most one intermediary between the agricultural producer and the consumer (Aubry and Chiffoleau, 2009; Ministère de l’Agriculture et de la pêche, 2009). Nothing is said here about distance. The Ministry thus emphasized the organizational dimension of the supply chain rather than geographic proximity.

The following typology (Fig. 1.) distinguishes SSFCs according to the forms of proximity between producers and consumers.

Four types of supply chain can be distinguished: supply chains with loose relations, with indirect relations, with distance relations, and with direct relations. The latter three are SSFCs.

The first case, supply chains with loose relations, corresponds to classical long supply chains. Here the relationship between producers and consumers is very loose or has even disappeared, so that the trade is anonymous. Even though products are always traceable (this is mandatory, by law), their origin is often coded and barely comprehensible to the consumer. In cases where traceability enhances the product value (e.g. AOC and “farm” products), the relationship is based above all on knowledge mediated by labels and other marks of confidence (experts, newspapers, etc.). Note that in all cases the producer has an anonymous and partial knowledge of the demand for which he/she is catering.

The second case, supply chains with an indirect relationship, is the first type of SSFC. This is a local supply (geographical proximity) yet without a direct relationship between producers and consumers. An intermediary (producer’s shop, restaurant, supermarket, etc.) mediates the relationship and guarantees it. Often it provides information on the producer (photos, farm’s address, etc.). The fact of belonging

1 Association pour le Maintien d’Une Agriculture Paysanne: non-profit organization to safeguard small-scale farming (French version of the US community supported agriculture CSA). Consumers and farmers enter into a contractual relationship where the former participate in choosing the crops to be planted and in helping on the farm, in exchange for some of the produce.
to a common territory plays an important part here and guarantees quality.

The third case, supply chains with distance relations, is the second case of SSFC. It does not imply the co-localization of producers and consumers. The principle here is neither to consume nor to sell locally. What counts is proximity in terms of confidence and shared values (quality, modes of production, convivial interaction, specificity of products, etc.). Usually consumers want specific goods (wine, local traditional products) or wish to maintain a relationship started previously (e.g. on holiday or in their home region), while producers wish to expand their market.

The last case, supply chains with direct relations, corresponds to SSFCs in the full sense of the term. These SSFCs combine geographical and organizational proximity, and encompass traditional forms of direct selling: farmers markets, AMAP, boxes, fairs, etc. The relational dimension is potentially strongest here because the producer meets the consumer.

Cases II and VI are the basis of “local food” approaches because they ensure physical proximity between the places of production and consumption. The cases III and IV group together most of the typical direct selling supply chains. Finally, the different types of supply chain cited here can in practice be either strictly individual or collective (producers’ interest grouping (Chaffotte and Chiffoleau, 2007) or consumer-based as in the case of the AMAPs.

The relative importance and the precise modalities of each of these cases also depends on the territory considered: in urban areas, we posit that most of these short chains are the result of relations of both geographic and organized proximity, which is not always the case in less densely populated rural areas (Battershill and Gilg, 1998; Selfa and Qazi, 2005). Even though SSFCs in urban and peri-urban areas afford particular development opportunities (proximity of centres of consumption and growing interest by urban-dwellers), they are – as we will see in the case of the Paris region – also confronted with specific constraints (competition with the city for productive resources, risks of urban pollution, logistic problems, etc.) (Rouyres, 1994; Moustier and Danso, 2007; Morgan, 2009).

Materials and methods

The Parisian region context

Notwithstanding its 11 million inhabitants, the metropolitan area of Ile-de-France (NUTS 2 region) is still a large agricultural region (see Map 1). Close to 50% of the territory is agricultural, that is, 580,000 ha and currently about 5300 farms (IAU, 2006). Most of these farms operate on an industrial scale, producing cereals for the national and international markets (94% of the region’s agricultural area and 70% of all farms). Hence, they do not produce directly for the many inhabitants living close to them.

The region is also characterized by the size of its supply structures. The international wholesale market of Rungis, created in 1969, has become the largest platform for fresh products in Europe. In addition to selling products from across the globe, it is a major market place for many food products from Ile-de-France.

On a regional scale, over 1400 of the 5300 farms (i.e. about 26%) are nevertheless involved in some form of SSFC (Agreste, 2005). This is more than the national average, which was around 16% in 2000 although it seems to have increased to 21% in 2010. Direct individual selling is the main form of SSFC. 60% of the farms involved sell products on urban farmer’s markets. However, unlike other French regions such as the Alps or Provence collective shops are very rare in the region. The agricultural products involved in SSFC are fruit and vegetables, as well as certain dairy products, poultry and honey, which in terms of the region’s agricultural land use are marginal. Two main types of farm are involved in these SSFCs:

(i) Specialized farms (market gardens, fruit farms, honey farms, small-scale livestock farms: 46%): these farms are very fragile, especially when they operate in long supply chains, in which case they suffer directly from low prices on the wholesale market (Rungis) due to international competition. They also have to face increasing costs, mainly for labour. Their survival is therefore threatened. Selling their products through SSFCs appears as a way for them to get better prices. Today the average size of these specialized farms is less than 12 ha. They employ 2.2 permanent full-time equivalents and frequently use seasonal labour (IAU, 2006).

(ii) Mixed farms (34%): these farms are more recent in the SSFCs approach. Essentially cereal producers, they additionally produce and sell specialized products from small-scale livestock

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<th>GEOGRAPHICAL PROXIMITY</th>
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<td>Selling to supply platforms</td>
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<td>LONG SUPPLY CHAINS</td>
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<td>Case III</td>
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<td>Direct (mail order selling)*</td>
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<td>Box schemes sold by mail order? catalogue*</td>
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<td>SHORT SUPPLY CHAINS</td>
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<td>Fairs*</td>
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<td>SHORT SUPPLY CHAINS</td>
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Fig. 1. Typology of agricultural SSFC based on proximity relations.

1 Rungis international wholesale market is a very large wholesale market for fresh products that operates at the European and worldwide level.
2 The recent national census of agriculture (2010, currently being processed and published) has for the first time in France surveyed SSFC more deeply than usual. Previous data were more extrapolation of discontinuous regional and local data. As a result, trends were not well informed statistically.
3 The remaining 20% is made up essentially of associative-type organizations (e.g. aid through employment).

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farming and/or market gardening. Their average surface area is 76 ha (against 136 ha for “pure” cereals farms in 2000) and they have a high employment rate (4.4 full-time equivalents, on average) (IAU, op.cit.).

The closer one gets to Paris, the higher the proportion of farms involved in SSFCs, whatever mixed or specialized.

Survey methods

To study urban agriculture and SSFCs we combined two main types of data: (i) Data stemming from the analysis of the available literature on the regional agriculture; that is documents produced by regional agricultural and territorial institutions such as chambers of agriculture, regional council and services, local consumer unions and civil society organizations involved in the preservation of regional agricultural land. In particular, we analysed the documents of the Regional master plans since the 1960s, to assess the position taken by public authorities towards agriculture in Ile-de-France. (ii) Data stemming from semi-directive interviews with decision-makers, consumers and farmers; that are the three pillars of the endogenous development dynamics that are expected to derive from SSFC development (Ilbery et al. (2004)). The territorial approach (Crevoisier, 2004) was used to analyse the results in order to identify the technical (resources mobilized, know-how, concrete organization of supply chain, etc.) socio-institutional (actors, and actors dynamics) and territorial (proximity and distance relationships, anchorage and mobility) dimensions of SSFCs.

The first survey consisted in interviews with local/regional decision-makers and extension services of the Region. The following people were interviewed: 2 officers in charge of the diversification of the production system from the two chambers of agriculture present in the Region, a staff member of the Amap regional association and 5 members of the Regional Council in charge of agricultural issues. The latter were directly interviewed and/or their proposals and analysis registered during workshops on local agriculture and SSFCs organized over 3 years.

The second survey consisted in interviewing local farmers in three areas of the Paris Region. These three locations were chosen in order to represent a gradient of global presence of SSFCs:

(a) An area a priori without SSFC initiatives, specialized in lettuce production for the wholesale market of Rungis: the Plaine de Bière (PB). The Plaine de Bière is located at 35 km south of Paris. It is of about 4000 ha of agricultural land with 56 existing farms and;

(b) An area characterized by a high proportion of farmers involved in SSFCs: the Plaine de Versailles (PV). The Plaine de Versailles is located 15 km west of Paris. It is of about 8200 ha of agriculture land. 44% of farmers are involved in SSFC (28 out of 60 farms in the whole Plaine), almost twice the regional average.

(c) An intermediate situation: the Plateau de Centre-Essonne (PCE) is located 20 km south east of Paris. It contains about 4,800 ha of agricultural land held by 58 existing farms.

More than 60 farms were visited: 10 of the 15 existing farms with market-vegetables production systems in the Plaine de Bière, 26 of the 28 farms with identified SSFCs in the Plaine de Versailles, and 26 of the 58 existing farms in the Plateau de Centre-Essonne.

This survey aimed at describing the production and commercialization systems of the farms. The chosen crops, their spatial and temporal combination on the farm and the resources mobilized to manage them (labour force, inputs, equipment) were described. The commercial systems used were listed, for each of them: the crops concerned were identified, the share it represented in the total activity of the farm was estimated by the farmer (it was nearly impossible to obtain from farmers precise economic data on this) and a diagnosis with the farmers of the key points for
the maintenance and/or development of SSFCs on the farm was established. The analysis of the content of the interviews was qualitative. The interviews were not recorded but detailed notes were taken during the interview and minutes were written for each interview. The analysis was based on the notes and on the minutes.

In one case (Plaine de Versailles) we complemented this farmers’ survey with a specific survey of consumers on urban markets and on pick-your-own farms. This case and focus were chosen because of the relative importance of SSFCs in the territory (44% of the farms), as well as the number of local urban markets (9) and of pick-your-own farms (3 of them are of the biggest in France). 90 consumers were surveyed on urban markets on the frequency of their food purchases at those markets, their knowledge of local products and local producers, and their attachment to SSFC. 110 customers of pick-your-own farms were surveyed on the same topics and on their frequency of picking. These specific results will be compared here with those of more global consumer surveys at regional level.

Results

The SSFC in Île-de-France: mainly direct relations?

Surveys results

The farm surveys show a wide diversity of short supply chains. While the amount of traditional on-farm selling and local farmers market selling remains steady and is even increasing (on farm selling), other types of selling also exist: “pick-your-own” farms (Rouyres, 1994), box schemes (e.g. AMAPs), online sales, and direct deliveries to restaurants, canteens and supermarkets.

The studies also show that farmers tend to combine different types of supply chain, rather than specializing in a single one. On the Plaine de Versailles, for example, seven types of SSFCs were used by the surveyed farms. Combined in various ways each farmer mixes at least three different types of SSFCs. In 14 out of 26 cases, a link is also maintained with the global market long supply chains (Table 1). The complementarities between both short and long chains enable farmers to complement their supply with additional products (in quantity and variety, according to the season) and to meet consumers’ demand. It also enables them to sell their surplus in shops or at the Rungis wholesale market in summer, for example.5 The third important characteristic is participation in employment. The 26 farms in SSFCs provide 170 permanent jobs and over 200 seasonal jobs per year (in Île-de-France there is on average only one full-time employee per cereal farm of 150–180 ha Agreste, 2005). Some of these supply chains, which did not exist 10 years ago, are truly innovative. The AMAPs first came into existence in France in 2003; box schemes to firms were started on the Versailles Plain in 2006; and the selling of boxes by farmers in railways stations started in 2007 (Vassor, 2007, Aubry et al., 2012).

A specific study on market gardeners in SSFCs (Pourrias, 2010) confirms these results. It reveals, in particular, the increasing weight of direct selling in supermarkets over the past 2–3 years.

On the Plaine de Bière and the Plateau Centre Essonne, other results were found: on the Plaine de Bière, some 15 lettuce producers have been operating since the mid-80s when they got relocated from the nearest peripheral zones of Paris because of growing urbanization and specific problems of land pollution.6 They were set up on the basis of a production-commercialization system of lettuce production for the wholesale international market of Rungis (15 km from the Plain), without taking potential local consumption into account. 5 of the 15 initial farms had no successors, but 5 of the 10 remaining market gardeners have recently (since the early 2000s) developed one or two forms of SSFCs on their farms, combined with long supply chains (Petit et al., 2009). These forms are less diversified than the Plaine de Versailles ones but more adapted to their specialized production system. They consist mainly of: (a) selling a part of their lettuce production to the “Carreau des producteurs”, a specific area of the wholesale international market of Rungis, where restaurant owners seeking fresh produce buy different types of lettuce directly from producers. This “Carreau” was built at the beginning of this century with the support of the Regional Council (see below); (b) direct selling to local supermarkets. Conscious that consumers are increasingly interested in “knowing” the origin of the vegetables they eat, more and more supermarkets are seeking suppliers close by. In this way they avoid transport constraints, give themselves a sought-after “local” image, and are able to practice an advantageous price policy for the farmer. Farmers say they are developing these two types of SSFCs largely because of the decline of prices on the Rungis international wholesale market, due to competition of other countries that have better climatic conditions and lower labour costs (Spain and Morocco for example).

The example of the Plateau de Centre Essonne (Aubry et al., 2005) shows an intermediate situation: only 5 of the 26 surveyed farms have at least one form of SSFC, and these are essentially on-farm selling. According to farmers, this choice results from the type of habitat: the Plateau is typically an area of small residential villages, with no close urban markets. The residents are working in Paris and are interested in buying vegetables in their neighbourhood. Most of the market-gardeners with direct selling orientation are diversified: some also produce chickens. The first AMAP of the territory was created with one of these producers in 2008, that is, 4 years later than in the Plaine de Versailles.

The three cases show the role of the territory’s characteristics, in terms of geography and history, in the definition of the shape and intensity of SSFC. For instance, path dependency processes can be observed in the Plaine de Bière case.

Comparing these results with the proposed typology of SSFC

Our results show that the initial hypothesis (urban context favours case IV – supply chains with both strongly organized and geographical proximities) is not entirely verified: supply chains with direct relations (case IV) are indeed the most frequent and the most popular but supply chains with indirect relations (case II) are also developing steadily (boxes via intermediaries, direct selling in supermarkets, etc.). These are nevertheless all cases of “local food” approaches. The cases of supply chains with distance relations (case III) are rare. They principally concern prestige products sold abroad (e.g. “Potager du roi” jams from Versailles Palace sold via Internet mainly to Japan. We have nevertheless found

Table 1

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<tr>
<th>Diversity and combination of SSFC on Plaine de Versailles farms.</th>
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<tr>
<td><strong>Number of farms (total 26 farms)</strong></td>
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<td>Urban markets</td>
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<td>On-farm direct selling</td>
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<td>Restaurants</td>
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<td>Long supply chains</td>
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4 (3 in AMAP).

5 Producers in the AMAP system may be confronted in summer with an over-production at a time when their “customers” are on holiday.

6 Some of the Plain de Bière producers were previously farming on the old mud waste spreading zone of Paris, the Achères Plain. This plain was formerly known for being one of the main production areas for farmer’s markets. Because of pollution (due to waste mud), farming was progressively forbidden until full prohibition in 1999.
cases of short supply chains mixed with long supply chains with loose relations (case I). The majority of Ile-de-France farmers, including AMAP farmers, regularly use this type of long supply chain which, notwithstanding its drawbacks, does offer effective services with minimal commitment for selling or buying their products.

Another noteworthy finding is the weakness of producers' collective organization in SSFC (today frequently regretted by regional government authorities). Historically, individualism has always been a strong characteristic of market gardeners in particular: as a farmer commented: “Until now, we were really fortunate: consumers were at our door”. Whereas there is a wish to see schools and other canteens supplied with local products, the authorities believe that this would require the grouping together of producers able to supply the necessary volume and diversity. In this respect little progress has been made until now, even though the first experiment was launched at the end of 2009.

*From the point of view of consumers and locals: an increasing demand for local products and initiatives to safeguard “their” agriculture*

There is a large demand by Ile-de-France consumers for direct purchases of food ([Collectif, 2007](http://collectif.fr/)). Depending on the area, between 32% and 44% (an average of 35.7%) of the consumers interviewed buy directly, at least once a week, some food on local farmers' market or on on-the-farm (farm stall, pick-your-own, etc). Other canteens supplied with local products, the authorities believe that this would require the grouping together of producers able to supply the necessary volume and diversity. In this respect little progress has been made until now, even though the first experiment was launched at the end of 2009.

*The specific consumers survey of the Plaine de Versailles*

This regional trend is confirmed and specified by the survey on the Plaine de Versailles consumers at farmers' markets ([Mejia Hernandez, 2006](http://mejiahernandez.com)) and on pick-your-own farms ([Vassor, 2007](http://vassor.com)). In the Plaine de Versailles territory, 9 urban markets exist with a total of 159 food places, for a consumer basin of nearly 140,000 inhabitants. The 90 interviewed consumers in these urban markets buy on average vegetables twice a week; they spend on average €14 per week (regional mean of €9). 61% of these consumers consider that freshness is the main criterion for buying fruit and vegetables, and more than 90% consider that this expectation is always fulfilled on the farmers' markets. The search for social relationships with producers appears to be the main reason for buying directly from them (Fig. 2). The same type of result is found with pick-your-own customers: 90% think that buying directly from the producer, whatever the type of SSFC, is both a guarantee of product quality and an efficient form of support to the producer. One ambiguity that was nevertheless underlined is that only 10 local producers do actually sell their production on these 9 Plaine de Versailles markets. Thus, the majority of the 159 market sellers are not farmers themselves but buy part of the produce they sell on local farms and the rest on the international wholesale market of Rungis. Consumers nevertheless have a good image of the markets and are not always fully aware of the possible confusion between local selling on markets and local production: 72% of the market customers and 55% of the pick-your-own customers do not consider that a local “Plaine de Versailles” brand would be an incentive for them to buy. Inter-personal producer- (or seller-) consumer relations prevail. Local consumers attach importance to the fact of personally knowing the producer and/or the seller. This seems enough for them to guarantee the freshness and overall quality of the products ([Mejia Hernandez, 2006](http://mejiahernandez.com); [Vassor, 2007](http://vassor.com); [Collectif, 2005](http://collectif.fr/)).

*Inhabitants initiatives to support local agriculture*

The rapid growth of AMAPs in the region shows an additional degree of involvement of the inhabitants in perpetuating local food-producing agriculture: they see themselves as “consum'actors.” About 100 AMAPs existed by the end of 2009 in Ile-de-France, involving just under 10,000 households. The region was however no longer able to meet the demand, due to the lack of producers and to problems of available land for new farmers to start up. Geographically the system is also spreading: born inside Paris in 2003, the AMAPs started to spread to the close suburbs (like Plaine de Versailles) in 2004 and then to distant suburbs in 2006, before proliferating throughout the region. Today the local supply, especially of market-garden products, is saturated, whereas the urban demand is growing. Yet little is known about the role of these SSFCs in supplying the regional food demand. Although comparative data on local production and consumption in Ile-de-France in general do exist, it is difficult to quantify exactly what comes from local production, in the region's overall consumption. The considerable weight of the international wholesale market of Rungis (through which most Ile-de-France products are sold), and the importance of mass retailing (over 62% of the local supply of fruit and vegetables) preclude clear traceability on what actually happens with local agricultural products ([IAU, 2006](http://iau.fr/); [Hébel, 2010](http://hebel.org/)). This local production/consumption relationship has nevertheless been measured for certain fruits and vegetables. About 4% of the apples eaten in Ile-de-France are grown in the region, and the regional production of lettuce represents 80% of the regional consumption ([Hébel, op.cit.](http://hebel.org/)). Moreover, this local consumption of local products does not necessarily take place via SSFCs. For example, almost all lettuce grown in Ile-de-France is sold at Rungis – which certainly does not make it easy to trace its final destination, as we showed in the Plaine de Bièvre case.

Despite this relatively small share of local production in the food eaten in Ile-de-France, the Region's inhabitants sometimes take initiatives themselves to protect “their” agriculture, which many of them see in terms of its food-producing function. This is the case namely of the ten “agri-urban” projects in Ile-de-France, where farmers, association of inhabitants and local councillors draw up joint projects for the territory ([IAU, 2006](http://iau.fr/)). Developed between 1995 and 2004, these agri-urban projects are sometimes supported directly by the Regional government or by the European Union (Leader Project, such as in the Plaine de Versailles). SSFCs and food production for local consumption are the main objectives of the agri-urban project on the Plaine de Versailles; in other agri-urban projects of the Region, the use environmental-friendly production methods and the re-embedding of agricultural practices are put forward (development of organic market gardening, reduc-

Fig. 2. Reasons for buying directly from farmers (survey of 90 consumers in 9 urban markets of the Plaine de Versailles ([Mejia Hernandez, 2006](http://mejiahernandez.com))).
ing the use of chemical inputs, promotion of autonomous agricultural inputs, including local organic matter, etc.); defending agricultural land in keenly sought-after areas appears also as the main action of emerging agri-urbain project (see for instance in Saclay and in the Plateau de Centre Essonne). As structured organisation, AMAPs are often a means for raising consciousness about farmers’ land problems, and lobby the Regional Council. Cities in the Paris region are thus urged to pre-empt agricultural land on sale, or to revise the land use of “vacant” land, under the impetus of new AMAPs trying to set up “their” market gardener. Although an exhaustive count is not possible, due to their local and largely unstructured nature, the number of projects to set up farmers in this type of arrangement is estimated by the Regional Council and the Chambers of Agriculture at 10–15 per year. Are not we witnessing the birth of a YIMBY (Yes In My Back Yard!) phenomenon, where the actors struggle not to exclude an activity – in this case agriculture – from their territory but rather to maintain it or even to (re)establish it?

Local and political authorities: interest and measures to solve main problems of local agriculture

The interest that political and local authorities in the Ile-de-France Region show in SSFCs is recent but has been growing rapidly under the influence of lobbies and political dynamics within the Region. This interest has resulted notably in: (i) the creation of a committee to promote regional agricultural products, the Comité de Promotion des Produits franciliens (now known as the CERVIA), for which SSFCs are a priority; and (ii) the setting up in 2004, of an organic bread supply chain, the Pain Bio d’Ile de France. This bread was developed for school canteens, and as mean for support to local bread brands. The Region also strongly supports the regional network of AMAPs.

The first condition to further the development of new links between producers and consumers in the Region is the conservation of agricultural land producing for SSFC (small farms, specialized in market gardening, etc.). However, the situation of agricultural land could become critical: previous land use management (defined in the Regional Master Plans from 1965 to the 1990s) favoured the conservation of forests but promoted the development of individual dwellings and infrastructures which took place de facto on agricultural spaces. The result was a heavy loss of agricultural land: between 1990 and 2003, the region lost 12% of its agricultural land (18% in the former green belt around Paris), against a loss of less than 1% of forests (Regnault, 2006). Our own results in the Plateau de Centre Essonne (Aubry et al., 2005) showed that the urban consumption of agricultural land was 15% greater than provided for by the local master plan, and that if that trend continued, only 25% of all land in this territory would be agricultural by 2015, against 43% in 2003. When small farmers cease their activities, they often sell their land either to real estate developers or to large-scale farmers who want to expand their surface area (SEGESA, 2005) and thus do not contribute to the maintenance of SSFC structures.

The new regional plan drawn up in 2008, and still under discussion within the Region and with the State authorities, was designed to change this situation by affirming the need to preserve agricultural land. The idea was not only to meet city-dwellers’ need for nature. It was also to revive the economic and food-producing function of agriculture for the city, by preserving the “agricultural soil” resource (Huchon, 2008). As a result, new land governance tools have recently been implemented in the Paris Region9 (pre-emption, buying land, fighting urban sprawl). Another important problem remains, however: 73% of the agricultural land in the Region is cultivated by tenant farmers; in other words, farmers are not the landowners in the majority of cases (SEGESA, 2005). Conserving agricultural land and possibly even enabling new farmers to set up would therefore require first convincing landowners – in a region where land speculation is particularly profitable.

The second condition is resolving the labour issue. Farms that produce for SSFCs are labour intensive. As observed in the the Plaine de Versailles farmers have difficulties to recruit the necessary labour force. They are confronted with a shortage of labour that compromises their development and sometimes their survival. Rather than working on the farm, the farmer’s spouse and children, and sometimes even the farmer him – or herself, may prefer opportunities given by the town or city close by, where incomes and lifestyles are more attractive (Jarosz, 2008). In the Plateau de Centre-Essonne case, 12 out of 16 farms were conducted by part-time farmers! With the development of SSFCs, agricultural manpower is increasingly necessary and missing. Yet there is a huge shortage of manpower and skills in the region. Agricultural training hardly appeals to today’s local youth, while immigration is confronted with administrative barriers. Moreover, the housing costs are so high in the region, it is difficult for agriculture workers to live decently on a farm labourer’s wages. Less and less young people agree to the extra work involved in these supply chains, especially to sell at local farmer’s market which means having highly restrictive working hours. Certain choices of SSFC, notably selling boxes close to the farm, are dictated by the need to limit labour, as we showed specifically in the Plaine de Versailles case (Petit et al., 2010; Vassor, 2007). In an attempt to deal with this problem, the Region directly supports agricultural jobs offered by groups of farmers. Yet this solution does not completely satisfy SSFCs farmers, who find it difficult to share a worker with another farmer, due to the work quantity and the complexity in market gardening production and selling.

The Chambers of Agriculture have hired specialists of diversification and SSFCs and have commissioned expert studies (Collectif, 2005). They frequently provide training sessions for farmers wanting to adopt these systems. Locally, certain agri-urban projects support local farmers via specific grants (for example for labour costs or setting up a farm shop), and advertise on-farm selling, producers selling directly on local markets, particular events linked to the promotion of SSFCs, and so on. From the farmers’ point of view, this interest and this move towards diversification is fuelled above all by the perspective of the Common Agricultural Policy reform in 2014 that might strongly limit the subsidies received. One of their new initiatives is to promote the development of organic vegetable farming on conventional cereals farms, to cater school canteens through direct selling or single intermediaries (for example creating local platforms for the processing of agricultural production order to match canteens’ constraints better). These initiatives are too recent to be evaluated but they testify the local will to develop different forms of food supply relocalization, including in farms which traditionally focused only on long supply chains.

Conclusion

This analysis has highlighted the existence of many initiatives and forms of SSFCs in the Ile-de-France Region. Far from being anecdotal and marginal, these supply chains, as in other European countries, seem to be part of a basic evolution/transformation of the local agri-food system (Renting et al., 2003; Sonnino and Marsden, 2006; Winter 2005). Fuelled by outside constraints (changes to the CAP, constraints of environmental policies, etc.), this trend is developing in line with a current demand for “healthy”, “clean” and reliable products.

Our initial objective was to question the role of SSFCs in the transformation of urban agriculture through the reinforcement of
its food supply links with the city. This study has shown diversity, dynamism and an overall growth of SSFCs in this region, suggesting that there is indeed a “reconquest” of the former food-producing function of urban agriculture – a function that was suspended for a while (although actually only a short while, from an historical perspective). This dynamic is found simultaneously with all the main stakeholders: producers, consumers and public authorities. We can affirm that the role of SSFCs is fundamental in this transformation. The study also showed mixed and/or complementary use of long and short supply chains by farmers which comes in line with observations elsewhere in Europe (Ilbery and Maye, 2005b). The frontiers between alternative and standard food chains are blurred but as mentioned quite complementary.

This study obviously has limits (small sample of surveyed farms and consumers, a limited choice of location to make a territorial analysis, a probably incomplete study of stakeholders other than farmers), but several indicators (proportion of farms involved in SSFCs, proliferation of types of SSFCs, growing customer demand for local products) point in this direction and signal the significant role of SSFCs, corresponding to what has been found at regional level. But even though professional and government institutions are starting to integrate the maintenance of urban agriculture into their land use policies, the future development of SSFCs in this agriculture remains fraught with obstacles. Overcoming these impediments will require other political levels to be implemented: incentives for employment, logistics, farmers’ groupings – all of which are still in their infancy. Moreover, producers and consumers’ ability to turn towards lasting SSFCs and especially economically viable ones is confronted with the scarcity, even the absence, of statistical data, especially on supply chains and consumption, at both regional and national level. This lack of data, which could be overcome with the present and future agricultural census, prevents us from strictly quantifying this possible “reconquest” or forecasting its dynamics. The lack of reliable data used to orientate policy, especially on urban agriculture in developing countries (Zezza and Tascotti, 2010), is equally noteworthy and is highly regrettable in industrialized countries.

From a research perspective, it is necessary to analyse the extent and forms of the SSFC phenomenon and its eventual role in sustainable territorial development, especially in supplying cities. The expectations of actors and even academics towards SSFCs have been still are quite high be in terms of environment, social and economic sustainability (Tregear, 2011). In Ile de France, after more or less 7 years of deployment, time for retrospect is about to come. Only by better describing it and understanding the modalities and probable future development, can political choices in this respect be influenced.

References


Regnault, J., 2006. La préservation et valorisation des espaces naturels et agricoles de la ceinture verte et des autres secteurs périurbains d’Ile de France. Rapport au Conseil économique et social de la région Ile-de-France.


SEGESA, 2005. La dynamique territoriale de l’agriculture et de l’espace rural en Ile de France. DRIEF, DRIAF.


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