

Agriculture as an urban infrastructure: a new social contract

A. Fleury

Programme Agriculture Urbaine,

Ecole Nationale Supérieure du Paysage, Versailles, France

Abstract

Main changes in relationships between society and open spaces in the Ile-de-France are described for the last decades. Step by step, agriculture becomes a part of the urban nature; so, new concepts appear such as identity, heritage, difference, landscape, vicinity agriculture. As consequences, original characteristics of urban planning are pointed out, especially Green Belt, designed to improve urban life environment. Its implementation is possible thanks to an innovative political framework concerning sustainable development, and a new law concerning new challenges for agriculture.

In the second part, some examples will be analysed; they are cross types of farming systems (viticulture, market-gardening and cereal cropping) and types of towns of green belt (small towns and new towns). Main current debates are briefly analysed, concerning agricultural heritage, agricultural landscape, present criticism of cropping systems and multifunctionality of agriculture.

In conclusion, it is considered that agriculture produces not only foodstuffs, but also landscape, social value and economic infrastructure. That is the reason why this agriculture is called urban agriculture.

1. Introduction

A city is sustainable when its different social components live in harmony in their common space. Among many other factors and conditions, a wide range of green spaces is usually considered as necessary, including private and community gardens, public spaces, recreational and professional agriculture, etc.

As a consequence of territorial reforms, modern towns and cities now include large rural areas in their own territory; for instance, such spaces occupy about 50 % of the whole surface in the Ile-de-France. However, agricultural production is mainly sold on international markets and, until now, farmers have not been involved in local development. Urban planners and agronomists must therefore work together now, with a view of designing a new, original urban fabric, which can be called an *agri-urban project*.

This question is essential in the Ile-de-France because it is a large metropolis with over 12 million inhabitants. The aim of this paper is to describe how agriculture enters step by step into modern urban design, and to analyse the variety of relationships set locally between on one side agricultural production and land, and on the other side population.

2. Twenty years of social innovations

2.1. The change in relationships between society and open space

2.1.1. Before 1960, there is only the city

For a long time, cities managed their own natural areas by setting up parks, public gardens, tree-lined avenues and so on, under the authority of specialised municipal departments. There is no room for agriculture, which belongs to the countryside.

Even as a part of the town, a periurban area is then hybrid, spatially unstable. Although there were still fields, there was no longer a rural society. It is not yet a true urban fabric because of nature of the activities, useful but bothersome (noise, bad smells, dirt) and way of life of people who are not really integrated and were frequently without rights (migrants, gypsies, etc.). These areas formed a crown around the city, which moved further and further back as the city grew. Sometimes, its poorest inhabitants are even driven away [1].

2.1.2. Since 1970, another conception of nature

In the sixties, nature as a principle of urban organisation emerges due to sudden awareness of the environmental crisis. At first the focus was on unspoilt nature or the wilderness and the public policy answer was the creation of national parks. But since about 1975 there has been a demand for natural spaces in local neighbourhoods, to host various activities, recreational areas and homes. Peri-urban areas are thus beginning to be considered as the entity where middle-class dwellers enjoy now to live. More recently, these two types of residence have fused within the peri-urban area due to transport facilities; these houses combine rural setting (calm, picturesque views, nature, etc) and urban amenities (jobs, education, etc).

Two new urban models are appearing. New towns, designed in the early seventies, are green and spacious. They encompass housing, employment and public services. Their greenery consists of : i) usual urban green spaces, ii) existing forests, traditionally devoted to leisure, recreation and, and iii) natural parks, without much ecological value but easily accessible visitors. Rurban villages: rural villages not far from towns, where urban dwellers chose to live alongside the farms. Living together is often difficult; as urban dwellers are more numerous, they end by controlling government.

2.1.3. And now, agriculture is becoming a form of urban nature

In the eighties, urban dwellers became more interested in recreational activities, in sports (hiking, jogging, riding, biking) or in walking and getting to know rural systems. So, they have more reasons to appreciate the countryside [2].

These people are thus turning into defenders of their environment, against other new uses: new motorways, new housing, and even new inhabitants. They want to strengthen local democracy by way of specialised associations. The open space is henceforth a part of their territory, whether it is natural, farmed or forested. Local community feel a stronger sense of solidarity and become more sustainable. Words such as identity and local heritage, which imply difference from other communities, are suitable to define this new frame of mind and the new local policies.

2.2. What is taken into account in urban planning

The first master plans included only the current and future town in their scope; agriculture had no mention. But from the mid-seventies the organizational scheme became regional in scale, covering all of Ile-de-France. Farming areas were identified as such.

2.2.1. The master plan of 1976 : the quest for a balance between city and nature

Due to laws intended to modernise agriculture, French agriculture has become more dynamic. The Common Agricultural Policy (Treaty of Rome, 1966) boosted this upward trend. Also, awareness of environmental pollution, which led to the creation of the Environment Ministry in 1971, showed society's increasing interest in nature. A new political project consequently took root: *to stop separating the Paris population from nature*; the balance and the mixture between open and built areas had to be maintained.

To this end, planning aimed to counteract the spontaneous tendency towards continuous expansion. Clear boundaries separate some urban development axes (along the large valleys and north-south axes) and, between them, zones of *natural balance*. These are i) areas devoted to woodlands and nature areas, managed

for the leisure of town-dwellers and conservation of noteworthy ecosystems, and 2) farming areas recognized for their economic interest ; farms are called *agricultural enterprises*.

However, the peri-urban zone is not yet included in a well-defined project; as usual, social practices fashion the policy decisions. Therefore, the expectations of farmers, for whom the surface area needs to be guaranteed in the vicinity of the towns, are not met.

2.2.2. In 1994, implementation of the Green Belt

The master plan of 1994 wants to answer these questions. This scheme created a Green Belt, a ring 20 km wide around the dense city, occupying a circle with a radius of 10 km (Paris and the close suburbs). The woodlands and farmlands which occupied half of the area are rigorously protected as *green* and *landscape spaces*. This was a twofold innovation in so far as: i) this belt must be strong enough to prevent further urban sprawl; ii) open spaces thus encouraged to meet specific urban needs, especially its landscape; this is the first time this term enters a planning document.

Agriculture is still considered as an economic activity, but it is given special legitimacy by being qualified as *local farming*. This farming is clearly multifunctional : it produces agricultural goods but also rural amenities

2.3. A question is then asked: which new relationships between stakeholders ?

These open spaces are henceforth fully-fledged components of the urban territory. However, its modes of remuneration, other than those of the goods market, are yet to be defined. New laws should also guarantee the perpetuation of threatened farming areas like those, for example, constituting *protected farming zones*, taking precedence over all urbanisation plans.

2.3.1. The farmers

They are not yet stakeholders in this project. Each of them chooses his own strategy by taking into account the farm's sustainability, which depends on both his children's plans and his specific markets. Sustainable farms choose: i) near or far relocation, according to their economic logic and their relative fixing (land they must keep farming, will of the family, etc.) and ii) entering new markets such as direct on-the-farm or street market selling, development of social, cultural or recreational activities in the countryside, and so on.

However, the farmers are not yet ready to get involved in a joint strategy where their own responsibility is not clear [3]. This is the case of action on the scale of the territory, such as a landscape project, where several farms are involved, but only for a part of their surfaces when they are multilocated.

2.3.2. Local authorities

They are also unprepared. Until now, they used to consider farming land as land to be built or available for *true* urban development. Farmers are not familiar to city dwellers because of their low numbers and the multilocation of their farms.

When they begin to be interested, they often intend to set down their own ideas on agriculture, which may be ill-suited to the farming systems of local farmers.

2.3.3. New public policies are requested

National government has recently elaborated an innovative political framework dedicated to a more efficient organisation around cities (now, an urban area generally includes more than 50% of rural parts) and country boundaries which are often of historic origin. It has opted for more sustainable development, the key words being solidarity and social co-habitation. In the same way, other communities are also creating a lot of new means towards the better management of their regional development.

A new law, dedicated to agricultural development, has created a wide range of tools for local markets. But these tools are not yet really efficient ; they are presently being tested in several locations.

2.4. Conclusion

This return of agriculture to the urban scene is surely a very important factor in the modern process of urbanisation. It is the main reason for the birth of a new vocabulary: urban agriculture, vicinity agriculture, identity, difference, solidarity, landscape, etc. A new social contract is appearing between this peri-urban (sometimes intra-urban) agriculture and the city; in France it is henceforth called the agri-urban project.

There are currently two types of agricultural production: i) foodstuffs, sold on local markets (on the farm or in the street) or on global ones, and ii) qualities of the territory (landscape, environment and so on), because this increasingly concerns local society, henceforth urban (more than 80% in France, more in Europe, and soon, in 2025, two thirds of world's population).

These changes may seem slow, because the new entrepreneurship is not yet sufficient among farmers. However, extensive expertise will soon be available to begin these sustainable urban farming systems.

3. Some case studies in Ile-de-France

For a long time Paris and its peri-urban areas worked like a true ecosystem in which both food and waste were incorporated into the material flow. That time is

940 *The Sustainable City II*

long since past: nowadays, local farming no longer feeds the town next door, due to the constant expansion of the supply zone. After the collapse of the local supply of cereals, wine, meat, milk and most fruit, flowers and vegetables, peri-urban agriculture is still active, but it has become standardised, growing mainly grains.

This modern agriculture is clearly visible, as is the former production which leaves many traces in space, in buildings and in memories. So, a relevant question is: which kind of agriculture is most convenient to urban design? Modern agriculture or that which we inherited ?

3.1. Three case studies

3.1.1. Wine-producing towns

Even though the Parisian vineyard was the largest in France, nothing now remains of it, except some place names and seldom private vineyards, as a rural family's souvenir. However, a painter, Poulbot, planted the now famous vineyard in Montmartre. Today, more than thirty communal vines have been planted, public parks have often their vines and other vineyards are foreseen [4].

The authorities have taken this decision to solve a specific problem: how to share a common identity with new citizens, weakly rooted in little towns. Vines and wine give a nearly genuine answer, because they are cultural references, common to a large part of European or Mediterranean populations. Wine is attached to each event of family or local society life. The idea is thus to bind this culture to local heritage, to a time when hillsides were entirely covered in vines; the poor quality of this wine is now forgotten (the 19th century writer, Alexandre Dumas, spoke of *the dreadful vintage from Montreuil!*). This project is generally conducted as an exhibition: the vineyard is clearly visible, sometimes in the central part of the town; the harvest is an occasion for a local feast, for creating a brotherhood of wine store masters, etc.

3.1.2. Market-garden towns [5]

When market gardening was driven away to leave place to urbanisation in the early 19th century in the Seine valley, it moved to little valleys. It is still active nowadays; market gardeners sell their produce on street markets. This rural landscape is also enjoyed by Parisians since the 18th century; they built beautiful country houses, often in planted parks.

In the seventies this landscape and cheaper building land were attractive to the middle-classes accordingly, housing consists mainly of family houses or little 2 storey blocks of flats. But officials wished to maintain the character of a rural village. In the heart of the town, streets still resemble country lanes, old rural houses built around a yard and country houses still exist, even if their use has changed. Fields are clearly visible all around the city, even if cereals take the place of vegetables. The river banks are converted into walking promenades.

Step by step, the inhabitants became aware of the genuine identity of their city, which contrasted with the high buildings of nearby cities, built at the end of fifties, with very different populations (a large part poor immigrants). They therefore strongly support local policy to keep a high quality of space and landscape.

3.1.3. Cereal towns

As in the whole Paris basin, cereals been farmed for a long time. This rather extensive agriculture gives plateaus a genuine landscape: large fields, big square-shaped farms. This modern agriculture sells mainly on the international markets.

These open spaces were attractive for major implantations such as new residential towns, airports, and university campuses. Urban planners did not take farming into account ; from their point of view, these plateaus were empty. Only the farms were kept. However, a new perception is emerging, in which fields are seen as typical rural landscapes. Two examples are to be quoted.

Previously used for extensive grain production, the *Saclay plateau* hosted university and research establishments from the early 1950s. Half of its surface was still agricultural when its sub-division was frozen. The authorities agreed on the concept of territorial development that had designed modern agriculture as a heritage and saw the natural landscape as part of the university campus [6]. In the eastern new towns, *Marne-la-Vallée et Sénart*, some farmers are still working their fields. Supported by a part of the population, they begin nowadays to fight to maintain farming, but for new reasons : these towns need to keep their heritage (not only farms, castles and forests, but also fields); they share modernity with farming and need rurality [7].

3.2. Discussion

The main fact is that society welcomes agriculture in its diversity. Even if some people dream of agriculture again in the territory, agriculture is expected for a wide range of purposes, and specially for heritage and landscape. Main current debates concern several questions.

3.2.1. Agriculture, as a historic and heritage value

The importance of agriculture, even modern, in the collective memory is a specific characteristic of an old agrarian culture. It is very different, for instance, in North America, where memory is rather associated with wild nature, because colonisation is still a recent fact. In France (and probably throughout Western Europe), fallow land resulting from the collapse of agriculture is considered as a plague; in America, it is simply the return of nature.

Thus, heritage is generally present; sometimes alone (vineyards), more often with economic value (market gardening, cereal farming). Landscape has become another general value.

3.2.2. Agricultural landscape

The concept of landscape has two components. The first is the shape of the space, resulting from the logic of each system, agro-systems (a farmer manages his fields and their equipment, such as fences, to optimise his income) and eco-systems (the spatial order of which comes from biological interactions inside the biotope). The second component is the way of looking at the organisation of space; a few people are more sensitive than others and can express their perception in music, painting or writing; but most use cultural references.

Now, society invents new landscapes. People like large fields with old farm buildings, while modern shelters are preferably hidden; picturesque (as association of little fields, hedges, trees in the meadows, little rivers and ponds, etc.), is always fashionable: ecological arguments are often used to be more convincing. In short, landscape architects are now required, because landscape becomes now an economic infrastructure [7].

3.2.3. Cropping systems

Until the 1960s, farmers were the only judges of their cropping systems. But they were severely criticised because of pollution of soil and water. Many people insisted now that responsibility for the conception of the cropping systems had to be shared with farmers.

There are now three archetypes : i) in the *Market cropping system*, farmers selling directly on the farm or on street markets show what their customers expect: picturesque landscape, organic agriculture, old-fashioned techniques, etc. ii) Supporters of *Sustainable agriculture* struggle against globalisation, want organic agriculture and discover again the agrarian thesis. Their purpose is agriculture to be rooted in its territory. Ile-de-France seems to be a good place for experimentation, because there are a lot of market niches (rural goods and services). However, there is no evidence that this strategy is economically relevant for many farmers of the Ile-de-France. iii) With using *reasoned agriculture*, the professional answer to ecological critics is improved control of techniques by using modern tools (modelling, sensors, frequent diagnosis of soil and crop growth, use of biological methods and so on). They want to feed crop without polluting the soil.

3.2.4. Multifunctionality of agriculture

Of course, the theoretical point of view of this paper is that field agriculture cannot prevent itself from being multifunctional, because it works on social relationships. Several questions have not been answered:

Rural landscape is considered more and more as an infrastructure: how can farmers be paid to keep it up? It is clear that such payment is not a subsidy, especially if it is given by local authorities.

How to manage a joint project dedicated to production of territory, shared between several farmers?

4. General conclusion

The links between Ile-de-France peri-urban agriculture and the city had thus been deeply transformed by the end of the 20th century. The city had introduced agricultural spaces into its strategic reflection, notably in terms of lifestyle [8]. As a consequence, it developed a policy of financial incentives so that peri-urban agriculture would remain active in spite of urban constraints, and become more diversified. Farmers continued to develop i) through policies of innovation: new products (ornamentals), new means of sale (direct selling) and now valorisation of their production of landscape. ii) or through change of location with the goal of maintaining their organisation, with the added real estate value representing the main mean.

An initial debate centred around the urban multifunctionality of farming, the originality of Ile-de-France agriculture being that it is aimed mainly at export markets, with the systems of classical culture increasingly integrating environmental constraints, but also being considered locally for other social values such as heritage and landscape. Another debate, new to France but more prevalent in other parts of Europe, began in 1999 and concerns the restructuring of farming along guidelines laid down outside the farming experience, that is to say engendered *by cities* [9]. If the most important of these approaches are supported by the Greens, it is not necessarily the only option. But it is clear that this is a common responsibility: in a densely populated region such as Ile-de-France, farmers cannot dream of still being the only ones to take such decisions. Lastly, the question of *the territory considered as a production of agriculture* needs to be explained in economic terms, in order that farmers get involved in the *Agri-Urban Project*. It is a main key towards more sustainability of the Ile-de-France.

References

- [1] Quismondo-Garcia Cristina. Dynamique de l'agriculture périurbaine dans le bassin versant métropolitain de Guarapiranga, Sao Paulo, Brésil, rapport de stage INAPG, Sept. 2001.
- [2] Fleury André. "Nouveaux habitants, nouvelle ruralité périurbaine ?" in *La ville aux champs*. Paris, ADEF. March 2001.
- [3] Fleury André, Guiomar Xavier. "Quels projets, quelles fonctions pour l'agriculture périurbaine de l'Ile-de-France?" "Open space functions under urban pressure" Symposium européen (Belgique). 19–21 Sept. 2001
- [4] Donadieu Pierre. *Campagnes urbaines*, éd. Actes Sud, Paris, 1977

944 *The Sustainable City II*

- [5] Lenaers Véronique, Laville Jérôme, Fleury André. Le maraîchage dans une commune périurbaine; l'avenir incertaine de Saulx-les-Chartreux, Infos CTIFL, March 2002.
- [6] Bouraoui Moez. *L'agriculture, nouvel instrument de la construction urbaine ? Etude de deux modèles agri-urbains d'aménagement du territoire : le plateau de Saclay à Paris et la plaine de Sijoumi, à Tunis*. Thèse ENGREF / ENSP Paris, December 2000; p.442
- [7] Fleury André, Christelle Caillot, Kim Desjardins, Mélanie Doyon. *L'agriculture dans la ville nouvelle de Sénart*, Rapport ENSP, 2001
- [8] Donadiou Pierre. *La société paysagiste*, éd. ENSP Versailles, p.155, 2000.
- [9] Fleury André "L'agronomie face aux nouveaux enjeux de l'agriculture péri-urbaine". *C.R. Acad. Agric.* 87, 2001