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Agriculture, City and Territory: French experiments in urban agriculture

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As a reaction to urban expansion, the green belt model, imagined by Howard more than a century ago (1998) and put into practice by him in Lichtfield, is mentioned more than ever, either in this form or as green buffer zones. There are numerous variations, often referred to as clothing (scarf or belt) or physiological (heart or lung) metaphors.

Even if *agriculture* was clearly on Howard's mind, it was entirely excluded afterward, except in terms of non-commercial agriculture (family gardens, community supported agriculture, community gardens, etc.), in favour of *nature*. Many French urban planning documents use the term "natural" as a counterweight to urban, as the only form of open space able to accommodate urban recreation.

In this article, we want to show how commercial agriculture, particularly that which professionals operate on international markets, is increasingly taken into account in urban projects, reflecting the multifunctional nature citizens perceive in it.

1. Agriculture contributes to the urban project by fitting into natural spaces

1.1. The natural city

Since the 60's, nature has become a necessary component of the city; huge spaces made of more or less complex ecosystems complement the traditional urban parks. These spaces not only have a recreational function, but also an educational function. The agrosystem is practically excluded when its aim is commercial; French peri-urban forests lost their economic function brought forth by wood production when they were opened to the public. The fallow land came to be seen as having a natural value for many officials in charge of green space services.

In countries with old agrarian cultures, however, agriculture is an essential component of national identity. This can be seen in Ottawa, where the green belt pays homage to water, agriculture, and the forest as founding elements of the country. In France, agriculture still is a real socio-political force, well beyond its economic importance, and its conversion into fallow land is increasingly seen as the decline of agrarian civilisation, rather than a "return to

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nature”. Also, a majority of Ile-de-France citizens still appreciate agricultural landscapes, as they demonstrated when the Ile-de-France Region invited them to photograph the countryside: they’ve contributed to confirming the greatness of the landscape and the power of the machines of modern agriculture.

1.2. A renewed governance

In the last forty years or so, an abundance of initiatives has contributed to the renewal of the concept of *local territory* in France.

Rurbanisation has been added to the still active urban periphery extension (Berger, 1975), as a consequence of the regionalisation of road networks. The phenomenon is much more perceptible in the middle class whose working conditions have changed with the spread of electronic tools. In France, a particular emphasis on the comfort of trains as well as travel time aboard TGVs reflects an increased dedication to the new work practices (laptop computer, cellular phone, etc.).

Bringing their lifestyles with them to welcoming rural areas, already territorialized by agriculture, these new inhabitants have in turn built their own territory. These rurban residents first took control of municipal power, and then claimed their planning autonomy from the central city in the name of their will to maintain the living environment they sought out; they then instituted the agricultural landscape, organised by agriculture, as their public property.

Their relationship with agriculture was at first conflicting: they mainly wanted to preserve (or recreate) the rural landscape they were dreaming about and could not conceive that this could be the product of a dynamic and complex relation between the farmers and their production spaces, which they often considered as nuisances. But henceforth, we must look at this from another standpoint, that of joint territorial management, a new *development of proximity agriculture*; this implies real shared territorial construction, which in turn imposes another conception of governance, open to participation by all players.

2. The city’s various agricultures

The meeting of city and agriculture on the periphery of urban areas has given rise to a great differentiation of agricultural systems, these being defined as the final outcome of a biological cycle. In them, the citizen sees:

-the food supply, notably in proximity agriculture, which reduces *food miles*; new systems are created by citizens (community supported agriculture, community gardens, etc.) and farmers (different direct sales arrangements).

-but also the production of amenities, notably the landscape as constituent of the urban countryside, which, as its infrastructure increasingly becomes residential and economic, gains value.

2.1. The agro-economic industries have gone from local to global

Historically, food-producing agriculture was consubstantial with the city and took part in its governance, as long as no long distance logistic network became functional. The cities of Late Antiquity and the continental colonial cities needed their own food supply to survive. Agriculture was then a part of urban governance, like in Paris, where the *maîtres-jardinier*, seen as *artisans*, constituted one of the city’s corporations at the end of the 16th century (Phlipponeau, 1956).

Logistic progress and conservation systems have always transformed the scope of farmers' actions and thought, like the effect of navigation in enclosed seas (Baltic, Eastern seas, Mediterranean) in Antiquity, for example; the north-east of Tunisia became at once one of Rome's storehouses (grain, oil, wine) and countryside. Today, modern transportation and conservation systems have spread out to the whole planet with, as a consequence, the concentration of businesses at every level of the industry: agricultural production (wholesalers and agricultural cooperatives, large scale agricultural enterprises), wholesale markets and trading groups, supermarket distribution and industrialised foods (prepared food, institutional foodservices, etc.). The globalisation of products carrying a strong social identity is also very apparent: those with *appellations d'origine contrôlée* (controlled terms of origin), tied to the soil and a particular mode of production, or labelled according to their type of cultivation or breeding (organic agriculture, farm-house products).

Consequently, a gulf between producer and consumer has appeared. The agri-food industry was first interrogated on the sanitary and organoleptic quality of the food, and then on environmental degradation (water quality, climate change due to greenhouse gasses). Independent certification systems thus appeared, establishing new marks of quality; political pressure towards the incorporation, with new specific taxes, of the environmental costs of transportation in the price of food products is increasing (Villeneuve and Richard, 2005).

2.2. Newly developed local agriculture

2.2.1. Small professional industry

Such measures give value (*identity, freshness and taste*) to locally produced products, and profitability to local producers, whatever the organisation system: selling at local markets or at the actual farm by the producer, collective sales points managed by fresh produce and farm-house products producers, or craftsmen. This type of industry, still alive in Southern countries, has been eroded in the North by the price competition and modern lifestyles that undermine the value of domestic work all the while favouring sophisticated agri-food conditioning (precooked and home delivered meals), relegating home cooking to special events.

2.2.2. Interdependent agriculture

There now exists a wealth of ideas inspired by the Japanese Teikei, which appeared in the 1960's. The idea consists in substituting another producer-consumer relationship for the competitive market, establishing a direct relationship, in the spirit of *fair trade*. The best known rests on the concept of Community Supported Agriculture, or CSA (Hiroko, 2007), which instils solidarity between consumers and farmers, guaranteeing at once the quality of the products and the farmer's financial security. Others seek to revive the social values inherent in a home-cooked meal and in domestic work: buying fresh produce entails peeling, cutting and culinary tasks.

Contrary to what is commonly thought, small industry is not necessarily made of small family farms: a market gardener near Paris sells its produce at more than thirty weekly markets with ten employees, while another, who supplies three CSAs and is part of a cooperative network, was able to hire two workers to help the family.

2.2.3. Agriculture with no economic aim

These forms of agriculture go beyond the producer-consumer relationship because they are multifunctional, producing food with the aim of improving the social realm. As such, and by essence, they have a place in the city's preoccupations as they already participate in its governance.

Recreational agriculture comes in various forms. In the Classical period, every notable person had to have his own garden or vineyard, and show off using advanced techniques (Potager du Roi fig trees and orange trees in Versailles, lemon trees around the Italian lakes). But recreational agriculture is also family gardens, and those found in the suburbs, though hated by many, where *amateur landscape architects*, as Bernard Lassus says (Bann, 1996), compensate for the banality of their lifestyles by inventing *modest landscape art* between the street and their house (Conan, 1996).

Social crisis agriculture appears as soon as food shortages begin, caused by economic or financial crises cutting off many people from access to the market, or by the physical rupture of food transportation routes (wars, blockades, etc.). Local public policies try to resolve these crises, notably by giving access to the land so that a city's inhabitants can commence family gardens. For example, the appeal made by South-East Asian officials during the 1997 financial crisis testifies to this: *state employees, cultivate your gardens...*, or the appropriation of unused or barely used land by peasants driven out of the countryside by civil wars or poverty in some countries of the South. We can also link to this contemporary social exclusion, which is a dramatic urban crisis community agriculture is trying to remedy, collective gardening appearing to be a remedy to the process of social exclusion and a tool that makes social insertion easier.

2.3. Consequences for agriculture

But these various forms of agriculture must not contribute to hiding the co-evolution of international supply industries and of contemporary dietary behaviours that have introduced a variety of foods incomparable greater than what is offered by local agriculture. In fact, consumers often oppose the ideal (*I prefer to buy at the local market*) to the practical (*I buy mainly in supermarkets, and get more and more deep frozen foods*) and are put off by the task of preparing fresh fruits and vegetables. Moreover, the professional activities of women, particularly in France, mean that women have broken away from the traditional model of role-sharing: French women no longer have the time or the desire to come back to their kitchens.

As a response to the somewhat contradictory expectations, peri-urban agricultural spaces must be subjected to an organisation of the landscape adapted at once to the citizens' desires and to the constraints of agro-economics. Initially, these constraints stem from the size of agricultural spaces. The size of parcels and farms corresponds only to the type of production; a cereal farm cannot adapt itself as easily to the fragmented structure often imposed by urban fringes, as a market farmer. Moving agricultural machines from field to field, from stock areas to hangars, cannot be hindered by traffic networks, which were often created to accommodate peri-urban or inter-city needs, exclusively.

However, these farmers are not stuck on one activity. Many among them, with their long-standing entrepreneurial behaviour, have introduced new activities to respond to the urban expectations of agricultural multifunctionality; but they know these activities often require a rural landscape (pick your own, market at the farm, recreational, equestrian or educational activities, etc.) or at least large agricultural surfaces (recycling of green and other urban waste). Moreover, such activities entails having large areas to accommodate customers. Small

market or fruit farms, though well loved by city-dwellers, have a hard time finding their niche outside markets, which, as we have seen, remain dependant on citizens, a situation farmers do not appreciate much.

Large farms, such as cereal farms, which take up most of the agricultural landscape of the great plains of France, around the large cities (not only Ile-de-France, but also Lille, Toulouse, etc.), could not be excluded from agri-urban territorial projects, even if by nature they do not fit into the framework of the local market. Their great size, incidentally proportional in relation to other countries, which characterises the landscape of these plains (such as Beauce, Brie or France² within Ile-de-France), could guarantee the preservation of these open spaces, which perfectly meet the desires of large city inhabitants.

3. French experiments in urban agriculture

Characterised by territorial projects that associate agriculture with the city, they can be durable only within the scope of a shared governance between the urban and rural worlds. The “charter” is usually the contractual document that formalises these relations. There are historically two main types: the regional reservation area (*parc naturel régional*) and the agri-urban project.

3.1. The Parc naturel régional (PNR)

This new territorial entity was created in 1967 as a national heritage policy, since its purpose was to protect endangered rural areas. It responds to three requirements found at distinct subsidiarity levels: it is a regional initiative that must be accepted by the concerned communes and approved by the by the Ministère de l’Environnement.

The PNR responds to the threat posed by the abandonment of farmland...

Abandonment of farmland has been going on for quite a long time on much of the French territory. It is essentially due to advances in productivity, which means the demand can be fulfilled using less land. It is accompanied by a desertification of the rural world as its inhabitants migrate towards cities; regions where farms have the most difficulty adapting to modernized agricultural techniques are the first to be affected. Since 1870, 100,000 hectares per year have been abandoned by agriculture, a third of which is taken over by urbanisation, while the two remaining thirds is shared between managed reforestation and fallow land (which eventually becomes a forest).

Regional reservation areas have been created to stop the abandonment of farmland and preserve agricultural landscapes, which are considered as national heritage. They are managed contractually, as formalised by a charter in which farmers agree to respect a number of rules to help maintain the park’s landscape, and they get compensated for their efforts.

...but protects agriculture by assimilating it to “nature”

The first peri-urban regional reservation area was created in 1984 (Haute Vallée de Chevreuse PNR in Ile-de-France). Heir to the XVIIIth century vacationers that had built their secondary homes in areas of the countryside they thought of as quaint, the higher social classes who consider the PNR’s territory as their own mainly want to make it a “natural sanctuary”. The inhabitants of the park also reject any nuisance: waste treatment facilities (even though they produce waste themselves), and also forms of agriculture they consider as polluting. The forms of agriculture they accept within the boundaries of the park must reflect the quaint image they cherish, displaying a certain idealistic view of what farms must have looked like a

² France is the historical name of the region to the North of Paris, where it is found in place names (Roissy-en-France, better known for the Roissy-Charles de Gaulle airport, or Ile-de-France, delimited by the Seine, Marne, and Oise rivers).

long time ago. Through this narrow conservation filter, they do not want the agricultural landscape to evolve with the ever-modernising agricultural techniques.

Today, however, this fixed point of view seems to be evolving, notably with the creation of new parks in the periphery of Paris where farmers are more involved in the governance of the territory.

3.2. Agriculture in the green belts: agri-urban projects

With the emergence of the concept of “natural city”, which is supposed to take into account the environmental consequences of urban sprawl, agricultural space is beginning to be protected by policies rendering it unconstructible. But these statutory measures, directly inspired by the measures applied to natural areas, have not prevented abandonment of farmland for economic reasons, leaving fallow land.

In the green belt around large cities, local officials have thus understood that they had to maintain agricultural economic activity by guaranteeing conditions that promote its durability as well as farm projects (product security, free-flow of machinery, etc). This is how agri-urban projects have surfaced.

They first appeared around mid-sized cities, where agriculture was still active and durable. Farmers, who saw themselves as autonomous from the city, were entirely represented by their professional organisation; from the start, these projects are managed with equal representation on both sides. The farmers’ commitment is long-term; their operations will have to be developed. The cities’ commitment is to manage the ad hoc infrastructures, and also define their expectations; they do not defend agriculture for itself, but for the quality of space they produce, which improves the liveability of the urban zone.

Today, large cities such as Lille, Lyon, or Paris are beginning to subscribe to this dynamic. But the experiments often have difficulty finding competent officials that will initiate such projects and keep them alive for the duration of their establishment. We are faced with a void that could easily be filled by new specialised professional disciplines, and it is the academic world’s task to create them.

4. New land-development specialists

41 – Agri-urbanism, a new specialty

Urban agriculture is, by definition, pluridisciplinary. But the two disciplines to which it relates the most, agronomy and architecture, have evolved isolated from each other, practically ignoring the other does. To see agri-urbanism as a new profession, or at the least as a new specialty, requires that teaching be reorganised outside of its historical compartmentalisation.

For its part, the teaching of agronomy is essentially concentrated around the logic of industry with, on one hand, everything that touches the improvement of production techniques, and, on the other, everything that touches the agri-food business. Notions concerning the spatial organisation of agricultural activity are more often than not reduced to adapting the farming system to the physical environment, or to questions of crop rotation systems. Urban proximity and its consequences on the spatial organisation of a farm, as well as the strategies initiated by the farmers themselves to adapt to this proximity, take up a very marginal place in the course curriculum.

Urban planners usually come from the world of architecture, with its vision of an “urban-centered” city in which gardens are integrated as urban components (for the historical reasons

discussed above), but considering too often agricultural spaces as simple real estate reserves (white areas on maps). It must be said that, for millennia, architects have built cities that had no direct contact with agriculture. The small market farms that surrounded them were seen as intermediary territory, with an almost urban parcel and spatial organisation, and specialists that mixed an agricultural expertise with an urban social status.

Yet, contemporary peri-urban zones push us to rethink the issues surrounding land-development since the urban area now extends over agricultural land. The nostalgia of the produce gardens or vineyards that surrounded cities a long time ago, whether or not it has a legitimate place within social expectations, cannot respond in a durable manner, and on the scale of the urban region, to the necessities brought forth by the development of the concerned territories as a whole.

New expertises must be developed so that the spatial constraints of agriculture may be integrated to urban projects, and that the expectations of the urban realm be taken into consideration by the farmers.

42 – Inventing teaching processes

Imagining that agri-urbanism becomes a new profession with its own university educational programme is certainly still utopian. But it could nonetheless become a recognised specialty created from an inter-university educational process that would rest on supplementary courses offered to architects, landscape architects, and agronomists, with actual practical training during common workshops. Remember that what links these very different professions is the fact that their respective expertises are solicited in the same physical areas.

The possible study programmes could begin with a simple initiation to each specialty. For this to work, an effort must be made towards the elaboration of a didactic discourse enabling:

- Agronomists to know the major principles that govern the urban sprawl phenomena, in terms of regulation, construction of the urban form and its networks, formulation of citizens' desires concerning the "countryside", etc.
- Urban planners (architects or landscape architects) to better understand how the social, economic, and spatial components of agriculture function.

Academic experiments have been initiated in this direction with a association between the schools of architecture and landscape of Versailles and the Institut d'agronomie de Paris³. Besides sharing teachers, which was the starting point, students from the three schools are invited to work on the same land (the Plateau de Saclay, South of Paris) for a research project (landscape architects), a project (architects), and specialisation (agronomists).

Next year, this experiment should include a common workshop project, and benefit from the collaboration of geographers, economists, and sociologists (rural and urban).

43 – Remain close to the territorial reality

The experience acquired from done or emerging agri-urban projects in France shows that the solutions that worked in a particular region are not necessarily transposable to other regions. This acknowledgement is made even clearer when we compare cases of urban agriculture from different countries of the world. Seeing the international dimension taken by higher

³ Ecole Nationale Supérieure du Paysage and ENS d'Architecture, in Versailles, Institut National Agronomique Paris-Grignon (AgroParisTech component) in Paris.

education, it is therefore important not to confer a “universal” character to the concepts and processes that will be taught.

A major difference is the comparatively relative place held by dietary preoccupations and those affecting the quality of life itself. Even if they mutually affect themselves, it goes without saying that the dietary expectations of the countries of the North (organic or labelled agriculture, picking at the farm, etc.) are not the same in the South. Landscaped amenities too, do not have the same meaning, and are not emitted by the same social realms in the North and the South.

Each project must therefore take into account the specificities of the territory in which it is implemented, as much from the point of view of the city-dwellers’ expectations as the farmers’ capacity to adapt to them. This is why this type of study programme must remain close to the territorial reality if it is based on a conceptual approach fed by the concerned disciplines.

5. Conclusion

Whether the natural city recognises agriculture as compatible, without condition, or that agriculture be considered as the city’s green space without being seen by default as nature, one fact remains: agriculture, whatever its form, can be made urban. Its key words touch i/ two poles:

- The production of an economic good sold on local and global markets;
- The production of a common good, which is non commercial rural landscape, by essence local.

ii/ and a major principle: agriculture’s responsibility in the choice and operation of its technical system.

The collective recognition of the peri-urban rural landscape constitutes in itself an economic infrastructure consisting of many activities, carried out by farmers (country lodges, harvesting) and non-farmers (hotels, golf courses, etc.), and city-dwellers themselves. As a consequence, a new governance is required to ensure the agri-urban project is durable.