THE CONCEPT OF URBAN AGRICULTURE RENEWED FOR CITIES OF THE SOUTH

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Abstract
The major challenge for the peri-urban agriculture in the South is to maintain the food supply of cities because the food chains are often local and made up of a number of humble actors: Families seek out their living from small parcels of land, farmers sell directly to consumers, on street markets, or deliver their crops to small collectors who in turn sell to retailers. This differs greatly with the North where food chains provision societies through hyper- and supermarkets and are linked to large producers. Moreover, such chains use modern transportation and preservation systems and they are global. Similar technological and social advancement can also be observed today in the South. Consequently, a social turmoil forces out rural growers from the traditional chains can be observed; as a result, they become city dwellers and engage in urban food production.

This article deals with the significant transformations of agriculture observed in cities of the South, namely: i) changes in the organisation of the food industry in relation to the scale of transactions ii) the role of agriculture in the process of becoming a city-dweller and iii) the emergence of the multi-functionality of agriculture based on a new city-agriculture relationship. Observations are based on the doctoral dissertations of Ba (2007) and To (2008).

Keywords: Urban Agriculture, Food Supply, Urban Planning, Landscape, Heritage.
INTRODUCTION

Moving from a rural to an urban living environment, or becoming a city-dweller, entails radical changes in the lifestyle: individuals free themselves from the bonds of the community, they affirm the supremacy of the nuclear household over the extended family, and they transform their relation to space. Within this changing context, urban agriculture (UA) was introduced as an expression in the 80’s by agro-economists seeking a name for the informal self-sufficient gardening practices introduced by rural immigrants in cities of the South. UA became a prerequisite for their survival, especially when they could not afford to purchase food from markets. Then, its meaning was extended to the various crisis situations during which food shortage were mitigated with family gardening. Fleury and Donadieu (1997), further extended the semantic value of the expression to the various agricultural forms involved in the urban project, through multi-functionality and, notably, the landscape.

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THE TRANSFORMATION OF THE SUPPLY INDUSTRY

Urban family gardening is an adaptation of the rural self-sufficiency system to cities and complements the merchant system in terms of food supply to citizens. Food supply is undergoing profound transformations due to the development of infrastructure and preservation networks, and because countries of the South have access to the global market.

From a traditional system…

Cities in the South are still provisioned through local industries, which rely on a network of multiple players, each one coming from a relatively weak economic background, though their level of poverty is not close to the level of misery because their place in society is well-defined and stable. Small peri-urban family farms adopt different strategies: they either directly sell in street markets and daily transport their goods on bicycles or motorcycles as in the case of Hanoi, or they delegate this commercial function to intermediaries who travel the peri-urban countryside collecting goods and then reselling them to merchants in the centre of towns in Western Africa, this activity is primarily carried out by women and is called Bana-banas.

As a consequence, the geography of productions remains organised in concentric isochronal circles and because there is no preservation system, the quality of perishable goods depends on the time it takes to transport them. The production systems, particularly for items like fresh vegetables and flowers, are localised in the immediate periphery of the city within travel timeframe, which includes travelling to and from the market. Goods that are more resistant to transport are produced farther away.

… to new supply systems…

The dominant characteristic of these mutations is the change in spatial scale of the food supply and distribution system and of its corollaries which is evident in the growth of the economic dimension and the specialisation of its various players.

The general organisation

Wholesale markets are found at the core of the system. They are usually created by private or municipal initiatives, and increasingly, by the major companies and their trading groups. They are relocated in the peripheral zones to be closer to the transportation systems of airports, road and railway networks. Distribution also changes scale with the creation of super and hyper-markets, well-equipped in preservation systems and less dependent on daily supplies, these systems go hand in hand with densely populated contemporary habitats and the automobile ethic.

Agricultural production must therefore reorganise itself which is exactly what it is doing according to our research:
- By individual growth and development. For example, in the farther periphery of Hanoi, farms are engaged in a surface expansion process, in particular by renting land and in the process are modernized, especially qualitatively (Moustier, 2003).
- By the development of private or cooperative intermediary organisations that insure coordination, pick-up, and standardisation of goods.
We observed a growing decoupling between distant specialised zones and large urban centres in Hanoi's farthest peri-urban area: the Thiès region situated 100 km away from Dakar, as well as in the Bamileke country located 400 km away from Yaoundé, currently contribute more then before to feeding large cities.

An example: how the Senoufo area feeds Abidjan (Ivory Coast)…
Fromageot (2005) clearly illustrates these processes in his observations of the Senoufo area, located on the border between the Ivory Coast and Burkina-Faso, approximately 500 km from Abidjan and other coastal cities. Here, since the early 90’s, annually dry season market production started to develop in the more humid areas. The large variety of vegetables produced reflects the diversity of contemporary consumer tastes in the important coastal cities. They include traditional varieties found in the Senoufo area, as well as varieties specific to Abidjan, and those responding to other dietary habits of immigrants from rural regions, expatriates from the North, and new well-to-do social classes. Originally, these Senoufo farmers had emigrated to areas where they could take part in the boom of commercial crops like coffee, cocoa on the coast, cotton in the interior, which were the foundation for the Ivory Coast's international specialities. The crisis surrounding these crops brought them back to their land. Equipped with new professional and commercial experiences, they could modernize because they had maintained and developed relations and commercial information systems, primarily based on the family, and relied on modern network of private trucking companies that improved national road system made possible.

… with dramatic social consequences
The new systems disorder the social structures of traditional supply routes. Their economic efficiency led to unemployment and resulted in the loss of revenues for the smaller farmers and merchants. This is well illustrated by Wang et al (2006), especially when they present the antagonism that exists between the prosperity of the small peasantry, which benefited from the development of cities, and the prosperity of integrated commerce. However, in several years, the latter already provided more than a third of the dietary requirements of cities, because it can provision itself from distant areas and from new production zones.

Resulting from their increasing poverty, the actors of the old systems must become citizens. Some countries, like Vietnam, have remained true to the spirit of its socialist system, thus, they promoted a policy of professional training for the small rural population to smoothen their social transition, and to limit their economic distress and social exclusion. This policy was also linked to the rapid development brought forth by a widespread liberalisation of the economy. In this rapidly changing context, it is worth asking: Under what conditions can agriculture constitute an instrument for becoming a city-dweller in the countries of the South?

AGRICULTURE AND BECOMING A CITY-DWELLER
If becoming a city-dweller is often a deliberate choice on the part of young people, it is also a necessity or at least an inevitable occurrence for the others. The conditions are however quite varied depending on the migrants' social positions. The poor generally benefit from family or ethnic group support, while country villagers who are incorporated by the urban sprawl have access to land rights and benefit from their previous urban experience.

The poor
Migrants of misery
In the last twenty years, poor countries of the South have seen mass migrations of rural populations due to wars or rural misery. Urban migration flows pose two immediate problems: finding a place to live and feeding oneself, while often being confronted by hostile local populations. Authorities drive off squatters; nevertheless, they remain tied to social peace, especially because migrants also constitute a flexible and cheap labour force. In this context, a more participative planning could enable them to legitimate their right to grow their own food and to establish themselves in the city which is rarely practiced.

These poor migrants thus resort to an often illegal and uncertain appropriation of available land. These areas are generally located in zones that either present urban risks, for example, next to airports or roads, on the periphery of waste treatment zones, etc., or environmental risks, like flooding, landslides, etc. To augment the level of fertility, they often opt to use urban wastes and urban compost, and despite the sanitary risks end up using waste water.

But they also participate in innovative pro-
projects. For example, in Dakar, micro-gardens that use a no soil growth system are increasing, they have been popular for two decades in North America to compensate the lack of gardening soil in poor neighbourhoods and to recuperate often-polluted industrial fallow lands. Several hundreds of households use this subsistence gardening technique, which uses recycled containers for growing food. Only certain chemicals need be purchased, as is the public water service, if required.

Towards more entrepreneurial initiatives
Beyond self-sufficiency, these gardeners first seek to make some money by selling their surplus production, and then organise themselves to get access to the market. Some micro-gardeners promote the hygienic quality of their produce, grown without having recourse to restaurants or private water. The same mindset can be found in Hanoi, where professional market gardeners sell more clean vegetables, produced with little chemical treatment and no waste water. Some consumers accept to pay more for sanitary security.

In Dakar, Yaoundé and in other African cities, farmers also created ex nihilo ornamental horticultural systems by using a similar no soil growth system. In Dakar, these are migrants from Senegal’s old peanut producing area, ruined by international competition and desertification. Installed along important roads, their goods sell well. Authorities are beginning to consider their multi-functionality because they use no-risk purified wastewater, and they contribute to enhance the aesthetic aspect of the roads.

The city joins agriculture
An essential question: who owns the agricultural land rights?
In the South, especially in rural Africa, the community often owns land rights, but they tend to become vague with urbanisation, especially when it coincides with land registration policies. Two opposing attitudes can be observed:

- The families of traditional leaders, often better educated, take hold of the new right by registering themselves as owners.

- The community is respected, its members negotiate new rights with it, in particular the right to build.

An analogous situation occurs in countries where, after a period when land is nationalised, steps towards restoration are taken. This was the case in Algeria, where agricultural land was nationalised in 1970, the land came from the self-managed domains stemming from the colonial agrarian structure (3/4), and land from private Algerian property. The latter has been restored to its original Algerian owners in 1987; it still comes with a certain freedom of use, which is still refused to the rightful owners of the old self-managed domains.

Birth of a diffuse urbanisation
On their private property, peasant families act in two manners to dilute farming:

- First, members of the family add various secondary activities within the bounds of the rules of urban planning. For instance, Bouj Jenouia (2007) observed in Setif the creation of carwash stations or the making of construction blocks, while Ndiénor and Aubry (2004) observed in Antananarivo the setting up of traditional brick making workshops using clay coming from the bottom of rice fields.

- Second, the family cannot modify its right of use, but deliberately organises the dilution and non-reproduction of the farm. Food-producing agriculture is maintained in order to ease the urban mutation of the farm. But children that are fed from and housed on the farm, however, work elsewhere and do not want to come back to the agriculture.

To shows that most small farms outline real urbanisation trajectories for themselves based on the widespread Vietnamese rural model: small farms with a modest and much diversified production that is either used as subsistence, or sold locally in markets. She observes:

- Two types that react to the urban environment by specialising on high value added products such as meat, mainly pork, poultry, fragile leaf vegetables, ornamental or condimental plants and healthy vegetables like supra. These productions replace rice, which is a basic staple that might have to be bought. Thus, in the families’ perspective, their farmland is being urbanised.

- A third type has already fallen into the city where farmers make most of their revenues. To observes strategies where farmers wait for property prices to rise, while they work the land at minimum cost (investment and labour), all the while visibly occupying it.

The farmers largely support the process of becoming city-dwellers because it responds to the lifestyle they are striving for and because ground rents finance new activities or retirement. This process sometimes involves bypassing urban planning rules and regulations; a hidden real estate market exists, which feeds on citizens’ long-term
savings. Thus, the processes of urbanisation and those of becoming a city-dweller mutually feed each other. Under such circumstances, the safeguarding of open spaces, an essential element in the contemporary city can only come from public action.

THE EMERGENCE OF NEW VALUES: MULTI-FUNCTIONAL PERI-UrBAN AGRICULTURE

An open space policy entails a mode of sustainable management. This is why the concept of multi-functional agriculture is starting to be more widely shared. It is an urban fact, induced by an urban perception of agricultural spaces and by society’s acknowledgement of the capacity of agriculture to insure its permanence. In other words, agricultural management of urban open spaces means fair relations between the city and agriculture, with shared governance.

The new values
They originate in two principles of urban policies which emerged in the last few decades. The first is that the open space now appears as a necessary component of the urban territory. Agriculture is valued by two functional necessities. The first necessity is to feed the adjoining city. With the re-evaluation of the environmental costs of transportation, this function will gain importance in the future and will act as a more cost effective management tool for vast green areas of urbanisation and, knowing that the forest, very valuable in North America, also plays this role. The second necessity is the emergence of agricultural multi-functionality in new sectors. Even though the fair resolution of food issues remains the dominant finality of agriculture, the landscape or heritage are no longer considered as only rich country luxuries, but as a necessity for local development in the South as well.

Concerning the countries of the South, this question is first that of providing the societal legitimacy or policies to subtract from urbanisation certain spaces in the name of their value as public property. This public property concerns:

- Certain well-placed sites used for social activities, such as recreational areas or outdoor sports facilities
- The collective heritage, coming from the nature, biodiversity, history, etc. This clearly aims at the local level, since places with worldwide appeal are already protected under international policies such as nature networks like MAB or UNESCO world heritage sites.

For the moment, the processes analysed below suggest that ground rent remain the main driving force behind the expansion of the built fabric. Nonetheless, signs show that these new preoccupations are emerging, further laying the basis for the recognition that agriculture is multi-functional.

Examples of new heritage policies in the countries of the South

Dakar: nature as heritage object
The Niayes, meaning nature in the Ouolof language, are a series of humid bottomed depressions that run along the dunes found along the North-West coast of Senegal, from Dakar to Saint Louis. In this Sahelian country, they constitute veritable oases occupied by natural humid zones and are increasingly used for market gardening. With the rapid expansion of Dakar, which tends to occupy the closest Niayes on the Cap Vert peninsula, since 2000, authorities have introduced an innovative policy that considers Dakar’s Niayes as a habitable and as places for multi-functional reliance for the metropolis (fig.1).

The idea of protection appeared in the 70’s, when the great Pikine Niaye was declared non aed-
significant. Here, agriculture was identified as floriculture and market gardening with, as a favourable factor, the availability of wastewater. However, there was barely anything done. Public or private urban projects, legal and illegal, continued to eat up the Niaye with no regard for natural habitats and agriculture, it was further impoverished by clandestine boring in its aquifer and removal of sand.

An outline project, PASDUNE, was also launched by the state. It contained four strategic axes: i) spatial development of the agglomeration, ii) agriculture, iii) transportation, and iv) biodiversity. But its application decrees remain faulty. The first planned concrete action is a 10 ha park, which is currently being built. But its meaning remains ambiguous. Is this the future gate to authentically protect Niayes? Is it only the preservation of a remnant, in anticipation of their total disappearance, notably of an agriculture that could have been multi-functional?

Hanoi: agrarian history as heritage object
An important expansion of the Vietnamese capital was planned for next decades (till 2020). The plan included, among other things, two great innovations: The first was to keep a vast green belt between the city centre and satellite agglomerations, and the second was to create heritage villages.

Agriculture in these villages would become multi-functional because it clearly aimed at responding to new urban preoccupations. Traditional forms of agriculture would be maintained for heritage purposes; educational activities would be held for the city-dwellers, children in particular. At the same time, the production of traditional high added value agricultural products such as fruits, flowers for traditional festivals, fish, etc. would be encouraged. Leisure activities would also be accommodated in these villages, which would become proximity tourist areas.

Such trade villages have existed for thousand
years, located mainly in the large plain such as Red
River delta at Hanoi, Ha Tay, Bac Ninh, Thai Binh,
Nam Dinh provinces. Besides rice paddy activity, in
the free time farmer found other jobs to earn their
meals and to increase income. Gradually, the spe-
cial villages were established, which specialized in
products such as lacquer, pottery, embroidery, bam-
boo stuffs, woven items, paper, traditional painting,
wooden and stone making, etc. Nowadays, these
villages are disappearing gradually. However, the
authorities of Hanoi and surrounding provinces
have projects to maintain some trade villages. It
helps to preserve traditional character, provide
income as well as an attractive tourist places; so,
handicrafts are making a comeback.

For instance, Bat Trang Ceramic is consid-
ered important and is one of the well-known porce-
lain products in Vietnam. The history of china mak-
ing can be traced back as far as 14th century AD.
The village is only about 15 km from Hanoi and is
located on the Red river bank. Another one is Van
Phuc, silk village known as a longest living and
finest silk weaving canters. The ancient landscape is
maintained with the open tank with lotus, old ban-
ian tree, and afternoon market. There are still both
old and modern loom to be found in many houses.
These villages are to be maintained for tourist pur-
pose.

CONCLUSION: THE CONDITIONS
FOR SUSTAINABLE URBAN
AGRICULTURE

In poor countries also, agriculture seeps into the
professional field of urban planning, and is no
longer limited to the issue of supplying food to the
poorest. This does not necessarily mean that the
general convergence of urban policies has really
been established, and neither has it been in the
countries of the North, but signals the emergence
of some new questions.
The first deals with the nature of the points of view on the concerned spaces. Do they reflect the existence of the current populations (specifically agricultural) or at least their memory, or are they idealistic or nostalgic reinventions of the urban world? This is a real conflict that puts at stake the policies. The second concerns the legitimacy of the objects of public policies. Can the dominant perception of heritage in the countries of the North be generally applied to the countries of the South, taking into account that socio-political histories are radically different, as are their cultural traditions? If actual experiences are shared, such as those supporting the reintegration of the urban decontamination policies within the process of sustainable agronomic management of fertility, is it the same for other more immaterial and identity-based values? At last, the pre-eminence of public policies is only really affirmed within certain state traditions. It is certainly present in Vietnam, at once as heritage from a socialist state, and as a necessary coherence when facing environmental risks (flooding of the Red River in Hanoi, for example), but it is not as present in most other poor countries where specific interests dominate. Consequently, the necessity of defining the new shape of urban planning will impose itself with the acknowledgement of agricultural multi-functionality, or the necessity of maintaining the functionality of agricultural spaces, without forgetting that this agriculture is first and foremost an economic activity.

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