



## When agriculture meets the city...

... A desire for nature or an economic necessity?

André Torre and Lise Bourdeau-Lepage

*In this article, André Torre and Lise Bourdeau-Lepage consider the role of nature in the city through the prism of urban agriculture. They defend the idea that the future of this phenomenon is intimately linked to its landscape-related, aesthetic, and even educational qualities, so dear to the hearts of city dwellers.*

Long celebrated as a vestige of a bygone age, agriculture in the city has now become an increasingly common feature on politicians' agendas, whether in terms of urban planning documents – such as regional integrated development plans (SCOTs – *schémas de cohérence territoriale*); regional ecological coherence plans (SRCEs – *schémas régionaux de cohérence écologique*); and local urban development plans (PLUs – *plans locaux d'urbanisme*) – or in terms of local contracts (see, for example, the master plan for the Paris region, or SDRIF (*Schéma directeur de la région Île-de-France*), voted on 25 October 2012, which supports local farming). In accordance with the recommendations of the French urban renewal and solidarity laws (*lois SRU*) and the French government's environment round tables (*Grenelles de l'environnement*), local authorities have been trialling innovative land-use measures that encourage local agriculture, including protected agricultural zones (ZAPs – *zones agricoles protégées*); perimeters for the protection and enhancement of periurban agricultural and natural spaces (PAENs – *périmètres de protection et de mise en valeur des espaces agricoles et naturels périurbains*); sections of land earmarked for agriculture (*îlots fonciers*); land charters (*chartes foncières*); and agro-urban projects (*projets agri-urbains*). At the same time, other initiatives have emerged from associations and residents' groups; these initiatives include networks such as Terres en Villes<sup>1</sup> and Terres de Liens<sup>2</sup> in France, and PURPLE<sup>3</sup> at European level, the aim of which is to encourage the cooperative planning and management of periurban agriculture and agricultural spaces, and to encourage the establishment of farmers and farming activities close to cities (Torre 2012a).

Initiatives have abounded: shared gardens, as in Paris or Montreal; short food-supply chains and vegetable-box schemes, popular with city-dwellers; and urban produce, such as wine (e.g. Le Bellet, produced in the hills above Nice) and urban honey (sometimes called “concrete honey”). But are these “innovations” real alternatives for the future, or are they merely the whims of “bobos”?<sup>4</sup> Does this urban agriculture truly provide sustenance, induced by economic hardship, or is it instead a vector of social values and aesthetic considerations, owing to the landscape qualities it brings and the opportunities it offers for bringing communities together?

<sup>1</sup> <http://www.terresenvilles.org>.

<sup>2</sup> <http://www.terredeliens.org>.

<sup>3</sup> <http://www.purple-eu.org>.

<sup>4</sup> Bourgeois bohemians (as described, for example, in David Brooks's 2000 work, *Bobos in Paradise: The New Upper Class and How They Got There*).

**The “concreting” of the suburbs, as expressed in French songs from the 1960s**

<p><i>C’était un petit jardin Qui sentait bon le Métropolitain Qui sentait bon le bassin parisien... Mais un jour près du jardin Passa un homme qui, au revers de son veston, Portait une fleur de béton</i></p> <p>J. Dutronc et J. Lanzmann, <i>Le Petit Jardin</i></p> <p><i>(It was a little garden That had that smell of the Métro, That had that smell of the Paris Basin... But then, one day, a man walked by Wearing, on his lapel, A concrete flower)</i></p>	<p><i>Les hommes avaient perdu le goût De vivre, et se foutaient de tout... Le ciel redevenait sauvage, Le béton bouffait l’paysage Alors, les loups sont entrés dans Paris</i></p> <p>S. Reggiani et A. Vidalie, <i>Les Loups sont entrés dans Paris</i></p> <p><i>(Mankind had lost its lust for life, And gave a damn about nothing... The sky became wild again, And concrete engulfed the countryside, And so the wolves entered Paris)</i></p>
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**Agriculture in the city: a form of farming still seen as utopian...**

Urban agriculture – often defined as agricultural and/or food production activity that takes place within a city and which forms an integral part of the surrounding ecological system and urban economy – has always existed in developing countries, where it can play a major role in feeding populations. This is the case with milk production in Mexico City, for example, or in the Kossodo area of Ouagadougou in Burkina Faso (Le Gall 2013).

Its more recent reappearance in industrialised countries dates back to the 1970s and the first community gardens in New York: flowerbeds and vegetable plots were intended to act as social cement in run-down neighbourhoods. Today, in the north of Lisbon and in Detroit, family gardens feed populations that have been victims of the crisis, and the question of reintroducing or developing this model of local production is an issue that is emerging with some insistency. Although no clear-cut answer to the problem of how to feed cities has been found as yet, growing numbers of experiments have continued to flourish, including market gardens, poultry farms, beehives and rooftop greenhouses, as well as the use of urban resources such as organic waste or compost (as in Nantes and Lyon, for instance) and water recovery for crop irrigation.

## Northern Lisbon: allotments provide a large proportion of local residents' food in times of crisis



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Urban agriculture is characterised by a number of emblematic operations. These include innovative activities such as rooftop market gardens – for example, hydroponic gardens<sup>5</sup> in New York, which contribute to the greenhouse production of plants placed in sponges made of volcanic basalt fibre, using fertiliser and water recycling; or, using more conventional production techniques, the 3.7 hectares of greenery on the roofs of Paris created since the adoption of the city's biodiversity plan in November 2011. Another key type of landmark operation is the green wall (green façades and living walls), which can help reduce noise pollution by acting as an insulator, and even help reduce and absorb air pollution thanks to the micro-organisms present in the soil.

Another important form of urban agriculture is association-based or shared gardens, which can be found in most cities in France (as in other countries), often managed by local groups or neighbourhood associations, sometimes on behalf of local councils on parcels of municipal land that are either gardened collectively or divided into smaller plots that are then allocated on a temporary basis to group members. In France, the first *jardins communautaires* ("community gardens"), as they are called in the Nord *département*, were established in Lille in 1997. Distant heirs of traditional allotments (*jardins ouvriers* in French, or "workers' gardens"), these new types of community garden, maintained and managed by residents' associations, have grown rapidly in number over the last 10 years or so in French cities, although in some cases they have proved to be instruments for a degree of "clubbisation" (Charmes 2011), marked by a semi-appropriation of public spaces by certain social categories (Bourdeau-Lepage and Vidal 2012).

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<sup>5</sup> Hydroponics is a method of growing plants in water, without soil.

## The 6<sup>th</sup> Street and Avenue B Community Garden in Manhattan, New York City



© L. Bourdeau-Lepage, November 2007.

Lastly, futuristic projects for vertical farms, in the form of “green towers” or “agricultural skyscrapers” can be found on architecture websites and in certain writings (Despommier 2010). These utopian constructions, intended for food production, sustain the dream of a fully autonomous city, with the possibility of an integrated production chain with a different process on each floor (Purseigle *et al.* 2012). Beyond their utopian function, these projects deserve attention because they suggest solutions to the problems of land (un)availability and land use, at a time when plans to “reverticalise” cities are increasingly appearing on political agendas. What vertical farms offer is the elimination of transport costs and the resultant carbon footprint, as well as a regular supply of produce that is unaffected by the climatic and seasonal variations that field-based crops are subject to. So far, it is above all their depolluting and landscaping qualities that have proved an operational reality, as exemplified by the Perrache multi-storey car park in Lyon, with its pollutant destruction system composed of micro-organisms in the root system of the plants in its green walls.<sup>6</sup> Other uses are also emerging, such as the purification of water and air, or use of greywater for the irrigation of ornamental plants.

<sup>6</sup> See <http://www.lyoncapitale.fr/Journal/univers/Actualite/Environnement/Un-mur-vegetal-dans-un-parking-une-premiere-mondiale> (in French).

## The green wall of the Qpark Perrache–Archives car park in central Lyon



© L. Bourdeau-Lepage, January 2013.

### **... promising in terms of quality of life and social ties...**

For industrialised countries, the most obvious benefit of agriculture in the heart of our cities today lies in its landscape-related aspects and its ability to satisfy city-dwellers' desire for nature (Bailly and Bourdeau-Lepage 2011). Consideration of the aesthetic aspects of farming is a new phenomenon in France. City-dwellers have long favoured the manicured lawns and neatly trimmed hedges of parks to the spectacle of the nature or crops in the city. But this urban agriculture now seems to be “fashionable”, as evidenced by the fact that the proximity of a shared garden or urban market gardens is viewed positively and in most cases helps to maintain, or even increase, land prices in the surrounding area. In this way, the development of urban agriculture provides benefits of an aesthetic nature and helps to beautify the city; other benefits such as the development of green tourism or the creation of heritage walks in urban areas are also to be expected.

In addition to its aesthetic aspects, urban agriculture also has other functions, particularly in social terms. It can be a vector for integration for people in difficult situations, for the education of young city-dwellers, or simply be a pretext for the development of local associations. One final virtue of urban agriculture lies in its environmental potential, in terms of reducing heat islands.

### **... but limited by the quality of urban soils and technical difficulties**

However desirable the virtues of urban agriculture may be, and however keen certain city-dwellers may be to see evidence of nature and eco-friendly practices in urban areas, the development of agriculture in the dense urban spaces of industrialised countries faces many obstacles: after all, urban agriculture has to compete with other urban land uses. It must often resort to reclaiming land in cities that has long been developed and/or abandoned and unused for any agricultural purpose.

One of the most important limitations to the deployment of agriculture in the city is linked to the poor quality of urban soils. These soils are not only dry, compacted, rich in nitrates and sometimes polluted, with a high metal content, but their origin is also difficult to trace, especially if they have been displaced. This can be an acute problem in shared gardens, where growing food can still be a

risky business, and in the land-use conversion process, where a return to farming activity may prove difficult. In addition, urban agriculture is hampered by the fact that many plant and animal species are not able to live, grow or survive spontaneously on the urban land they occupy (Machon 2011), in particular because the environments of these areas are subject to heavy pressure from city-dwellers and their many activities.

In the case of vertical farms, the practice of soilless agriculture and the geographical proximity of other urban activities raises many questions and problems that have not yet been solved. These include, for example, identifying and developing innovations that can eliminate or recycle waste and excrement; reconcile the proximity of dense housing and the desire to consumer “untreated” products with the use of pesticides; and also supply these farming systems with fertilisers and plant-protection products that are compatible with urban environments. Although the questions of the economic consequences and environmental footprint of such towers have been considered, actual experiments are still rare.

### **Urban agriculture: a way of life?**

Today, the scale of the innovations to be designed and developed mean that the prospect of self-sufficient cities in industrialised countries is unimaginable (Deverre and Traversac 2011), and agriculture cannot claim to be at the heart of urban metabolism (Barles 2007). However, a nascent urban agriculture may help to increase the role of nature in the city (Bourdeau-Lepage and Vidal 2012) and provide some solutions to the sometimes tragic situations resulting from the economic crisis (Torre 2012b). Experiments are under way: Detroit, the former capital of the automotive industry, has rehabilitated large areas of land to enable subsistence farming among local populations and is in the process of implementing the largest urban farm project in the world, in the spirit of the victory gardens which helped to feed millions of city-dwellers during the Second World War. The Slow Food movement, which calls for the education of consumer tastes and advocates the consumption of local and seasonal products, dreams of transforming brownfield sites and playing fields into “fertile countryside”. It considers that, in view of rising energy costs, urban agriculture is the way to achieve a sustainable lifestyle in the big cities.

But these situations remain the exception for the moment, and the future of urban agriculture will surely involve the integration of landscape-related and aesthetic aspects beloved of city-dwellers. If only because of the interest it continues to generate among city-dwellers, who have a different approach from traditional farmers, and because it must take account of this vision, urban agriculture should perhaps move towards forms closer to gardening than to traditional agricultural theories and practices. It can serve as an example for city-dwellers who have forgotten or never known how a plant grows or how fruit turns into soil. After all, as Marie-Paule Nougaret (2010) so beautifully puts it, plants do not grow in the city, but rather cities grow on the planet of plants...

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