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The diversity of farmers' practices and relations facing urban demands. A case study in Montpellier (France)

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Abstract: *In France, the cities of the Mediterranean coastline are rapidly developing, sprawling on agricultural and natural lands. Paradoxically, new agricultural forms are emerging in peri-urban areas as well as the city demands for "greener" spaces providing food products and urban services. In this context, are these agricultural forms related to the city a marginal phenomena, or are they significant of an agri-food transition in progress? In-depth interviews in peri-urban farms allowed us to identify eight figures of peri-urban farmers, and analysed the relationships between each other, with urban dwellers and with public actors. Finally, we pointed out a gap between local tracks for innovations and arrangements, and the production of a territorial policy to support the ecological and food transition.*

Keywords: city, farmer, urban agriculture, agricultural practice, public policy, geography, Mediterranean littoral

In France, the Mediterranean coast is facing a rapid urbanization. Cities maintain two types of relations with agriculture. On the one hand, urban sprawl increases the agricultural land consumption and speculation. The number of farms is dramatically decreasing in urban peripheries, and at the same time more and more farms become periurban ones. On the other hand, a process of "agrarisation" of the city is emerging (Salomon Cavin, 2012). New urban expectations in terms of local food, ecology or landscape have resulted in a "renewal" of agricultural forms linked to the city (Soulard, Hasnaoui Amri et Scheromm, 2016). New forms of urban and periurban agricultures are rising. But we still don't know if they are - and will be - marginalized changes, or if they are the sign of transitioning pathways toward sustainable urban food systems. These renewing forms of agriculture are still dominated by the corporate agri-food regime (Holt-Gimenez et Shattuck, 2011). However, according to the social practice theory, scholars argue that these emerging forms are initial changes from a more global food movement which promotes the agroecological transition of the food regime (Cohen et Illieva, 2015). The objective of this article is to bring insights on this debate through an analysis of the diversity of periurban farmers.

Our work is based on a case study in the metropolitan area of Montpellier, France (430 000 inhab.). In this region, the new urban dwellers' expectations in terms of ecology and local food procurement led the metropolitan council, called "Montpellier Méditerranée Métropole", to design an "agro-ecological and food policy" in 2015. In a periurban context dominated by the vine monoculture, it has been a challenge for the farmers to respond effectively to these new demands. As a matter of fact, viticulture dominates the periurban agricultural area, but food demands in this area calls for the creation of new farming systems oriented towards local needs. The agroecological food policy of Montpellier Metropolis is based on the concept of "nurturing agroecology". This territorial policy offers a field to figure out the transforming dynamics of periurban farms in and around Montpellier. It promotes actions aimed at setting up small agroecological farms, reclaiming rangelands (mostly scrublands¹) through pastoral sheep breeding and organizing local supply chains.

¹ "Garrigues" in French.

In this particular context, is there a renewal of local agriculture towards urban demands? We question in this article the dynamics of this renewal. Our main hypothesis lies in the idea that the ability of farmers to create links with the city depends on their agricultural system, their social relations networks, and their participation to the food policy and urban planning. Are there agricultural profiles more in tune with the city than others? For example, are new farmers better able to meet expectations in terms of ecology and food supply? Are the heirs vine-growers - who can benefit from urbanization rent - also affected by these new urban expectations?

Our analytical framework combined three complementary scales: the farm scale, the local scale (social relations networks and local organizations) and the “metropolis” scale, which is an area that groups together the core-city of Montpellier with 30 periurban municipalities (5 965 hectares, 433 farms in 2010²). In order to articulate these three scales, we made 18 qualitative interviews of farmers located along a rural-urban transect in the “western plain” of Montpellier Métropole³. To do so, we searched for a variety of trajectories, experiences, production and marketing practices (Annex 1). In addition, we analyzed the masterplan maps produced by the Metropolis, and we conducted interviews with local elected officials and developers. This “western plain” sector has been identified by Montpellier Metropolis as a strategic place to deploy an “ecological and nurturing” agriculture zone in the metropolitan masterplan⁴, presently under revision (2016-2018). This area is one of the two main basins of productive farmlands in the metropolis. One reason is that the raw water system from the Rhône has been connected in 2016. A growing part of arable lands is now irrigable, but not necessarily irrigated. This area is also impacted by important infrastructures such as the “high-speed railway” and the motorway.

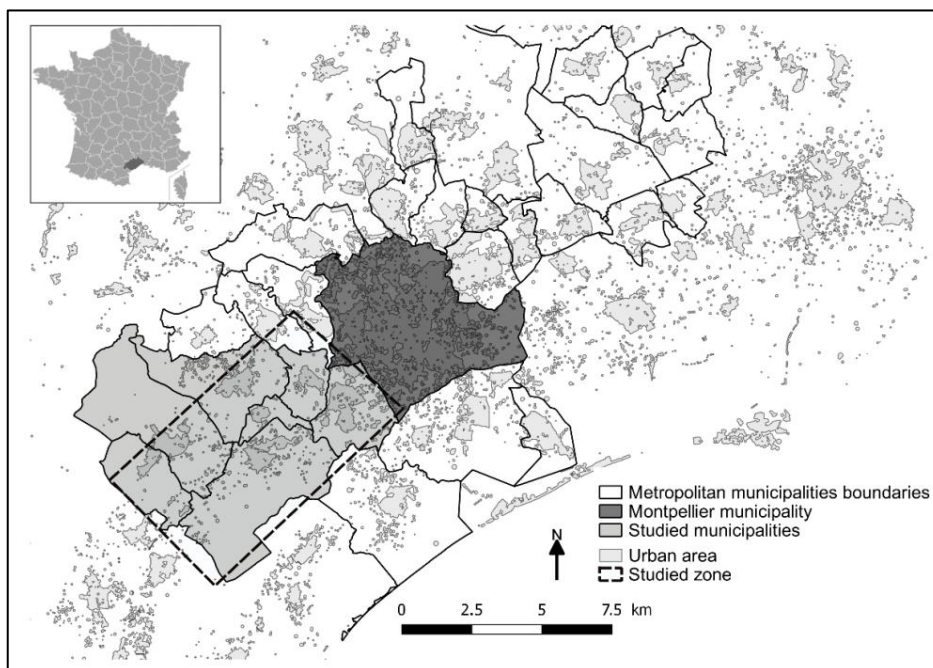


Figure 1. Montpellier Metropolis and the specific studied area (Western plain)

This “Western plain” is a good example of a periurban area impacted by both dynamics of agricultural and urban development (Figure 1).

The 18 interviews we conducted, addressing farm trajectory, spatial organization of agricultural practices, and social professional network (Annex 1), allow us to distinguish eight profiles of farmers (Hasnaoui Amri, 2015 et Etienne, 2017). At a local scale, new interactions

² Source : Agreste, R.G.A. 2010 (French Ministry of Agriculture).

³ 14 comprehensive interviews of farmers have been carried out in 2017, 4 other farmers of the same area had been investigated in 2015 and in 2018.

⁴ SCOT: *Schéma de Cohérence Territoriale* – the urban masterplan (at the inter-municipal scale).

and arrangements can be described between farmers, city dwellers, and local governments, on different aspects: production, marketing, land access and land use. A starting point for our interviews was the first census of organic farmers⁵ made at the metropolitan scale. The first farmers we met allowed us to expand the sample, according to the snowball survey method, by seeking a diversity of life paths, practices and responsibilities, both agricultural and urban. In addition, we made a squaring grid of the studied area in order to browse the field and favor the spontaneous meetings with active farmers.

Farm scale: a wide diversity of farmers' profiles

We propose to distinguish eight different profiles of farmers. Three of them belong to the prevailing agrarian system dedicated to the wine production. The five others are carrying out new production systems.

Three traditional farmers' profiles

(1)⁶ The most traditional one is the profile of the “**cooperating winegrower**”, who is facing economic difficulties linked with market instability and low prices. This farmer has inherited family vine lands and acquired others over time. The land tenure is mainly based on sharecropping, and quite small (less than 20 ha). Landowners profiles have evolved recently in the area. Those who do not live there do not adopt the practices of their parents, who used to provide oral loans or short-term leases to cooperative growers. They prefer to leave their lands fallow than rent them, which weakens the land base of some cooperators. The available farmland is not sufficient to produce the volumes needed to make the cooperative model profitable: it does not allow a restructuring or qualitative reorientation. The periurban location causes land access difficulties (high price and scarce availability). Some of the plots are located in margin spaces, or landlocked in city limits. For these farmers, the capacity of production is decreasing, and the spatial organization of production relies on farmers' perception of work conditions: they tend to invest more efforts on non-isolated and on inherited lands whereas they tend to abandon isolated and rented plots. In order to face the vulnerability of their system, they develop off-farm activities, such as the maintenance of green spaces for private and public customers.

(2) The urban proximity, pressures in land access, and the wine crisis of the years 2000', conducted other traditional farmers, the “**winemakers with particular cellars**”, to change their farming systems. They have focused on a more organic and quality production, based on “terroir” labelling of vineyards. These winemakers often inherited the vineyard, with a consequent amount of lands (around 80 ha). The plots are located in the plain, margins and scrublands. These farmers need a diversity of “terroirs” to produce different wines: they have developed a particular spatial organization, distinguishing qualitative and quantitative “terroirs” depending on the desired quality of wines. A land strategy consists in the abandonment of areas located on the urban fringe by selling these lands for further constructions (which means selling ten to thirty times the agricultural price of lands), and the purchase of land on much more qualitative areas (for example in scrublands) in order to maintain their capacity of production and to be able to better adapt to consumers' demands.

(3) The last winemaker's profile can be interpreted as a signal of agricultural renewal. We named it the “**diversified winemaker**”. This profile develops an intimate link with the territory: it is inherited from the traditional cooperating system. A desire of autonomy drove

⁵ led in 2015 by Sud&Bio, the organic inter-profession of the south of France.

⁶ In this paper, the numbers between brackets refer to the farmer profiles defined below.

those farmers to introduce sheep breeding in their system, as a tool for the wine work. The plots are located on the agricultural plain areas. The spatial organization, as for the winemakers with particular cellars, is divided into qualitative and quantitative terroirs. It is combined with another organization, with a mobility linked to the breeding activity, in a search for foraging resources depending on the season and the perception of the environment (security of the herd). This mobility is however constrained by the material and social constraints of the peri-urban area. The difficulties of displacement push these farmers to seek and valorize specific resources, in animal genetics (rustic breeds) and in feeding (valorization of the ash trees or the reeds, available locally).

Beyond those three profiles of farmers, resulting from the evolutions of the traditional winemaking system (Figure 2), five new profiles have appeared, related to the combined effects of urban sprawl and wine grubbing⁷.

New production systems and new farmers

(4) “**Nomadic farmers**” mainly cultivate former wine lands that have become vacant. They produce cereals, fodder, or seeds. The land occupation can change a lot from year to year, because most of the lands are cultivated on a one-year contract or/and with informal arrangement with the landowner. This land structure enhances the “waiting phenomenon”, where the landowner waits for the land to become buildable (Jarrige et al., 2003), using nomadic farmers’ activity to keep it from being abandoned. Three different types of nomadic farmers can be distinguished, depending on the land and material capital. The nomadic farmers on a regional scale can handle a lot of farming plots (more than 1000 ha) and a lot of material and workforce, and can develop farm services, such as ploughing, harvesting or sizing. The local nomadic farmers have inherited some lands and complete them with informal arrangements, reaching surfaces from 100 to 200 ha, that they can cultivate with their own material. The last case is that of smaller farmers (less than 100 ha) that didn’t inherit any land and only cultivate on the basis of informal arrangements with landowners. This land tenure is very vulnerable and can change a lot from year to year, depending on the expansion of building areas. For all of these farmers, the more and more disrupted road traffic increases difficulties to access their plots with farm equipment. In some cases, when plots are too difficult to access, farmers tend to abandon them or to simplify their intervention by reducing the number of technical operations.

Four other profiles have been identified mainly on margin spaces of the periurban area, such as flooding areas, scrublands, vacant lands and wastelands. Land access is the main problem for these farmers, who are strongly dependent on urbanization dynamics.

(5) Linked with the increasing demand for “rural hobbies”, the number of **equestrian centres** has increased. Equestrian centres and individual owners of horses occupy former vine lands, and use lands they own and others with informal arrangements. Fodder is produced locally (by nomadic farmers) and manure is often given to local market gardeners.

The last three profiles are new small-scale farmers who started their activity after 2010. The “**diversified organic market gardener**” (6) has settled recently in the sector. He is occupying the margin spaces, such as riparian zones, or land abandoned by wine growers. This figure is quite heterogeneous. It is composed of local winemakers’ heirs, and also of

⁷ The Hérault department has faced the uprooting of near half of his vineyard (162 000 ha in 1972; 86 000 ha in 2010 – Source: Agreste, R.G.A. 1972 and 2010), within the framework of the Permanent Abandonment Premiums, a European structural measure to better the wine market). (Arnal, Laurens et Soulard, 2013).

people settling in their 2nd or 3rd part of life, as part of a professional shift. Their level of training and skill is generally high. But they differ in their abilities to access land and capital, remaining dependent on their socio-geographical origin. As they are starting their activity, they usually try various productions and technical itineraries in order to see how they are adapted to the area and to their customers' wishes. They do not have localized technical and commercial references, because they are still quite original in the local agrarian system. After 5 to 10 years, they tend to simplify their activity system, by focusing on few products appropriate to the local markets explored and maintained during the previous test phase. Being located in marginal areas, they are subject to natural risks, such as floods. They look after their relationships with nearby equestrian centers, which often provide them with organic matter (equine manure). Their relations with other truck farmers are quite limited, except for those who practice short food supply chains that lead them to meet peers. Relations with municipalities are also narrow: their priorities are in their first years to optimize the technical and commercial system.

The **“olive grower in scrublands”** (7) is an hybrid figure too. The region is characterized and marked by the frost of 1956, which led to a gradual abandonment of olive cultivation. This figure is composed on the first side of local *amateurs* who have inherited plots planted with olives. On the other side, we've found some new farmers, who have settled down after other professional experiences, not necessarily linked with farming. The installation of this system is progressive: it involves a long and patient work to rehabilitate olive trees from regrowth following the 1956' frost. In terms of space logics, these olive growers are very mobile: they are able to develop very diverse soils, from sloping scrublands to river banks. They are therefore affected by the issue of agricultural constructability. Most old olive groves have been classified as “natural” zones after the Frost. This ranking prevents new olive growers in their projects in terms of equipping plots with shelters and sheds, essential elements for a smooth running of their activity. Their relationships with landowners are dense because they regularly negotiate access to plots, often abandoned, on a long-term lease base. They are also involved in municipal or departmental bodies, in order to defend their vision of a rehabilitation of the olive tree in the scrublands.

The **“pastoral breeder”** (8) is an important figure in agrarian history, but it has almost disappeared from the area in the last 30 years. Recently (from 2015), the interest for the reintroduction of pastoralism has been renewed, on the basis of its positive contribution to the environmental management objectives of the natural environment that are scrubland or riparian zones. The breeding system combines extensive grazing on scrubland and forage production on more arable and wet areas. The breeder is brought to circulate with his flock within the landscape. It thus constitutes a link between farmers themselves, and between farmers and other urban users of space. The existence and installation of this activity being closely linked to conservation issues, these breeders privilege their relations with naturalist associations that are implementing locally environmental compensation. They also have relations with other pastoral herders of the regional territory, with whom they share the summer pastures or the fight for the maintenance of slaughterhouses nearby.

In these three last cases, the spatial organization is related to the distribution channel, based mainly on local food supply chains or direct selling, which leads the farmers to produce all year long and thus to be diversified. As a consequence, the farmers tend to functionalise their lands, with spatial (intensive/extensive) and temporal dualism (winter/summer). In order to consolidate their customers' relationships, those farmers develop other in-farm activities: children activities, visits for schools, picking at the farm, or even farm shops. Those new

activities respond to the increasing city-dwellers' demands to reconnect with a rural way of life.

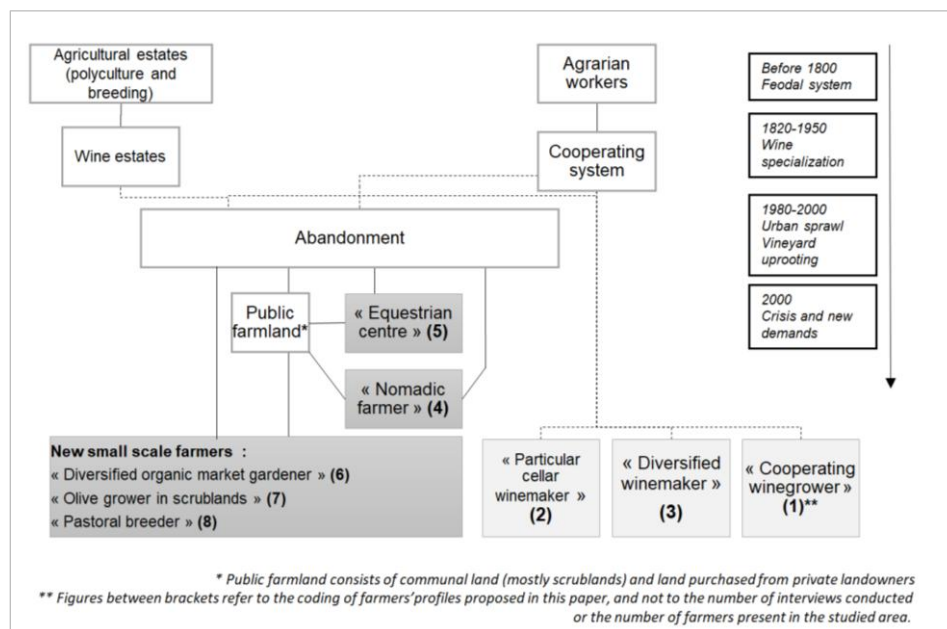


Figure 2. Genealogy of the different farmers' profiles, from 1800 until today.

Those eight different profiles illustrate a renewal of the diversity of farmers in the “Western plain”, with different logics for spatial organisation coming from different life paths and different relationships with consumers.

Network scale: new arrangements between farmers, new relations with the city

Two main dynamics between farms and the city

Two main dynamics appear with opposite directions. Viticulture is slowly moving away from the city fringe. Vineyards are being relocated on scrublands, considered now as more qualitative spaces. To do so, vinegrowers may rent some plots to nomadic farmers, or/and sell the plots that are more difficult to maintain because of their location (urban limits, or margin spaces). These systems (vine growing and nomadic farming) have few links with the city and most of the production is exported out of the region. For these profiles, periurban location seems to have more negative than positive externalities.

The inversed dynamic is the one of new profiles, whose systems are strongly linked with the city of Montpellier and the urban demands for a multifunctional agriculture that provides goods (local products, most of them organic) and services (ecosystemic services, landscape management, education, hobbies). City-related profiles develop by spots, where lands are available (Figure 3), reminding of the green belt organization that pre-existed in Europe before the Green Revolution. The prospective workshop⁸ we have run with farmers from all profiles showed that all of them are struggling with the positive and negative externalities of the periurban location. The different dynamics they implement depend on how their system fits urban demands. Winemakers with private cellars (2) have to balance between the profit

⁸ held on November 10th, 2017 in Fabrègues (western plain of Montpellier Métropole).

obtained from the sale of suburban boundary lands and the maintenance of a production potential and the opportunities to value their product. Organic market gardeners (6) underline the fact that their periurban location is an opportunity for a better valuation of their products (higher prices), because of an increasing demand for organic and local products or services.

In the same periurban space, farmers develop differentiated strategies. On the one hand, farmers “inheritors” of the prevailing wine system (1) are weakly linked with the city, in terms of technical and/or commercial choices. On the other, new agricultural profiles wish to meet urban demands in terms of landscape protection (since the 1990s) and in terms of local food procurement (since the 2000s).

New practices lead to new arrangements between farmers

Although pastoralism is an integral part of the traditional Mediterranean agrarian system, wine specialization has occupied most of the space, and farm animals have declined in the region since the 1970s (Rieutort, 1995). The recent development of sheep farming is partly due to new urban demands linked with the fire risks in residential areas, and coming from new rules encouraging developers and public bodies to invest in the protection of natural areas (mainly scrublands and wetlands). Livestock farming is particularly difficult in this area, because of the limited availability of grassland resources. Herd moving is often reduced by the increasing road traffic. In order to guarantee the autonomy of their animals in terms of fodder, farmers are asked to solicit their cereal or fodder neighbours to graze their fields after harvesting during the summer, when the availability of grass is lowest in the meadows. They also have agreements with winemakers to graze the vines after the grape harvests, during the winter, once the vine has reallocated nutrients in the leaves. Thus, the arrangements with the neighbours make it possible to increase the fodder autonomy for these breeders at the most vulnerable periods. Another example is that of a horse breeder who organizes hiking tours with a stop at his neighbour's - a winemaker, where tourists and local horse riders can test and buy wine from the vineyard: an original service to offer for the equestrian centre and a source of new customers for the winemaker. These agreements contribute to enlarge the local farming network, and enhance the ability of these farmers to negotiate land use rather than property. They open a new way to take advantage of the complementarities between agricultural areas and urban activities and markets. Better relations between farmers seem to encourage their integration into the city.

Neighborhood relationships

How are these contrasting agricultural worlds confronted with the sprawling city? The “city” can be seen as a conjugation of artificial spaces – or “urbanized” ones, of inhabitants – or “urban” people, and of cultures, values carried by these inhabitants (Le Caro, 2016).

Being a farmer in periurban areas means being the neighbour of other farmers, but also of urban citizens and, as it is the case in the periurban areas of Montpellier, with “travellers”⁹. These people, unwanted in the heart of villages, set up their camps in marginal areas, where they are less visible. The coexistence of farmers with urban dwellers and travelling people leads to new agreements or conflicts. Agricultural lands might be considered as open spaces by urban dwellers: they can wander in the fields or drop garbage along the paths. For the farmer who owns or uses the field, the land isn't only a plot, but also a working place with a productive purpose. This mismatch of representations and practices can create conflicts between farmers and their neighbourhood. Travelling people have also their part in the

⁹ In France, the Gypsy population is referred to as “*gens du voyage*” (“travelling people” or “travellers”).

garbage dropping or disrespect of the private property leading to other conflicts. If some farmers do not manage to get out of the conflict situation, whether they undergo or dominate it, some develop arrangements. The first attitude is to negotiate with travelling people, for example by allowing them the access to electricity, against the warranty of tranquillity (no robberies). But the relationship can go beyond a mere balance of power. Some farmers develop real relationships with travellers, helping them to set up small-scale farming, gardening, for example by seed exchanges or the loan of a breeding animal. In these cases, a mutual learning relationship might be developed, as some of these people have a good knowledge of natural properties and uses of wild plants. Neighbourhood-related urban nuisances exist for farmers, but do not prevent agricultural development, and instead lead to innovation in social relations, with a position statement between collaboration, negotiation and conflict. This ability to negotiate with periurban populations, officially settled or not, seems strategic in farmers' diversification projects. When conflicts are limited, the farmer tends to reduce the intensity of his activity on the space concerned.

New arrangements with customers

The renewing movement of periurban agriculture near Montpellier is affecting a larger scale than individual systems. Urban demand for healthy and local food is driving farmers to innovate in order to provide original products and services, with increased value.

This local offer creates new niche markets. Most of the farmers we interviewed sell a part of their production in short food supply chains or direct selling (with sometimes more than three different channels), except for the “cooperating wine grower” profile (1). Recent changes in the wine sector are reflected in the diversification of grape varieties, reconversions into organic farming, leading to the diversification of the wine supply and to an increase of the added value. The new interest for the scrublands, with the planting of vines (thanks to important investments to prepare the soil), has an impact on the landscapes, with the culture of spaces that have been mostly abandoned since the 1960s. If during the “golden age” of viticulture, the plain spaces were the most covered spaces, now scrublands are the new places to be, in terms of image and wine quality. Indeed, a major part of the AOP¹⁰ areas is located on ‘garrigues’. We observe in the plain a dynamic already spotted in the piedmont. For example, Cheylan (2001) has shown that the reputation of the neighbouring AOP ‘Pic Saint Loup’ was largely built by neo-winegrowers. They have highlighted marginal land, often located in scrublands, beyond the first village crown owned by the prevailing families of winegrowers. The growth in AOP wines' surfaces and productions illustrates this conversion towards a higher quality. The wine is sold to traders, but also locally (via direct selling) at the cellar.

Organic market gardeners (6) diversify their offer by different means. All truck farmers interviewed sell their products in open-air markets or directly on their farms. Some of them have even developed a farm shop, selling their production but also some products they buy on the wholesale markets or to other farmers. Their goal is to offer a wide range of products to build customer loyalty. According to our farmers' interviews, customers tend to “prefer to buy diversified products in one place rather than going from farm to farm to procure each product they need”. With the same idea of diversification, processing is a good way to greatly increase the added value of vegetables and reduce waste or losses when production has a disease. In the same trend as farm shops, short chain supermarkets are developing, selling only products bought directly from farmers located less than 200 km away. These new

¹⁰ AOP : *Appellation d'Origine Protégée*, or « Protected designation of origin » (used in Europe to market “terroir” products).

outlets encourage producers to broaden their range of products. It is an important market for breeders (8), who find in these short food chains a recognition of their work, local practices and know-how, as well as a good valuation of their product (margin control).

Farmers' engagement in responding to their customers' demands in terms of new products and services can be interpreted as a new form of arrangement between farmers and urban dwellers.

Land arrangements: opportunities and constraints for the farmers

The much tensed situation of land access creates real difficulties for the farmers: prices for agricultural land are the highest in the Hérault department (more than 10 000€/ha (SAFER, 2018)¹¹), making new farm settlements very difficult. Beyond the price, the availability of lands is very short, increasing population and urbanization being amplified by the expectation of the "urbanization rent" (Jarrige et al., 2003). In addition, while local heirs have generally access to the right to build farm buildings (such as barns, hangars, greenhouses, etc.), new producers (6, 7, 8) are facing real difficulties to obtain a building permit, which in some cases calls into question the development of their activity. In this context, farmers are multiplying informal arrangements with landowners, making land and building access very uncertain. This uncertainty depends on farming systems. Cereals cropping (4) and equine breeding (5) are more favoured by this situation than permanent cultures (and equipment) such as viticulture (1 to 3), arboriculture (7) or truck farming (6). Most traditional farmers, whose families are living in the area for generations, are well integrated into the local social network of landowners. In the villages around Montpellier, the population growth forces mayors to build new infrastructures for housing and services. The interviews we conducted showed that families with significant land capital may enter more easily into land agreements with municipalities. For example they bargain the provision of land with a permission to build in another location. Moreover, while in some cases land arrangements weaken some farmer profiles (1), for others (2,4,5), land deals are opportunities to provide economic support or structures for the farm development.

The periurban location creates an environment of opportunities and constraints for farmers. Our interviews show that farmers are implementing a variety of arrangements with a diversity of actors (depending on the issue): with consumers (marketing), with landowners or local communities (land access), with their peers and neighbours (farming practices), with non-farmer neighbours (land use). In cases where no arrangement can be made, the activity is abandoned. Thus, in this diversity of situations that constraint the daily practices of their profession, arrangements make it possible to overcome constraints and innovate in order to adapt to the agricultural system, whatever the profile of the farmer is. Until the 1970s, winegrowers were still present or represented in municipal councils. The change of population in periurban municipalities has transformed the composition of the councils. Thus, there is no formalized space for dialogue in the event of conflicts involving farmers. The latter are led to take a mediating position themselves to find arrangements related to the shared use of space.

Policy scale: relations between farmers and local authorities

At the farm scale, our results show that innovations take the form of both "spots" (diversified organic truck farming and equestrian centres) and more extensive areas (pastoral farming, olive trees in scrublands). The second scale of relations within the small agri-urban region

¹¹ SAFER, 2018. [<http://www.safer-occitanie.com/fr/page/le-prix-des-terres.php>] website consulted on April 16, 2018.

points out that innovative farmers, whether they come from the local agricultural social world or not, are able to implement arrangements: between farmers; with other space users (such as travellers); with landowners; and with the city-dwellers. The third scale that interests us in this section focuses on the relations between local farmers and the metropolis food policy of Montpellier and its 30 periurban municipalities. It raises the question of the relations between a diversity of agricultural worlds and local public actors.

In 2015, Montpellier Metropolis defined a new agroecological and food policy. It has addressed the issue of agricultural settlement through the allocation of public lands (Hasnaoui Amri et Perrin, 2017). It seeks to build new short food chains in order to meet the growing public catering demand in terms of local healthy food.

The relationship between urban councillors and local farmers is also based on arrangements and transactions (Vanier, 2012). In the vine sector, the “Communauté d’Agglomération” (name of the inter-communal government before the recent creation (2015) of the “Métropole”) was built on the negotiated basis of a promotion of regional viticulture and of incentives for new wine markets, in return of a strong use of viticulture for the promotion of the territorial marketing, towards the local population (Wine Festival, Wine Route) and towards foreign audiences (international Wine fairs). In doing so, it particularly promotes the figure of the independent winemaker (2). More recently (since the 2010s), the city of Montpellier, followed by the Metropolis, has invested in the support of organic market gardening (6) and pastoral redeployment (8). This support makes it possible to “green” the image of the local city government. In return, farmers negotiate a grazing right, lands to form rangelands, buildings and facilities for the practice of breeding or market gardening.

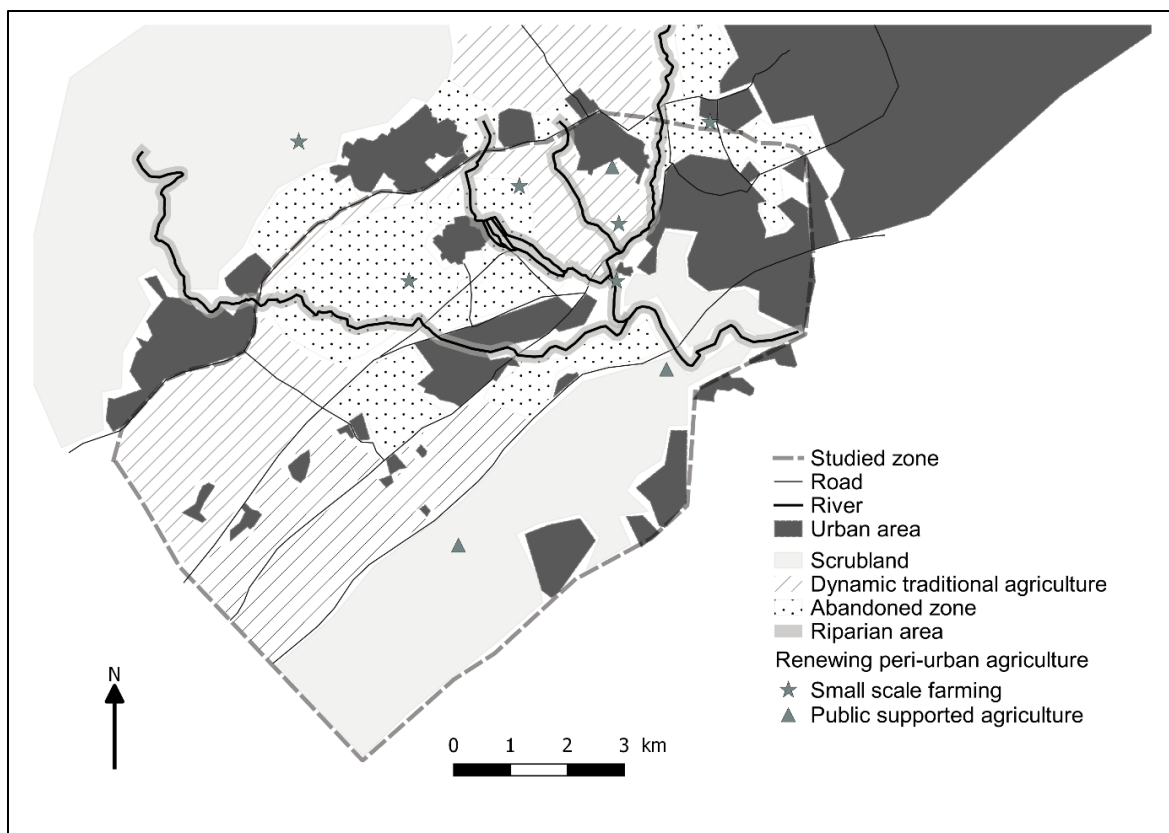


Figure 3. Renewing of peri-urban agriculture in city-margins or abandoned areas.

The prevailing farmers ((1) and (2)) favour two local political scales: the municipality, where the urbanization¹² was managed until then, and that of the “Department”. But new public actors are emerging: municipalities’ groups, as well as non-profit organizations that “operate” in favour of environmental protection. We can illustrate this change through farming public projects in our study area. Three agricultural projects have been launched these last four years (2014-2018) in the West Plain of the Metropolis (Figure 3). The most advanced is the settling of a new sheep breeder (8) in a scrubland area. Environment and biodiversity management objectives are set for the sheep breeder. In return, the environmental operator supports him for the access to land and buildings, for the development of pastoral equipment (fences; troughs; paths; etc.) and for technical support. The first breeder settled with his flock in the spring of 2017. The second farm activity was initiated in early 2018. It is an innovative wine production activity, since it is a biological production worked and transformed by a staff of people engaged in job integration programs. These two projects are accompanied by an environmental association, in connection with the local municipalities. The third case is the oldest, but the least advanced. It is carried out by a municipality. It's an “agriparc” project¹³. The municipality wishes to set up a new multifunctional agricultural park, oriented towards the needs of the urban dwellers, with gardening areas, market gardening (6), small livestock farms, and a farmers' shop.

The surveys we conducted show contrasting relationships between farmers and local elected staff. Winegrowers (particularly (2)) are mostly in contact with the municipality on which their farmsteads are located. Some of them still have family or friendships with members of municipal councils of communes on which they use land, and know who to turn to for their winemakers’ interests, from the local to the regional scale. These relationships are mainly structured around two issues: the land market and wine “terroir” marketing. Farmers who are more linked to the city (specially (6) and (7)) favour new multi-actors arenas related to environmental issues (defending the commons) and short food supply chains (defending the relocation of food and services). We organized a territorial foresight workshop on the occasion of the return of our survey. The 12 farmers attenders were representative of the diversity of profiles described above. They confirmed that they share, beyond their differences, concerns linked with local public actors. They share in particular the concern of the daily use of the periurban spaces: how to circulate with farm equipment, or a herd, in a space which is no more predominantly agricultural, and thus which is not arranged in this direction anymore? The discrepancy between local political discourses focused on a landscape vision of agriculture, recently put back on the agenda as demanded by the inhabitants, and the difficulties of the daily agricultural work was also pointed out as a major issue. Finally, these concerns deal with social justice: why do the municipalities and the metropolis invest so much on small “spots” of public land to redeploy agriculture, instead of listening to and supporting farmers already in activity? From farmers’ standpoint, the “agriparc” project is seen as made by urban developers for urban people, whereas their innovative individual projects are still not recognised.

¹² This competence is since the French MAPTAM law (2014) delegated to the intercommunalities (such as the *Métropole* in our case study).

¹³ The “agriparc” concept was launched in 2011 by the former “Communauté d’Agglomération” as a “Local Agenda 21” initiative.

Discussion: How does the diversity of farmers facilitate the dialog between agriculture and the city?

Our results showed the contrasting agricultural dynamics in a Mediterranean periurban area. Traditional winegrowers continue to represent the main part of the local agriculture. In this category, we can find "large estates" owners but also a decreasing number of cooperative winegrowers, among whom a large diversity of logics and systems coexist. When the sector became irrigable in 2016 nomadic farmers running temporarily available lands have increased their interest for this area. They usually develop cereals and fodder, sometimes rotating with vegetable crops. Next to these farmers, new agricultural figures have emerged over the last ten years: the "diversified organic market gardener", the "olive grower", the "pastoral breeder" and the "horse leisure practitioner". New alliances are bringing farmers closer to other farmers ("professionals", pluriactive practitioners or hobby farmers), to city-dwellers, or to local authorities promoting agroecology and the circular economy.

We would like to discuss these results along three lines that we consider interesting to explore.

Periurban farmers develop a diversity of *arrangements at various scales*. To manage fertility, farmers use equestrian centers and landscapers, real organic deposits at the scale of the living area. A retro-innovation is to graze sheep flocks in the vineyards, or on plots of freshly harvested cereals. Arrangements are also found in the field of local marketing of agricultural products: farmers are organizing to produce complementary ranges, and they agree with new distribution points able to truly highlight their practices and proximity. We found out also land arrangements in order to occupy vacant plots by temporary crops or uses - like cereals, vegetables, fodder, horses. These results show that diversity helps to manage the territory in the sense of increasing the possibilities of hybridization between these profiles, in terms of fertility management, commercial networks or negotiations with local authorities. The local wine agrarian system continues to impose its influence because of its social, economic and land importance. Neo-farmers adapt to this winegrowing pattern to find their role. The dominant agrarian system weighs on the emergence of a more nurturing and ecological agriculture. Despite the differences between the dominant agrarian system benefiting from urban expansion and the emergence of farmers more in line with the urban policy, our work shows that it is the hybridization, the alliance and the arrangements between these profiles (and other urban actors) that allow a renewed dialog between farmers and local politics. As shown in Figure 3, the agricultural periurban renewal seems to be made since a movement coming from the margins of the agrarian space: its historical margins (the scrubland), like its contemporary margins (the spaces waiting for urbanization).

The *innovations* identified are, however, *fragile*. The places of innovation are "hidden", "marginal" places, which can be located in the scrublands or within the diffuse housing pattern of the urban fringe. Progress to sustainable practices seems to be more correlated to land tenure than to soil quality: our surveys show that farmers pay more attention to plots they own or rent with a long-term lease rather than to land used occasionally, without written lease. The major trends of "land desactivation" (Van Der Ploeg, 2014) near the urban fringe seem to be continuing: the fastest growth is in annual crops, to the detriment of perennial crops (Jarrige et al., 2009). However, weak signals are revealed by our work. Agriculture is partially renewed in its agronomic and commercial practices, because of new links with the urban and their territory. The cases of "nurturing" farm figures linked to the city prove it: organic diversified truck farming; plantations and renewal of olive trees in scrublands; pastoral redeployment. For the authorities, the agri-food development realm is new. It raises

questions of skills and social justice in the process of conception and implementation of new institutional routines (why and how to act as a public institution in order to favour one agricultural form rather than another?). Providing "resources" for new models requires careful attention to the innovations driven by local farmers. It seems necessary to scale up the supported innovations.

Finally, in methodological terms, this study shows the interest of the interdisciplinarity between *social geography and landscape agronomy* combining the achievements of the analysis of agrarian systems with social geography approaches such as an everyday practice analysis of "lived spaces", toward a multiscale approach of relations between farms and territories (Bulher et al, 2010). It raises questions for the two worlds we have encountered. For farmers: *how to manage the paradoxical dynamics generated by a renewed contract with the city based upon a multifunctional agriculture, protective of natural and nutritious resources, but weakened by precarious land tenure?* For urban planners and policy makers: *how to overcome the "islands of success", the punctual initiatives, to gradually change the routines and practices in favor of a nurturing and territorial agroecology?*

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References

- Arnal, C., Laurens, L. et Soulard, C.T. (2013). *Les mutations paysagères engendrées par l'arrachage viticole, un vecteur de mobilisation des acteurs territoriaux dans l'Hérault*. Revue en ligne Méditerranée n°120, 49-58.
- Bulher E.-A., Soulard C.-T., Lopez-Ridaura S. et Camara A. (2010). *Farms and territories: crossing agronomy and geogaphy to elaborate multifunctional farming systems*. Symposium ISDA "Innovation and sustainable development in Agriculture and Food", Montpellier, France, 28-30 juin 2010.
- Cheyland, J. P. (2001). *Evolution de l'occupation des sols en hautes garrigues viticoles et périurbaines de l'Hérault*. In Actes du colloque Dynamique rurale, environnement et stratégies spatiales. Vol. 13, 481-491.
- Cohen, N. et Ilieva, R. T. (2015). *Transitioning the food system: A strategic practice management approach for cities*. Environmental Innovation and Societal Transitions, 17, 199-217.
- Etienne, L. (2017). *Agricultures périurbaines en Méditerranée: coexistence d'une diversité d'agriculteurs dans des espaces en mutation. Le cas du secteur SCOT Plaine Ouest de la Métropole de Montpellier*. Mémoire d'Ingénieur agronome, spécialité RESAD. Montpellier SupAgro, 95 p. (+ Annexes).
- Hasnaoui Amri, N. (2015). *Quelles organisations et coopérations territoriales permettent aux agriculteurs d'être acteurs de la politique agricole et alimentaire de Montpellier Méditerranée*

- Métropole ?* Mémoire de Master Recherche Géographie Aménagement, Université Paul Valéry, Montpellier. 54 p. (+ Annexes).
- Hasnaoui Amri, N. et Perrin, C. (2017). *Innovation, justice et apprentissages dans les procédures d'attribution de foncier public à des agriculteurs par la Métropole de Montpellier*. In *Innovations foncières* (Ouvrage collectif, à paraître).
- Holt-Giménez E et Shattuck A (2011). *Food crises, food regimes and food movements: rumblings of reform or tides of transformation?* The Journal of peasant studies 38 (1):109-144
- Jarrige, F., Jouve, A. M. et Napoleone, C. (2003). *Et si le capitalisme patrimonial foncier changeait nos paysages quotidiens?* Le Courrier de l'environnement de l'INRA, 49(49), 13-28.
- Jarrige, F., Delay, C., Montfraix, P., Gambier, J.-P., Buyck, J. et Chéry, J. P. (2009). *Mutation du foncier agricole en frange urbaine. Elaboration et mise à l'épreuve d'une politique de régulation territoriale*. Communication présentée à l'occasion du XLVIème Colloque de l'ASRDLF "Entre Projets Locaux de Développement et Globalisation de L'économie : Quels équilibres pour les espaces régionaux ?" (Clermont Ferrand), 21 p.
- Le Caro, Y. (2016). *Inscriptions spatiales de l'urbanité en campagne : une approche topologique de l'expérience des agriculteurs dans l'ouest de la France*. Annales de Géographie, N°6, 564-589.
- Rieutort, L. (1995). *L'élevage ovin en France: espaces fragiles et dynamique des systèmes agricoles* (Vol. 7). Presses Univ. Blaise Pascal.
- Salomon Cavin, J. (2012). *Entre ville stérile et ville fertile, l'émergence de l'agriculture urbaine en Suisse*. Environnement Urbain, 6, 17-31.
- Soulard, C.-T. (2014). *Pratiques, politiques publiques et territoires : construire une géographie agricole des villes*. Mémoire de Thèse HDR. Université Michel de Montaigne - Bordeaux III.
- Soulard, C. T., Hasnaoui Amri, N. et Scheromm, P. (2016). *Peut-on parler d'une renaissance de l'agriculture par la ville ?* Communication présentée à l'occasion des Journées rurales 2016 "Renaissance rurale: d'un siècle à l'autre" (Toulouse), 8 p.
- Van Der Ploeg, J. D. (2014). *Les paysans du XXIème siècle. Mouvements de repaysanisation dans l'Europe d'aujourd'hui*. Paris, Éd. Charles Léopold Mayer.
- Vanier, M. (2012). *Dans l'épaisseur du périurbain*. Espaces et sociétés. 1: 211-218.

Annex 1 – the sample of farmers surveyed on the west plain of Montpellier Métropole (interviews led from 2015 to 2018)

Inquiry number	Farmstead location	Life path			Socio-spatial practices			Responsibilities	
		Age	Year of settlement	Socio-geographical origin	Activity system	Activity 1	Activity 2	Agricultural	Urban
1	Periurban	72	1967	Heir viti – Local	ATP – Conv.	Field crops	Olive and vine growing	X	X
2	Periurban	58	1976	Heir viti – Local	ATP, GAEC – Conv.	Seeds, field crops	Vine growing	Inter-pro. seeds	X
3	Periurban	58	1979	Héritier viti - National	ATP - Raisonné	Seeds	Cereals	Chamber of Agri. / Inter-pro. seeds	Région (CESE)
4	Urban	59	1989	Heir viti – Local	ATP - Raisonné	Fruit trees	Free fruit picking	Inter -prof. fruit trees	X
5	Rural	55	1989	Heir agri - Local	ATP - Raisonné	Viticulture coop.	Winemaker part.	Coop.	X
6	Urban	50	1989	Heir viti – Local	Viti conv. + services (landscape)	Viticulture coop.	Green spaces (services)	Viti. coop.	X
7	Urban	63	1990	Heir viti – Local	ATP – Bio	Viticulture part.	(Urban ground rent)	Wine syndicate	Municipal council (family)
8	Urban	53	1998	Neo reconv. - Regional	ATP - Raisonné	Fodder Cereals	Olive growing	Equestrian org.	X
9	Periurban	67	2001	Heir agri – Regional	ATP, GAEC - Raisonné	Winemaker part.	Olive grower	Wine syndicate	Local enviro. association
10	Periurban	37	2005	Heir viti – Local	ATP - Bio	Viticulture coop.	Sheep farming (meat)	X	Municipal councilor
11	Rural	35	2010	Heir (from neo) - Local	ATP – Bio	Winemaker part.		X	X
12	Urban	52	2011	Neo - National	Cot. Sol. – Bio	Wine grower (scrubland)	Agric. services (tree size, etc.)	Local organic farming association	Municipal councilor
13	Periurban	38	2012	Neo – Local	ATP - Raisonné	Equestrian centre		Equestrian org.	X
14	Periurban	37	2013	Neo - National	ATP – Bio	Diversified truck farming	Small breedings	X	X
15	Urban	48	2014	Neo- Régional	Cot. Sol. - Raisonné	Diversified truck farming	Poultry breeding	X	X
16	Urban	32	2014	Heir viti – Local	ATP – Bio	Diversified truck farming	Cattle breeding (meat)	X	X
17	Periurban	37	2016	Neo - Régional	ATP - Raisonné	Equestrian centre	Services (riding therapy)	Equestrian org.	X
18	Periurban	38	2017	Neo – National	Cot.Sol. – Bio	Sheep farming (meat)		X	X

Legend :

“Urban” (1st crown around Montpellier) – “Periurban” (2nd and 3rd crowns) – “Rural” (beyond the 3rd crown of the core-city)

Conv. : conventional farming - *Raisonné* : integrated agriculture – *Bio* : organic farming

Reconv. : professional retraining - Heir : from an agricultural family who owns land - Neo : not coming from the agricultural world

ATP : Agriculteur à Titre Principal, Professional farmer – *Cot.Sol. : Cotisant solidaire*, Farmer being installed (not considered “professional” by the official conventional agricultural institutions – in France)