Chapter 16

Results Based on Information Provided by the Daily Regional Press

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16.1. Introduction: The Specificity of Peri-urban Agricultural Areas: A Context of Extreme Competition for Access to Resources

Empirical observation of the forms of agriculture developing on the periphery of cities reveals the generalized presence of particular types of production or commercialization, which explains why certain sectors, such as the vegetable growing industry or the associated agricultural production, are sometimes called "peri-urban agro-industries".

However, two factors make it difficult to identify the production sectors that are specifically peri-urban: the first is the existence of a large variety of localized agricultural systems in peri-urban areas (see the high concentration of cereal growing on the periphery of Paris); and the second is the presence, in rural areas, of the same forms of food agriculture. Given this finding, most of the scientific community agrees that the specificity of the peri-urban sectors of agricultural production remains to be demonstrated, but that the specific nature of peri-urban land itself is undeniable. Its specificity lies in the fact that an increasing number of users compete for access to resources and land that have been traditionally reserved for agriculture.

The idea that peri-urban agriculture is above all defined by the state and location of the exploited resources is expressed by the concept of 'urban agriculture', proposed by Mougeot (2000):

> Urban agriculture is an industry located within (intra-urban agriculture) or in the fringe (peri-urban agriculture) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non-food products, (re-) using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services mainly to that urban area.

Moustier and Salam Fall (2004) use and add to this definition by specifying that all agricultural systems located in an urban area (therefore peri-urban area) are at the heart of resources that are used for both agricultural production activities and industrial and other urban activities. This common need for and use

of these resources can generate valuable productive synergies, but might also be at the origin of competition between the various systems of production for the consumption of territorial resources.

The territorial dimension of the peri-urban agricultural systems therefore lies in the existence of localized resources that are shared between an agricultural system and the closest urban centre, within what can be called an *agri-urban ecosystem*. At the scale of a territory, the urban productive systems consume, at the starting point, flows of primary raw materials (water, air, soil) or transformed materials (products from the primary sector, among which agriculture) produced from a stock of natural resources. As an output, they accumulate waste materials that must be exported to other territories, stored on site, or recycled so as to replace the stock of raw materials. Agricultural production systems are doubly connected to this network of material flows. On the one hand, they supply food and raw materials to the city. And on the other, they absorb part of the waste generated by the city (horse manure, wastewater, and nowadays bio-solids and composting products) by reincorporating it into the cycle of the agri-urban ecosystem (see Figure 16.1).

By extension, we call 'agri-urban resources' the resources that circulate between the agricultural and the urban systems and which are usable for both agricultural production and for urban consumption. These resources include unbuilt-up land, water, air, and certain 'produced' resources such as landscape resources, food products or urban waste, all resources that can be incorporated into the agricultural production cycle.

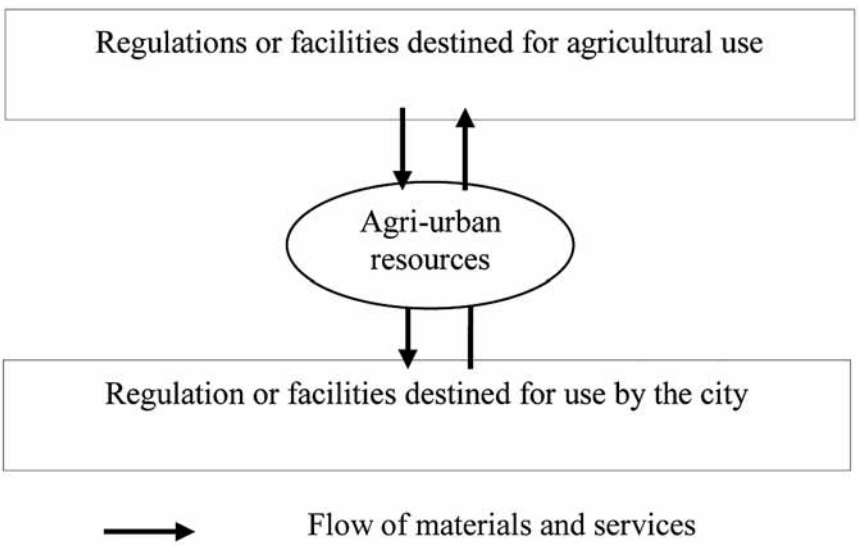

Figure 16.1 Graphic representation of the agri-urban ecosystem

16.1.1. A competitive system that generates conflicts

In areas where available resources are limited, the strong competition between the uses that consume these resources causes increasing conflicts and tensions. This is true in the case of agri-urban resources, which in peri-urban areas, are coveted by a diversity of users who perform different, often antagonistic activities (Bryant, 1992). The spatial expansion of cities is, indeed, a process that consumes natural, agricultural or forestland and that generates nuisances and pollutants transmitted through certain 'mobile' resources such as water or air. This universal finding conceals the fact that there is a diversity of ways in which built land expansion takes place, ways that do not always have the same impacts on the functioning of agricultural territories.

For a long time, this expansion took place through the progressive occupation of the closest land to the urban area. Bryant shows, at the end of the 1970s, that the ways in which land was appropriated when the large-scale projects of development of the suburban areas around Paris were realized have in some cases helped to improve the conditions of exploitation of agricultural land, thanks to the re-investment of the sale proceeds into the productive sectors (Bryant, 1973a). Furthermore, the growth of the urban market can provide an interesting opportunity for business expansion; indeed, during that period a number of fruit farmers expanded their acreage so as to be able to meet the demand of the urban population (Bryant, 1973b).

In the more recent model of urban sprawl, that of the dispersed city and of increasingly uncontrolled and fragmented urban expansion, agricultural land use has become durably 'interstitial', despite the fact that most of the land is still used for agriculture. Indeed, only 10 to 15 per cent of the land area in today's peri-urban belts is 'artificialized' (i.e. built or developed by man) (Boisson 2005); which means that over 80 per cent of the remaining space consists of open land, most of which is used for agriculture. At the scale of France, 40 per cent of all agricultural land is located within urban areas (see Figure 16.2).

Even though their consumption of agricultural land has been controlled or at least slowed down (IAURIF, 2005), these rural areas under metropolitan influence serve as support for the increasingly complex intermingling of the functional farmland and city. Moreover, the discontinuation of public investment in the large-scale programmes of urban development has reduced the margins of negotiations based on the expropriation indemnities received by the farmers. Neighbourhood tensions and conflicts are therefore fostered by this new peri-urban environment, and land exchanges do not lead to the investments that are necessary to reorganize the systems of exploitation. Conflicts are often considered as signs of the dysfunction of the social structures within peri-urban territories that must be resolved (Owen et al., 2000). Our research hypothesis, however, takes an opposite approach and supports the idea that conflicts contribute to the social control of the use of agri-urban resources.

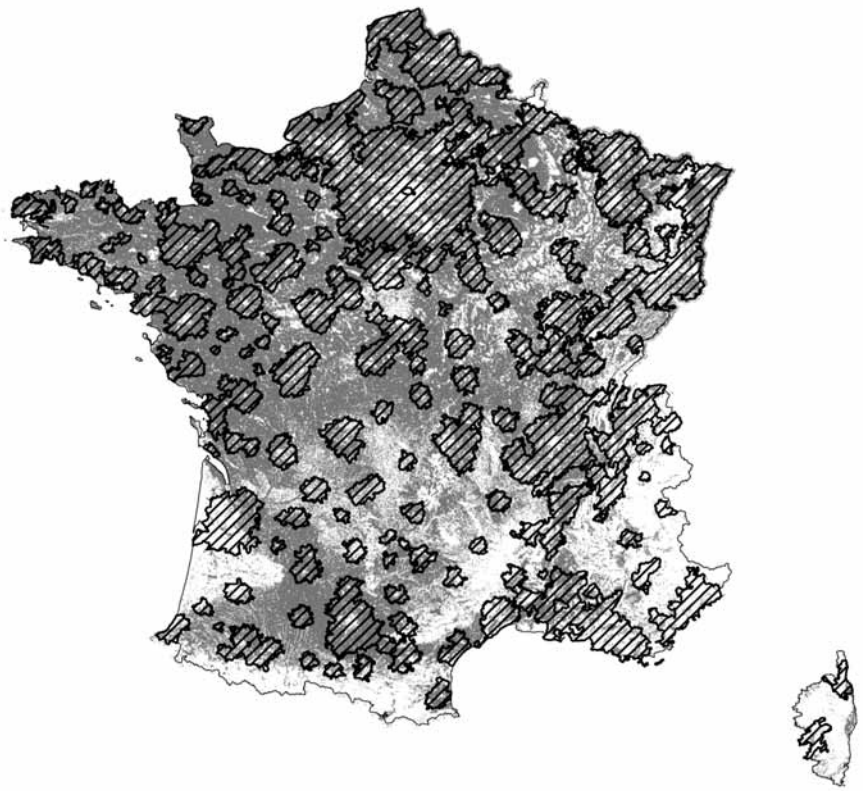

Figure 16.2 Location of agricultural land within urban areas

*Note*s
Striped area = Urban areas (urban poles, peri-urban, mono or multi-polarizedm municipalities)
*Rema*ining = Agricultural space (Data Corine Land Cover 2000)

- The analyses presented in this article are geared to three research objectives:
- Identify the objects and resources, the uses of which are regulated through conflictual processes;
- Evaluate the scales of action implemented by the local actors according to the space-related issues from which conflict arises;
- Highlight the socio-economic situations that combine the spatial and social conditions that are conducive to the actors' engaging in conflict.

For this purpose, we have performed a quantitative inventory of the conflicts related to the use of agri-urban resources, located within the Greater Paris Region. Section 16.1 of this chapter presents the geographical context, the conceptual

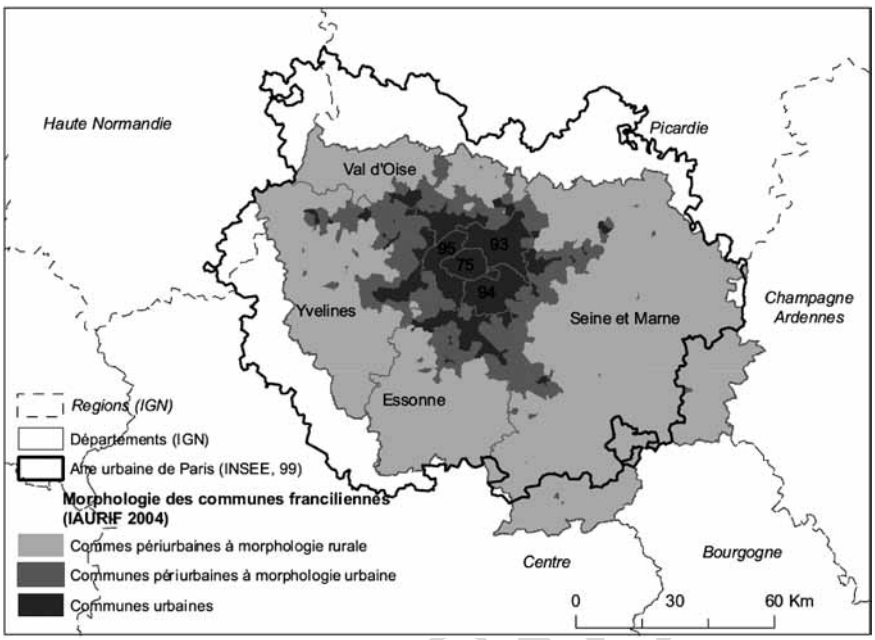

Figure 16.3 The various spatial and political-administrative discontinuities in the Greater Paris Region

framework, and the inventory method we have used. The results of the inventory and the analysis of the data are detailed in Section 16.2, in which they are presented according to the three research objectives we have set for ourselves.

16.2. Conflicts Related to the Use of Agri-urban Resources: Context, Concepts and Research Methods

16.2.1. The Greater Paris Region, a region representative of the diversity of peri-urban dynamics

The Greater Paris Region is by far the largest metropolitan area in France and can only be compared to two or three other metropolises of similar sizes in Europe. The national capital region is: the country's financial and industrial centre; the region with the highest number of tourists; and, in terms of its layout, the archetype of a radial-concentric city in spite of the urban outgrowths extending in the form of fingers along the valleys of the rivers Seine, Marne and Oise (see Figure 16.3). While 50 per cent of its total land area is used for agriculture, it is one of the first regional bodies to have actively acknowledged the importance of developing the land in a sustainable manner so as to protect agricultural land and ensure the

survival of farming enterprises. The most recent sign of this commitment of the regional authorities has been their recognition of, and support to, local initiatives for the conservation of agricultural land in inter-municipal areas under strong urban pressure ('agri-urban programmes'), as well as of the four Regional Nature Parks situated within the rural belt.

The tensions caused by the existence in the same area of antagonistic activities inherent to the multifunctionality of the peri-urban space are many and acute not only because of the scarcity of space but also because of the high diversity of production activities and of the local populations.

16.2.2. Conceptual framework of the analysis of land-use conflicts

Conceptual definition of a land-use conflict

Several publications have examined conflicts and analysed their development and local characteristics (Melé and Rosenberg, 2003; Kirat and Torre, 2005). Most authors have found that the diversity of tensions related to the many uses of land makes them, on the whole, difficult to observe and survey: as they are not always expressed, trying to make an inventory of them would be unrealistic. Focusing exclusively on actual protests (Rucht et al., 1992) would drastically narrow the field of observation, at the risk of missing out on interesting information[1] (Trudelle, 2003). An intermediate option – certainly the most open and operational – is to identify conflict through the observation of the act of opposition of at least one of the protagonists; it is this act, limited in time and space, that indicates a crystallization of the tensions.

Analyses based on game theory use the notion of 'credible engagement' or 'commitment' to conceptualize this action (Caron and Torre, 2005). Engagement manifests itself in more or less institutional forms (verbal opposition, placards, registered letters, administrative proceedings...), or in more or less radical ways (assault, signs forbidding access, fences...). Defined in this manner, conflict can be identified more easily using direct or indirect information, and this definition is then adapted to a quantitative approach to conflictuality. We define as conflict an *opposition between actors with antagonistic goals, an opposition that leads to the credible engagement of at least one of the parties.*

The spatial dimension of land-use conflicts: between contested activities and protected resources

More than the use itself, it is its location within an area occupied by other users that is contested during conflicts. In these situations, it is more precisely the object or facilities on which the contested activity rests that generates the conflictual reaction of the actors. This reaction is related to the antagonisms which arise from several uses conflicting with one another. These antagonisms can be found

1 While the term 'conflictual activity' covers all acts or deeds of opposition, the expression 'protest activity' implies collective action and a physical manifestation.

within a perimeter that corresponds to the physical characteristics of the contested facilities, but they can also concern a neighbouring area affected by a nuisance caused by the use of these facilities. Therefore, all the areas whose characteristics are altered by the contested use of these facilities will be considered as the spaces that are the object of conflict.

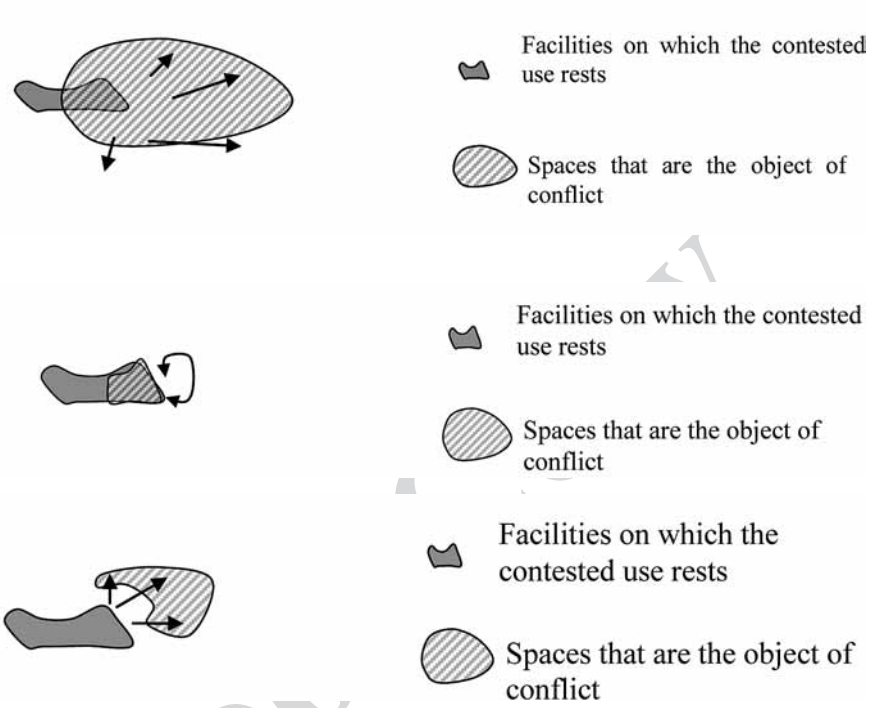

Figure 16.4 The different spaces that are the object of conflict

The physical characteristics of the spaces that are the object of conflict vary:

(1) The resources whose state or conditions of use are constrained by the object of conflict are located within the perimeter of this object. This is the case for some conflicts related to the zoning designated in urban plans, in which some parcels of land are classified as land that cannot be built on (for example, conflict between people who wish to protect the land from being built on, and those who want to use it for residential purposes). It is also the case when urbanization projects alter the characteristics of rural landscapes. Thus, residences built illegally in agricultural zones are contested not only

because they are incompatible with conservation goals, as defined in the zoning plans, but also because they modify the rural landscape that the residents value as part of their living environment.

(2) The resources constrained by the contested facilities are located in areas that are adjacent or close to the facilities in question. Thus, wild boar breeding within private estates is not contested, but the damage caused by wild boars to neighbouring farmers' crops lead to protests against the ways in which the estates are managed.

(3) Finally, the parties who engage in conflict use the two arguments: the contested new facilities represent a threat both to the resources on which several users rest, and those located within neighbouring areas. Thus, projects of industrial development are conducive to conflict not only because they are synonymous with the production and emission of noise related or olfactory nuisance that will affect neighbouring residential areas but also because it is suspected that the planned factories will contaminate the soil on which they are built and destroy the natural landscape resources present on the sites.

Preventive and remedial conflicts

Furthermore, a distinction is made (by borrowing two terms used in the medical world) between *preventive* and *remedial* conflicts. In preventive conflicts, one party anticipates the impact of a certain activity or use on space and protests against it before the other party can implement it. The objective of the contesting party is then to protect resources from possible degradation.

In these situations, the ability to determine the spaces that might be used for undesirable activities depends on the accessibility of the information that makes it possible to locate the contested facilities, and on the actors' ability to evaluate the potential spatial extent of the nuisance and related risks. This evaluation – which cannot be based on in-situ measurements – is strongly dependent on the actors' experience of similar conflictual processes; the latter can indeed serve as an experimental reference (see the case of the wind turbines with pro or con arguments). In this regard, networks of people play a determinant role in the exchange of experience and information. Depending on the nature of the contested facilities, on the accessibility of the information concerning its characteristics, and, finally, on the ability of the contesting party to model its impacts on the resources present in the area, the zone under dispute may extend far beyond that of the facilities in question.

Remedial conflicts are triggered when an effective degradation of the resources has already been observed. The objective of the protesting parties is then to obtain either the restoration of the resources in question to their initial state or benefits or compensation for the harm incurred. The determination of the perimeter of the affected area then strongly depends on the ways in which the nuisance or risks are evaluated by the actors and is performed following two possible types of chronological sequences. In the first type of sequence, one person or a group of people experience a nuisance (by means of odour, noise, or otherwise) within a certain area, which prompts them to look for and identify the source of this nuisance, and possibly to adjust the initial perimeter of use and neighbourhood incompatibility (the case of the pollution of water resources). Inversely, in the

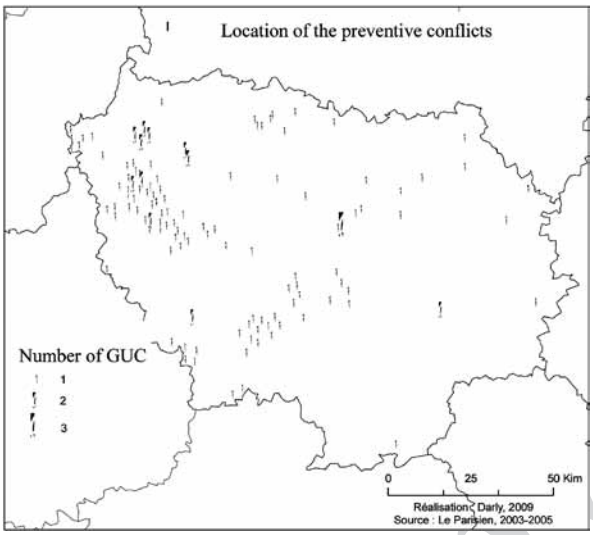

Figure 16.5 Location of the spaces in which preventive conflicts have occurred

Note: GUC: Geographical Unit of Conflict: A conflict that affects several communes is represented by the same number of GUC

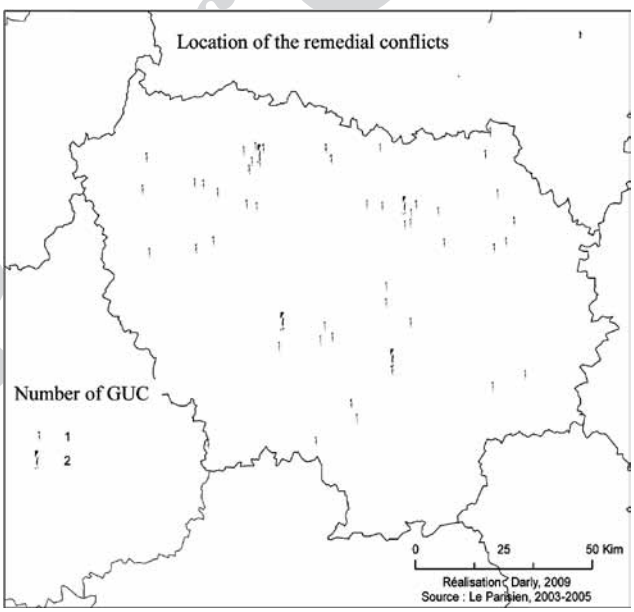

Figure 16.6 Location of the spaces in which remedial conflicts occur

second case, it is the identification of the object perceived as a potential source of nuisance that prompts certain parties to search for and identify the neighbouring areas at risk of being affected by the nuisance (see the example of agricultural silos: following a number of silo explosions, silos are now all subjected to risk assessments).

16.2.3. Inventory of the conflicts reported in the press: sources and methods

A first inventory of all the land-use conflicts reported in *Le Parisien* (regional daily newspaper) in 2005 (182 in total), indicated to us that agriculture is seldom the object of conflict and that the actors of the agricultural industry are rarely involved in conflicts. But 30 per cent of the conflicts are related to the non-agricultural use of open pieces of land identified as agricultural (cultivated, fallow, or meant for farming). Furthermore, this first inventory highlighted, firstly, that local elected representatives and associations are involved in the majority of the conflicts (70 per cent), and, secondly, that a large percentage of the conflicts are related not only to uses but also, more specifically, to land-use regulation (40 per cent of the conflicts).

We then extended the inventory of agriculture-related conflicts to cover two additional years (2003 and 2004), which enabled us to build a database containing 90 conflicts of various scopes and intensities, related to the use of agri-urban resources. Compiled in the form of a relational database, the information found in the newspaper articles, once encoded, enabled us to locate the *communes* (i.e. French municipalities) in which one or several conflicts had occurred between 2003 and 2005. Figures 16.5 and 16.6 represent the spatial distribution of these municipalities.

16.3. Results: Geographical Characteristics of Land-use Conflicts: From Objects to Social Processes

Using the information gathered from the daily newspaper *Le Parisien* for the years 2003-2005, we first describe the diversity of the contested objects and the nature of the antagonisms they generate and which cause the actors' reaction. We then present the patterns of interaction between the various actors who oppose these different categories of objects. Finally, we evaluate the influence of the socio-economic situation in the municipalities on the probability of emergence of a conflict.

16.3.1. Origins and spatial extension of conflicts related to the sharing of agri-urban resources

The information we collected enabled us to highlight the diversity of the facilities contested by the actors at the origin of conflicts, as well as the different types of antagonisms that explain their reaction.

Nature and diversity of the contested facilities

Conflicts related to the use of agri-urban resources are, for the most part, caused by the extension and renewal of urbanized areas. These represent 63 per cent of all land-use conflicts and are reported in 70 per cent of the newspaper articles.

This type of struggle involves a contest against certain urban activities, which modify the state of agri-urban resources. The category that comprises the facilities used for the management and processing of waste is the most significant in this regard (it represents almost one-third of the conflicts related to the consequences of urban expansion). However, these facilities are used for activities of different natures, ranging from the burial of solid waste in landfills, the incorporation of sewage treatment sludge waste into cultivated soil to the destruction of this waste through incineration. The other categories of urban facilities at the origin of the reported conflicts are, in order of importance, those related to housing, transport and communication activities, and those related to trade, recreational and public service activities (prisons, caravan parks). The other facilities that are directly involved in urban extension at the expense of natural resources are related to certain primary sector activities, such as wind energy extraction and production (5.5 per cent of the conflicts are related to these two categories). Finally, 8 per cent of the conflicts are caused by urban development regulations authorizing the conversion of open spaces into urbanized or industrial zones.

The other non-agricultural uses (non-commercial and non-planned) of space represent the second source of conflicts after those related to urbanization. They were, between 2003 and 2005, at the origin of 18 per cent of the conflicts inventoried and 17 per cent of those reported in the Press. They are related to the residential use of agricultural land (uncleared, fallow or meadow land) by groups of caravans or vehicles, and also to recreational uses such as hunting or motor sports, which cause damage to crops. Some illegal uses of agricultural land, the objects/equipment for which are not always identified, are part of this category of uses (e.g. theft).

Finally, the conflicts related to agricultural uses of space or to the extension of land for farming purposes represent the smallest percentage of the conflicts reported in the press (the constraints they generate are at the origin of only 16 per cent of the inventoried conflicts and 12 per cent of the press articles). In these conflicts several categories of objects are contested. The first is that of agricultural practices/facilities that are considered hazardous or dangerous (the illegal burning of crop residues, the experimental use of GMO seeds, well-drilling for irrigated crops). The second concerns the activities of storage and transformation of

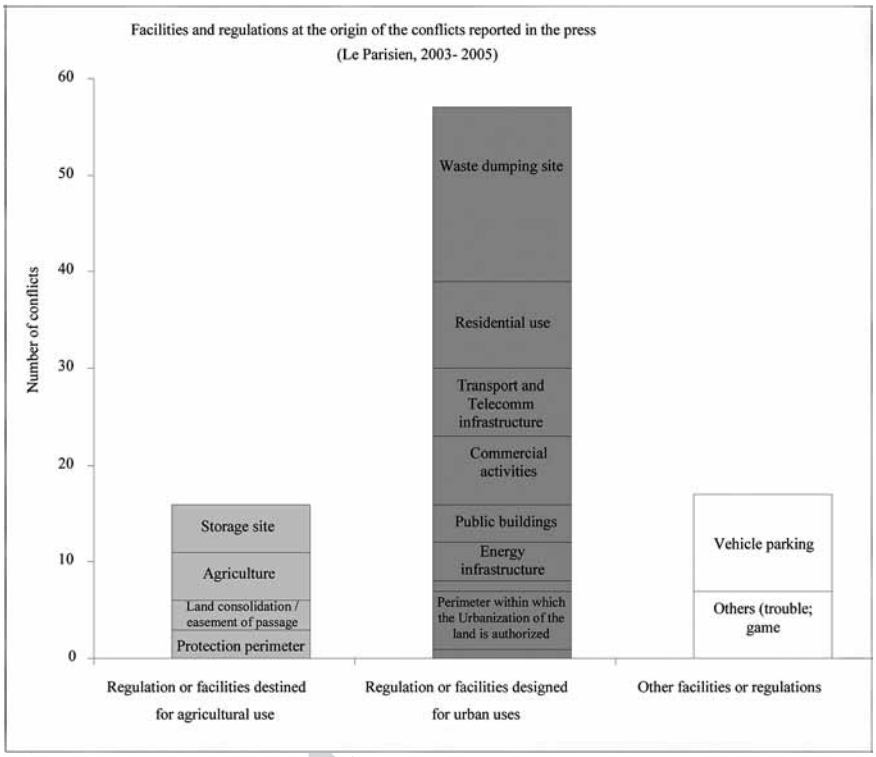

Figure 16.7 Proportion of the different categories of facilities or regulations at the origin of the 90 conflicts – reported in the Press – related to the use of agri-urban resources

Source: Le Parisien (2003 - 2005)

agricultural inputs and products, which necessitate the extension, development or functioning of industrial sites regulated as scheduled facilities (crop silos, the noise produced by beet trucks). The other conflicts in which actors protest against facilities developed for the agricultural use of land are directed against the adoption of regulations that restrict the use – urban or agricultural – of natural resources. The objects targeted by these processes of protest are therefore essentially the administrative boundaries that define the territory within which the protection measures (contested by the farmers themselves, who consider that the restrictions are too stringent) must be applied, but also the new parcel plans resulting from land consolidation operations (opposed by environmentalists because of the environmental consequences of the destruction of hedges) or even more local regulations that designate certain rural roads for agricultural use.

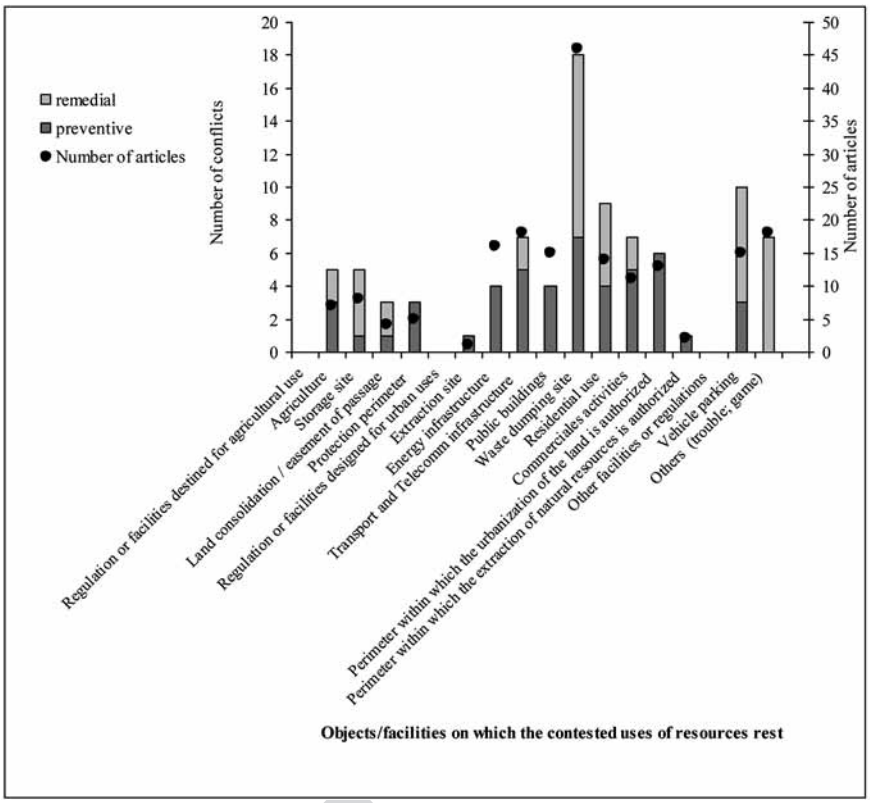

Figure 16.8 Proportion of remedial or preventive conflicts according to the type of facilities/objects contested

Source: Le Parisien, 2003-2005

Preventive conflicts

The majority of conflicts (57.7 per cent) occur in an attempt to prevent the creation or development of objects or facilities considered to be associated with environmental constraints (the other conflicts are remedial. They are triggered by people who seek to minimize or eliminate a nuisance they are already experiencing).

The conflicts related to facilities or regulations that are considered necessary for urban functioning are mostly preventive, with the exception of some categories such as waste management or residential use (Figure 16.8). Inversely, in almost all the conflicts related to other non-agricultural uses of space, the parties react and protest against objects that do exist and that have already modified the state of the resources. In these situations, the protesters start a process of remedial conflict. The cases of protests against facilities or regulations meant to enable certain parties to make agricultural use of natural resources are not as clear-cut.

Half of these cases concern virtual objects and uses (projects of agricultural well-drilling, for example, or of genetically modified crops) whereas the other half are protests against practices, buildings or regulations that already exist (stubble burning, silos, easement of passage).

The resources and interests threatened by the close proximity or juxtaposition of incompatible land-uses

People who protest against the existence or development of the types of facilities we have just mentioned seek, above all, to protect individual or collective interests related to the consumption, exploitation or conservation of territorial resources. In almost half of the conflicts (46 per cent; Table 16.1), the actors fight for the preservation of the agricultural use of certain local resources. The latter are located within open spaces, or in some rare cases, within parcels of land that are meant for agriculture but are 'used' for other activities (4 per cent of the cases). These resources can be immovable natural resources, such as land, or 'mobile' resources that circulate between close urbanized reas and agricultural land (water, air). A large number of these conflicts (1/3 of them) are also cases where actors join forces to fight for the preservation of the landscape resources and that of the agricultural use of natural resources.

In 25 per cent of the conflicts, it is not so much the open spaces or landscapes that the actors seek to preserve, but rather the environmental quality of the atmospheric and water resources that circulate between the different peri-urban territories and are used in residential zones. In these cases, the residents wish these resources to circulate between agricultural, natural and residential spaces rather than between future urbanized or industrial zones and their areas of residence. Finally, in 10 per cent of the conflicts reported in the press, the people who engage in a conflict claim that they wish to protect agricultural land so as to ensure the preservation of the biodiversity resources that it provides.

Table 16.1 Types of disputes leading to conflicts about the use of agri-urban resources and their distribution among all the conflicts reported in the Press

Objects/facilities on which the contested activities rest	Protected agri-urban resources	Geographical proximity of the uses	Geographical proximity of the users	Origin of the reported disputes
• All types of buildings / infrastructures for use by • Sewage sludge application / Waste treatment • Cement exploration zone • Zoning/Permits • Vehicle parking • Outdoor recreational activities	Land destined for agriculture	Multiple uses (juxtaposition)	Users of the same parcel of land	'The facilities developed for urban use consume or modify resources which some wish to reserve for agricultural activities' (72% of the conflicts)
• Transport infras. facilities • Industrial zones (extraction, activity zone, logistics) • Land treatment / Waste • Wind turbines	'Mobile' resources (air, water)	Neighbouring uses	Users of neighbouring parcels of land	
• Developed sites for urban use • Cement exploration zone	Ecological resources	Multiple uses (juxtaposition)	Users of the same parcel of land	
• Landscaping of waste storage sites • Housing, activity zones, zoning maps • Wind turbines	Landscape resources	Multiple uses (juxtaposition)	Users of neighbouring parcels of land	'Urban facilities damage the agricultural landscape' (27% of the conflicts)

Objects/facilities on which the contested activities rest	Protected agri-urban resources	Geographical proximity of the uses	Geographical proximity of the users	Origin of the reported disputes
• Industrial zones where entrant suppliers or agricultural product wholesalers are located • Irrigation well drilling	'Mobile' resources (air, water)	Neighbouring uses	Users of neighbouring parcels of land	'Agricultural facilities or regulations consume or modify resources some wish to reserve for urban activities' (16% of the conflicts)
• Regulations to preserve the agricultural use of land	Land destined for urban use	Multiple uses (juxtaposition)	Users of the same parcel of land	
• *Perimeter within which agricultural land uses are regulated.* • Game damage	Land destined for agriculture	Multiple uses (juxtaposition)	Users of the same parcel of land	"'Nature conservation' uses of resources represent an obstacle to the agricultural exploitation of these resources" (8% of the conflicts)
• GMO crops	Ecological resources	Neighbouring and Multiple uses (juxtaposition)	Users of neighbouring parcels of land	'The facilities or regulations meant for agricultural activities have a negative impact on the biodiversity resources' (1% of the conflicts)

Source: Le Parisien (2003-2005)

16.3.2. Land-use conflicts and interaction between the actors: Differentiating the various patterns of opposition

Even though they are dependent on the nature and arrangement of objects/facilities in space, conflicts are above all social processes that can be described in terms of social interactions between groups of actors.

The interactions between the actors reveal that preventive conflicts are mostly collective actions

A first quantitative synthesis of the information found in the Press concerning actors engaged in conflicts shows that it is less the reaction of the actual users of land (professionals, individuals) than the actions of their representatives (elected representatives, associations, representatives of the public authorities) that are reported in newspapers (Figure 16.9). Among these representatives, municipal elected officials and local or generalist associations are those that initiate most of the actions covered by the Press, whereas the representatives of State authorities, municipal elected officials and professional users are the group of actors who are the most contested.

Among the conflicts triggered by groups opposing the urbanization of agricultural land, three scales of conflicts can be distinguished that correspond to different categories of contested objects and uses. They are the conflicts related to regional development, those related to the management of municipal land, and those related to the consequences of urbanization (Cadene, 1990).

In the first case, the conflictual interactions develop at the level of the sub-region, through alliances between elected officials and associations who oppose representatives of the public authorities accused of supporting private developers, or the managers of regional development and planning (Table 16.2). In the case of conflicts related to the management of municipal land, the conflictual interactions only involve members of the municipality. The municipal council plays an important role here. Finally, the conflicts triggered by actors who protest against the nuisance and constraints generated by agricultural activities develop mostly at the scale of the municipal territories and their neighbouring areas. They involve local environmental associations, and municipal officials who oppose the professional representatives of the agricultural or agribusiness sector.

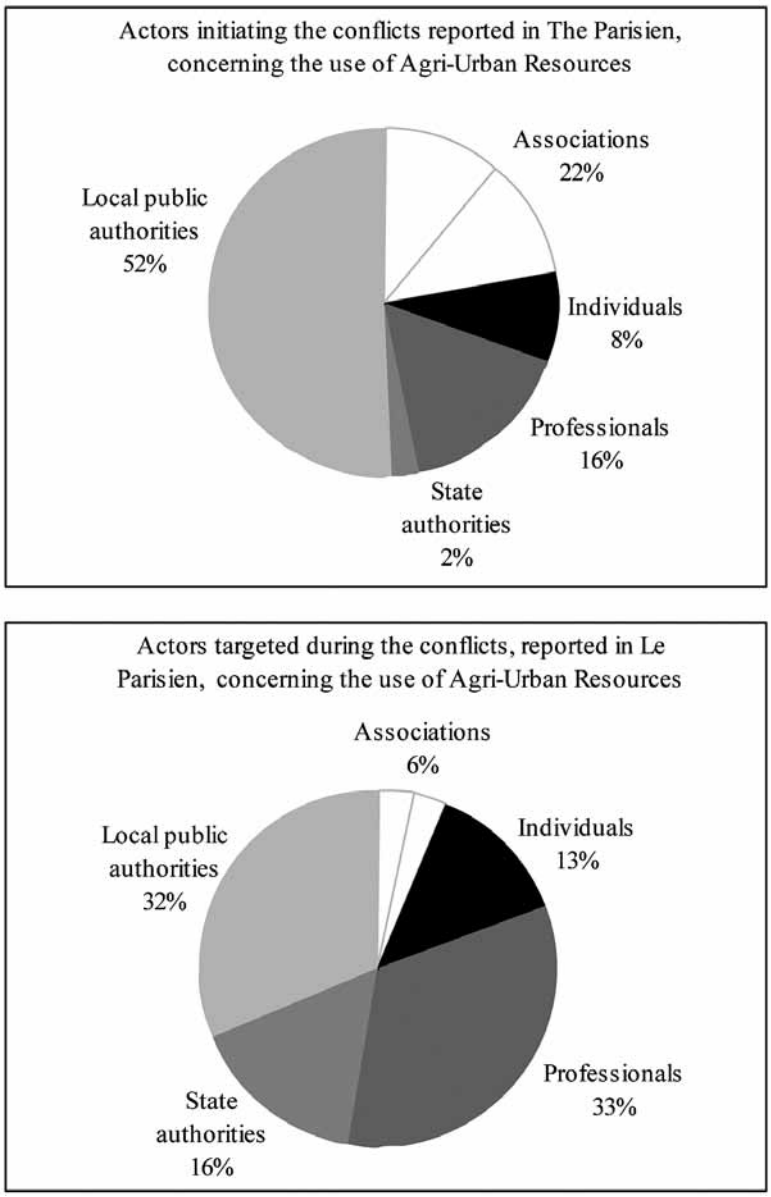

Figure 16.9 The different groups of actors initiating conflicts and those targeted by these processes

Source: Le Parisien (2003-2005)

Table 16.2 Objects of the conflicts according to the intensity and typology

Type of incompatibility (covered by the Press)	Objects/facilities on which the contested activities rest	Actors initiating engagement in conflict	The actors targeted during the conflict
'The facilities developed for urban use consume or modify resources some wish to reserve for agricultural activities' (72 % of the conflicts) and 'Urban facilities damage the agricultural landscape' (27% of the conflicts)	• Conflicts related to regional planning • Land treatment/ Waste/ Landfills • Industrial sites(extraction, zone of activities) • Transport infrast. • Cement exploration zone • Public utility infrastructure/ buildings	50% Alliances of municipalities 30% Alliances of local and generalist associations	30% professional groups 30% State authorities 30% local public authorities
	• Conflicts related to the management of municipal land • Zoning/Permit • Housing, local activity zones • Wind turbines • Relay station	55% Municipalities 33% local associations	50% Municipalities 40% Professional groups
'Agricultural facilities or regulations consume or modify resources some wish to reserve for urban activities' (16% of the conflicts)	• Industrial sites and services of • Irrigation well drilling	Local associations Municipalities	Professional groups (farmers/ industrial branch)
'Nature conservation" uses of resources represent an obstacle to the agricultural exploitation of these resources' (8% of the conflicts)	• *Perimeter within which agricultural land uses are regulated.* • Sports damage	Individuals Professional groups (farming/ agribusiness)	Regional public authorities, State authorities

Type of incompatibility (covered by the Press)	Objects/facilities on which the contested activities rest	Actors initiating engagement in conflict	The actors targeted during the conflict
'The facilities or regulations meant for agricultural activities have a negative impact on the biodiversity resources' (1% of the conflicts)	• GMO crops	Associations Individuals Municipalities	Professional groups

16.3.3. The influence of the socio-economic context on the emergence of conflicts

As mentioned above, whether a conflict emerges or not depends on the ability of certain actors to perceive environmental changes, and to use information that enables them to evaluate the nature of the constraints caused by the close proximity or juxtaposition of certain incompatible land uses and their associated facilities and to initiate consultation with the actors at the origin of the contested uses. From a geographical perspective, one may ask in what social-spatial contexts all three criteria are met.

We have highlighted that there are statistically significant correlations[2] between the social-economic profile of municipalities[3] and the probability that a conflict is located within these municipalities. We have based our calculations, not on the location of the objects/facilities that are causing the conflicts, but on the location of the local actors (residents, professionals, elected representatives, local associations…) that initiated the conflictual process.

The test of influence of this geographic factor on the number of conflicts per municipality (Table 16.3) and the number of conflicts per resident (Table 16. 4) reveals that the municipalities with a " rural centre" profile are those that are the most prone to conflict, if we compare the number of conflicts to the number of municipalities with this profile. These municipalities are the most populated of the peri-urban zone with a rural morphology (5,000 inhab./town), their population growth is reduced and they are characterised by population ageing. They are often principal county towns. This indicator of conflictuality therefore seems strongly related to the population density, which increases the number of actors liable to engage in conflict.

2 The spatial correlations are assessed using a Chi-squared test based on contingency tables of the number of conflicts and of the total municipal population, per class of factors.

3 This typology was developed by the Agreste department of agricultural statistics, based on census data collected by the INSEE between 1990 and 1999.

Table 16.3 Influence of the social-economic profile of the municipality on the number of conflicts per municipality (the conflictual intensity corresponds here to the relation between the number of municipalities affected by one or several of the inventoried conflicts and the total number of municipalities with the profile)

	Origin of the actors who initiated the conflict			**Preventive conflicts**		**Remedial conflicts**	
	Number of municipalities with the profile	Number of municipalities identified	Conflictual intensity of the municipalities with the profile	Number of municipalities identified	Conflictual intensity of the municipalities with the profile	Number of municipalities identified	Conflictual intensity of the municipalities with the profile
• **Geographical sectors** • ***Paris metropolis***	-	*28*	-				
• ***Urbanized Peri-urban (Outside typology)*** • **Type of socio-economic profile**	-	*15*	-				
• Upper-class resid.	202	22	0.11	17	0.08	5	0.02
• Middle-class resid.	292	27	0.09	19	0.06	8	0.03
• Traditional rural	247	13	0.05	9	0.04	4	0.016
• Rural villages	92	9	0.10	5	0.05	4	0.04°
• Rural centres	187	36	**0.19****	27	**0.14****	9	**0.05°**
• Total	*1020*	*107*	*0.15*	*77*	*0.07*	*30*	*0.03*

** *P<0,01 ; ° P>0,1*

When we compare the number of conflicts with the total number of inhabitants in the municipalities with the same socio-economic profile, we find that the residents of municipalities with the 'upper-class resid.' and 'middle-class resid.' profiles are those that present the highest rate of conflictuality.

The municipalities with the 'upper-class resid.' profile are characterized by slow population growth (between 1990 and 1999), a high percentage of retired people and professional people with managerial or executive positions and a high rate of individual houses. It must be noted that agricultural spaces in these municipalities are smaller in terms of area and that forested zones are larger. These municipalities tend to be located on the Eastern side of the region, mainly in the Yvelines *département* but also in the Val d'Oise and Essonne.

The municipalities with the 'middle-class resid.' profile are characterized by a slightly faster population growth (between 1990 and 1999) and a larger percentage of young households. The municipalities with middle class populations in 1999 and whose conflictual rate per inhabitant is the highest are those that are situated on the fringes of the Yvelines and Essonne *départements* (symbolic conflicts related to the implementation of wind turbines) and in the new town of Sénart (conflicts related to the construction of public utility infrastructures, a prison, a camping site for itinerant people, etc). They are the municipalities in which large housing construction programmes were implemented in the 1990s and whose residential function is relatively diffuse.

Thus, even though their numbers are smaller, the 'local' actors (residents, farmers, elected representatives, local associations) of the residential rural zones are proportionally more reactive than those of denser zones. This correlation applies in the case of preventive conflicts, whereas, in that of remedial conflicts, the populations of municipalities with a 'middle-class resid.' and a 'rural village' profiles are those that have the highest rate of conflictuality.

Table 16.4 **Influence of the social-economic profile of the municipality on the number of conflicts per municipality (the conflictual intensity of the profile corresponds here to the relation between the number of municipalities affected by one or several of the inventoried conflicts and the total number of residents of the municipalities with that profile)**

	Origin of the actors who initiated the conflict			**Preventive conflicts**		**Remedial conflicts**	
	Total population of the profile	Number of municipalities identified	Conflictual intensity of the pop. of the profile	Number of municipalities affected by conflict	Conflictual intensity of the pop. of the profile	Number of municipalities identified	Conflictual intensity of the pop. of the profile
Upper-class resid.	214.5	22	0.10**	17	**0.08****	5	0.023
Middle-class resid.	237.5	27	0.11**	19	**0.08****	8	**0.033***
Traditional rural	186.3	13	0.07	9	0.05	4	0.021
Rural villages	107.5	9	0.08	5	0.05	4	**0.037***
Rural centres	993	36	0.04	27	0.03	9	0.009
Total	*1738.8*	*107*	*0.06*	*77*	*0.04*	*30*	*0.017*

*** P<0,01 ; * P <0,05*

16.4. Conclusion: Conflicts and Regulation of the Use of Agri-urban Resources as Reported by the Press

The information provided by the Press indicates that the uses of agri-urban resources are regulated through social processes, and more particularly through protests against the development of regulations or infrastructures serving urban and non-agricultural activities. A number of these conflicts are related to the implementation of urban waste management facilities and to certain unplanned temporary uses of open spaces (caravan sites, outdoor recreation uses, etc.). Indeed, the urban consumption of agricultural land is regulated, and the degradation of the water and atmospheric resources circulating between the different peri-urban territories is controlled by means of protest against these uses.

Other articles from the Press in our collection reveal, however, that other types of conflicts also play a part in this regulation; these conflicts involve protests against the impact of certain agricultural facilities or practices on the resources destined for urban consumption. The nature of the groups of actors initiating these processes of regulation is determined, on the one hand, by their ability to show the links between the resources under threat and the contested facilities or practices, and, on the other, their ability to approach hierarchical or influence networks so as to be able to take action at the appropriate governance level (i.e. territorial, governmental or economic authorities).

We have also shown that all these conditions were met, in the case of preventive conflicts, within upper- and middle-class residential rural municipalities, and, in the case of remedial conflicts, within middle-class residential rural municipalities, as well as in the newly attractive rural villages. We can deduce from this that though the spatial morphology of municipalities explains the nature of the protected resources and of the contested objects, it is the 'residential rural' profile of the actors that conditions their ability to engage in a conflict that is reported by the Press. Our results confirm the general intuition of Ley and Mercer (1980).

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