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How being in control of the urban sprawl? Tools, evaluation and perspective: Contribution of the French study-case

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Abstract

Since the 1960's, the French urban sprawl, concomitant with the building of housing schemes, outskirts enlargement then suburban extension, has take an increasing importance. This urban slackening is perceived by persons in charge, families and enterprises, as an objective opportunity for a better access to lowest prices and to a new comfort (quality of life, more space, security). This kind of development costs nevertheless a lot and is at least anarchic because of a lack of global regulation at the urban areas scale. The appearance of the concept of sustainable development allowed a new perception of the urban sprawl control by the public authorities, first as a necessity then as an emergency. Several answers are asked: how is it possible to measure and to understand such a dynamic process? Which tools are able to control it if such a control is possible? We will try in a first time to define the urban sprawl across its terminology and its causes. After a quick historical briefing about its evolution, we will present observation tools for public authorities to set up special politics for a control of this urban sprawl. At last, we will ask us about the perspectives relatives to this question.

Key-words

Urban sprawl, urban planning, geopolitics, regulation, forecasting, France, The Netherlands

Introduction

Since the 1960's, the French urban sprawl, concomitant with the building of housing schemes, outskirts enlargement then suburban extension, has take an increasing importance. This urban slackening is perceived by persons in charge, families and enterprises, as an objective opportunity for a better access to lowest prices and to a new comfort (quality of life, more space, security). This kind of development costs nevertheless a lot and is at least anarchic because of a lack of global regulation at the urban areas scale. The appearance of the concept of sustainable development allowed a new perception of the urban sprawl control by the public authorities, first as a necessity then as an emergency.

1. Attempted definition

The urban sprawl can be defined as an increasing of urbanized surfaces in the remote periphery of urban spaces, especially due to building of both isolated houses and housing developments. The semantic content of this phenomenon is nevertheless complex and takes its origins in a wide range of causes necessary to be listed. The evolution of the urban sprawl with the case of Toulouse will give us a concrete example.

1.1. A varied terminology

Each senses of French notions¹ such as faubourg (past XIXth Century suburb), banlieue (suburbs), métaruralisation (metaruralization), rurbanisation² (rurbazination), périurbanisation (remote suburb urbanization), métropolysation (metropolization), périmétropolisation (perimetropolization), ville-pays (country-city) or tiers-espaces (third-spaces), take their origins in historical representations of what the urban sprawl is.

Some of these words are now outdated because they do not already correspond to a obviously identified geographical concept. That is the case of past XIXth Century suburb or banlieue (suburbs). The French word faubourg (from the latin *forc* « out of » and *borc* « town ») designate the part of the city located out of its historical

¹ BRUNET (R), FERRAS (R), THERY (H) 1993, « Les mots de la géographie, dictionnaire critique », Paris, Reclus-La Doc. française, 3ème éd.

² BAUER (G), ROUX (J-M), « La rurbanisation ou la ville éparpillée », 1976, ed. du Seuil, 189p

wall, peripheral space because of its physical and social distance from the urban core. The word *banlieue* corresponds to the outer part of the city, beyond the past XIXth Century suburbs, over which, historically, was exercised some specific feudal laws in the field of justice and taxes. If this word is sometimes used to point out some rich (smart suburbs) or poor areas (red suburbs), its most common representation is for housing schemes an area. Now, the word « ancient » is quite used to precise that suburbs have been incorporated in the urban area, the farther margin of this last is, from the end of the 1970's, constituted by the suburban space (remote suburban spaces).

Notions of remote suburb urbanization and rurbanization are recent: first one appears in Anglo-Saxon countries with the development of detached houses beyond oldest suburbs, in connexion with the settlement of the middle class working who used to work in the city. In the early 1980's, this concept supplants this of rurbanization (BAUER, ROUX, 1976), neologism which designates a process too much shown as a come back of urban dwellers to the countryside, from apart the 1960's. Another express nowadays fashioned, and central in this article, is "urban sprawl": more than a pejorative word, this phrase appears recently with the consideration of possible bad consequences, especially for the environment, of an increasing of the urbanization for bigger and bigger areas. This consideration come from the latest 1980's, with the emergence of the notion of « sustainable development » (BRUNTLAND, 1987) which drives to the concept of « sustainable city ». This «greening of the public opinion »¹, went with more imaged words relative to the urban sprawl, gladly used by politicians or journalists, like « city into fields » or « country-city », stressing the feature of a both urban and rural city, or « rural drift », more stressing on the importance of the phenomenon and built in connection with the historical rural drift (in France until the 1960's). Finally, certain words just belong to researchers' works: we can qualify such phrases as marginal because of their much reduced use: thwart-urbanization, exurbanization, unurbanization, indeed metaruralization. The thwart-urbanization sends back to the phenomenon of depopulation or slown down of growth in some countries, perceived as a throwing out of the city. It is only, in reality, an extension of the town chosen or forced, towards areas with better amenities. The exurbanization is the phenomenon which allows the spread out of cities. It is not a weakening of the city because down towns still remain covet. The unurbanization is a word constructed, as rural drift, in relation to the main historical flow, which explains, since two or three centuries, the urbanization. This historical trend reversal is expressed by a decrease of urban space. Finally, the metaruralization characterizes the settlement of populations, and especially qualified forty or fifty year's old working families, into the rural space or into remote suburban space, previously located into big built-up areas.

Like the terminology shows, causes of the urban sprawl are various as well...

1.2. Numerous causes

The urban sprawl does not only result from individual choices linked to the will of a house and less pollution. Indeed, settlement in peripheral spaces could be more or less sudden, encouraged by public authorities, often indirectly.

- Households' choice: households settled in remote suburban space communes are often young adults (25–40 years old), with young children or without anyone, and most of them do have their car and middle or high incomes level. Motives for households settlement in remote suburban space communes are numerous and specially linked to :
 - Housing: general purpose of such households is to become a home-owner of a one family house located in the middle of a small garden. Indeed, this residential model is rare in towns where locative market, flats and terraced houses predominates. Moreover, high prices in cities encourage or require households to look for housing in peripheral spaces.
 - Living environment: these persons look for quiet and green places, with playing spaces for their present or future children. A contrario, city is synonymous with noise, traffic and lack of green spaces.
 - Accessibility: because they usually work in cities, these persons need good motorway network, both close to their home and efficient.
 - Knowledge of the neighbourhood: places where settle households are usually well known places, either because this people used to live there before, or because one part of their family or friends does already live there.
 - Life cycles: the settlement in a remote suburban space commune often occurs when the family is growing up.
- Transportation: transports probably used to play the most important role in the urban sprawl process through the public transportation network development then the spread of personal cars.
 - Car generalization: the use of car became more and more important and leads up a slackening of mobility constraints. Indeed, from the 1960's, cars used to become widespread in most of households: nowadays in France, 4/5 of households do have a car (4 times than in the 1950's) and 30% do have two items or more. There is the reason of an emerging "car-city", with its specific road system network.

¹ BOZONNET (J-P), « Le verdissement de l'opinion publique », Sciences Humaines, Juillet–Août 2005

- Three main retroactive consequences of the remote suburb urbanization on transportation. The first one is an increasing of car traffic and traffic-jams which decrease the efficiency of public transports then reduce its attractiveness then finally increase the car traffic. The second one is due to the preferential concentration of traffic within high-density city spaces. That is why those who are the less involved into this form of development (the downtown inhabitants), are the more concerned by its disadvantages then are the best applicants for a move to remote suburban spaces¹. And finally, because of a more and more difficult access to the city-core, economic activities also make up their mind in such a location.
- Development politics in the field of road system: France does have a high development road and motorway network with more than 800.000 km of all kind of roads. This modern infrastructure was set up during the last three decades, period which corresponds to the strongest intensity of remote suburban urbanization. This infrastructure allowed a better accessibility to farthest spaces, then permit a strong dwelling sprawl.
- Diesel motorization of private cars: in France, the development of diesel motorization of private cars increases from 16 to 40% between 1995 and 2003. This is due to a fiscal benefit, sort of « pollution grant » because diesel oil taxes are lowest than lead-free oil ones².
- Financial and real-estate market roles: these markets play an important role because the cost of housing and ground, more or less high, is the first condition for settlement. Schematically, building land prices slow down with distance from the city-centre toward their periphery (but dwelling cost is higher in this part of the city because the real-estate structure is different). Because land offer is not unlimited, the settlement of new inhabitants causes a decrease of the offer then an increase of prices: households must move further more and more to find affordable grounds. The growth of land and real-estate prices strengthens the urban sprawl process. For its regulation, public authorities can and have to set up a land planning.
- Land planning politics: some elected members, under or not under control of lobbies..., intentionally misappropriate planning tools such as POS or PLU in order to build massively on their communal territories.
- Housing politics: some residential construction subsidies have largely stimulated peripheral building: for instance, the Zero Rate Building Loan (PTZ) was created to answer the demand of households, living in flats in terms of single-family houses (a desire for 41% of households). Because of a lowest investment capacity, PTZ beneficiaries can not set up in the first or second urban crown but only in the third or fourth ones (where prices are less important than in the high density remote suburban space). This reality contributes to the pursuit of urban sprawl.

1.3. The French case

- History of the urban sprawl in France: first suburbs are formed at the beginning of the XXth Century with the democratization and improvement of public transport. Factories and dwellings, tributary from train and tramway networks, are built in peripheral urban spaces. Workers and employees find in such places, a possibility to escape inner-city insalubrious districts but, because of a lack of collective equipments, life remains often hard. This first housing tide answered partially the question of urban growth acceleration: the gap between offer and demand get wider, until the big crisis of years 1950's. In all the cities, emergency programs for hundred thousands housings for workers and employees were started. The aim of a fast and cheap building came to what housing schemes, formed with collective towers and blocks. This priority given to dwelling programs showed quickly its limit because of the absence of proximity equipments. An essay of improvement was tried with a better coordination of actors within the ZUP programs then the new towns ones (eg. Villeneuve d'Ascq). At the beginning of the 1970's, massive production of individual houses and generalization of automobile, will call into question models used until there for the growth of peripheral city space. But new forms of urban growth, with blurred borders were made however. Middle income social class get involved massively to this suburban adventure, perceived as a sign of social success. In the meantime, housing schemes were inhabited by people put out of such a migration toward the periphery, because of a lack of income and a recent arrival in France from third-world countries after the decolonization. This social polarization turned many urban pericentral districts into problematic districts. Even in farther suburban areas, this socio-spatial segregation is now visible with the phenomenon of gated communities.

The maximal intensity of this urban slackening is measured between the 1975 and 1982 census. Since the beginning of the 1990's, three tendencies have been seen: the pursuit of urban poles decrease; the pursuit of suburban crowns increase; an important rural spaces dynamism which is a sign of geographical extension of suburban crowns.

After this global French territory trend, we will present the local study-case of Toulouse:

¹ BRÜCK (L), « La périurbanisation en Belgique : comprendre le processus de l'étalement urbain », 2002

² LEVEQUE (F), CAULRY (F), DAUDE (C), « Les subventions à la pollution », La Recherche, Novembre 1999

- The study-case of Toulouse¹: in accordance with preceding tendencies, the urbanization of Toulouse reaches its periphery during the 1960's and extends beyond its communal borders. The city expands quickly and goes from 252.477 inhabitants in 1936 (the Urban Unity gathers two communes: Toulouse and Blagnac) to 860.090 today (the Urban Unity counts 72 communes). Moreover, the suburban expansion concerns 248.000 persons who live in 270 communes located out of the limits of the Urban Unity and forms with this last the Urban Area, peopled with 1.108.000 inhabitants.

As we have seen, from the notion of Urban Unity to this of Urban Area, the INSEE and public authorities intend to create new notions, more efficient to measure the urban sprawl and to try to control it: in the following chapter, we will present the evolution of statistical tools, French politics and early Dutch « ABC » politics.

2. To observe, to measure, to control

The multifaceted urban sprawl phenomenon, because of its geographical, economical, social and political facets needs, to be understood, an observation of its different aspects. This first step of observation, analysis and measure is required for a subsequent final control.

2.1. Observation tools

The first step towards the control of the urban sprawl is the observation in order to make an evaluation as exhaustive as possible of the present situation. Different sources are used for that:

- The INSEE (National French Institute for Statistical and Economical Studies) is a huge source for statistics in the socio-economic field: information about demography (population, growth and migrations), social classes, dwelling (number, nature and trends), commuting routes, incomes... can be fruitfully used to put in light suburban areas characteristics. The INSEE set up a classification which allows a better knowledge of suburban areas: then a cluster of communes can be divided between urban communes, first urban crown then communes influenced by several agglomerations.

Little by little, the INSEE creates new nomenclatures in order to have a relevant measure of the urban growth, in harmony with new urban forms. In 1954, the Institute creates the « Urban Unity », defined as a commune or a cluster of communes which counts on its own territory a constructed area peopled with more than 2.000 inhabitants and where no dwelling is far from the nearest more than 200 meters. Moreover, each commune took into account do have more than half of its population in this constructed area. If the Urban Unity extends on several communes, all these communes form a « pluricommunal built-up area » or « urban built-up area ». If the Urban Unity extends on just one commune, this last is called « Isolated city ». If one commune aggregates more than 50% of the whole Urban unity population, it is a « Centre city ». Contrary to this case, all communes with a population more important than half of this of the most important commune of the Urban unity are considered as « Centre cities ». Communes which are not Center cities form the inner suburb of the Urban unity.

In the 1960's, a transformation of the urban growth shape could be seen: that is why was created in 1962, the notion of ZPIU (Urban and Industrial Peopling Zone), which took into account morphologically (but not functionally) integrated rural spaces, into urban socio-spatial systems. It was a more extensive concept which takes into account not only the level of commuting but also the importance of non-agricultural population, number and size of industrial, trade and administrative activities. Each urban unity only belongs to one ZPIU. This notion has been used last time in 1990 before becoming outmoded and inappropriate (all ZPIU represented 75% of the French territory and 96% of its population).

The notion of « Urban Area » is set up in 1996. This expression well underlines the distension and dilution of cities. It is an uninterrupted group of communes, without any enclave, formed with a urban pole (urban unity with less than 5.000 jobs) and a remote suburban crown in which, more than 40% of the whole active resident population use to work in the rest of the urban area. This definition recognizes the reality of a specific space, with a decreasing population and housing density from the core to the outside of the built-up area: the work « remote suburban space communes ». is used for such a space. Nevertheless, these communes are considered like dormitory-towns dependent upon a widest polarity.

- The Ministry of Equipment set up a data base called SITADEL (Système d'Information et de Traitement des Données Élémentaires sur les Logements et les Locaux). It gives data upon new housing built in different communes: nature (individual or collective), use (housing, offices). It separates authorized dwellings (with a building permit), buildings under construction (building sites announcements) and achieved buildings (achievement sites announcements). It is interesting information for a historical review of remote suburb urbanization in terms of new constructions which do often have some specificity such as a low COS level (Coefficient d'occupation des sols) for instance.

¹ ROUGE (L), « Accession à la propriété et modes de vie en maison individuelle des familles modestes installées en périurbain lointain toulousain, les « captifs » du périurbain ? », Thèse de Doctorat soutenue le 14 avril 2005, Toulouse, 381p

- SAFER (Société d'Actions Foncière et d'Équipement Rural), limited companies created during the 1960's at the Regional level in order to promote the modernization of its agriculture, do have a public goal : reorganize the agricultural land market (for instance through land consolidation operations) in order to strengthen the French agriculture competitiveness. Thus they do have the right of pre-emption with which they can repurchase agricultural land. If their activity is nowadays less important in terms of land regulation, they remain important data bases, very useful for an analysis of consequences of urban sprawl on the rural space.
- At local scales, observatories can be set up by planning agencies or public bodies within the framework of researches focused on particular problematic. For instance, within the State/Region Nord-Pas-de-Calais Agreement 1984/1988, which set up a project « Mieux vivre en ville » and the PLH (Politique Locale de l'Habitat), the DRE (Direction Régionale de l'Équipement) and Regional Authorities worked together for the building of a new observatory called ORHA (Observatoire régional de l'Habitat et de l'Aménagement). This last allowed construction of new data bases such as inquiries about social-housing, evolution of land market, property transfers...
- Other private information sources do also exist: notary and solicitors bases or documentation of the National Federation of real estate developers for instance.

This observation work, because it is made by different bodies, not only allows a sector-based analysis but both a transversal and multi-scaled one. Technically, it is possible to make an analysis only at the communal scale but it is better to do such a work at the life-basin scale to understand then try to keep control on land dynamics characterized by commuting between this last and the housing basin. Land observation must as well being made on a long period (ten to fifteen years) to show perceptible transformations.

Measure of urban sprawl needs to link data to bring out mechanisms of this phenomenon. The remote suburban space, because of its low density, needs special statistical tools such as the Land Occupation Rate (Coefficient d'Occupation des Sols - COS) = liveable surface / ground surface. The COS of a remote suburban space house reaches approximately 0.2 when this of a city house with three floor reaches 2.

2.2. Urban politics facing the urban sprawl

If the urban sprawl observation and measure work allow an objective sight of reality and recent evolutions of the phenomenon, the will relative to it control and the way to get it depend on a political choice linked to certain ideological values. For instance, in South Africa, the control of urbanization operated within the Apartheid system until 1995, led to a physical separation between black and white districts in the expansion urban areas. Conversely, as we will see, the SRU French Act (Solidarity and Urban Renewal - Solidarité et Renouvellement Urbain), which try to control the urban sprawl, is based on solidarity, social amalgamation and democratic territorial governance.

2.2.1. What types of urban politics?

From 1945 to the Defferre Act of 1982, French State was the only actor involved in urban management, at the beginning after the second world war and the rebuilding context then through its planning work with the will of a better balance of the whole French territory (especially between Paris and the Provinces, and between the rich eastern industrial part of the country and its poorest and more rural western side). The urban expansion at the scale of each city was consequently chosen and controlled. Construction of buildings in towns' peripheries, to give an answer to the emergency housing need, is the oldest example of such a reality. The decentralization French Act of 1982 deeply transformed this hierarchical system with a new distribution of attributions between Regions, Departments and Communes in the field of economic development, roads, social contribution, major amenities...

In this context, communes get the control of their own land and most of the whole attributions in town planning field. The urban sprawl, phenomenon increasing since the 1970's, becomes a preoccupation for these communes now in charge of the management of urban sprawl through new master plans¹. These last knew a big flexibilization to try to adapt to needs of French territory. Facing the report of urban sprawl, city plans have been up-to-dated with the French SRU Act of 2000. Indeed, this one turned SDAU (Master Plans - Schéma Directeur d'Aménagement et d'Urbanisme) into SCOT (Coherence Master Plan - Schéma de Cohérence Territoriale) which now federate all other planning documents (Transportation Urban Plan - Plan de Déplacement Urbain and Housing Local Plan - Plan Local d'Habitat). The Elect define together changes of the built-up area and priorities in terms of business, industrial zones and transport. PLU (Local Planning Plan - Plan Local d'Urbanisme) succeeded POS (Use Land Plan) and show the communal project in terms of planning, public space use, landscape and environment. These projects are more locally focused and go beyond a simple definition of what must be the land use.

The adjustment of planning documents allows a better organization of the communal urban growth and consequently a better adaptation to the urban sprawl phenomenon. A control of the urbanization is required to avoid its anarchic and space-wasting trend.

¹ EPF Nord-Pas-de-Calais, « Premières conclusions de l'atelier des méthodologies du foncier », 2006

This control obviously appears as if it could be simply controlled through a better action into peripheral spaces, where the remote suburb urbanization phenomenon is speeding up but it is necessary to remember that these spaces stay always in touch with city centers. If this extension often corresponds to a need of new dwellings, the city-centre or the metropolis gather economical, political, cultural activities, and do offer a wide range of services generating a more or less big dependency of its periphery. That is why projects managed into the city-core could even have consequences on the peripheral space. As a result control of the urban sprawl seems possible through urban renewal projects (as it is expected by the French SRU Act) such as high quality social housing programs or housing rehabilitation, fallow lands renewal with, for a result, new lands which can be residentialized. Thus is it the question of how recycle the city in order to limit the peripheral housing pressure.

2.2.2. What are the consequences and the limits of these politics?

If the urban sprawl slows down during last years, its growth nevertheless always goes on. How is it possible to explain such a deficient impact of urban programs? As we have seen, communes are now in charge of town planning through the production of their own PLU. Nonetheless, with more than 36.000 communes, is each French commune able to manage its own territory? Do they have the minimal necessary knowledge for such a charge? In reality, if the biggest ones do already have for a long time a real involvement in local affairs, the smallest (and often rural) ones gave traditionally these questions to State Authorities through DDE (Departmental Equipment Bodies - Directions Départementales de l'Équipement). Moreover, certain communes do not until now transform their POS into a PLU as it is required by the law.

Furthermore, the communal level as a pertinent action level is rather always too much narrow because the demand for space and location choice of households and firms are not confined into communal boundaries. So is it necessary to think at the built-up area or life basin scale. For that, a few number of communes built-up their PLU within the framework of an EPCI (Intermunicipal Cooperation Public Body). Moreover, the life basin area is quite often bigger than the EPCI's one and then forbids a pertinent understanding of the urban sprawl phenomenon. Concerning SCOT plans, this intermunicipal cooperation is programmed within the plan itself. It was encouraged with the 15 km rule which forced remote suburban space local authorities to make a SCOT and then try to avoid an incoherent sprawl. Each commune not involved into a SCOT could not realize big urban projects less than 15 km out of the main built-up areas. Nevertheless, this rule has had number of perverse consequences. For instance, the remote suburb urbanization has been rejected beyond the 15 km limit, especially in smallest urban areas. Moreover, the French SRU Act expected that a SCOT boundary should be sufficient to give local authorities limited urbanization attributions. That is why a lot of small communes gathered together through EPCI only made to give them such an attribution but without any geographical coherence. This rule has finally been canceled in 2000.

It is easy to understand that previous urban politics made for a better control of the urban sprawl, especially through the elaboration of new master plans, have nevertheless limits both because of secondary and negative they achieve (like the 15 km rule) and because of a lack of means to set them up or simply because of the lack of respect of them (communes which do not actualize their PLU). Moreover, an efficient time management of master plans is necessary. Indeed, certain spaces reserved for housing within a PLU, are use differently because of land and housing market pressure; as a result is the development of a spontaneous and hazardous urbanization. It could be necessary to best regulate the land market through real forecasting method, probably within the public authority system.

Nevertheless, France is not the only country concerned by the negative consequences of the urban sprawl and countries like The Netherlands set up specific planning tools.

2.3. Assessment of the « ABC » Netherlands politics against urban sprawl

The notion of compact city is born in The Netherlands. The compact city politics started within the 1985 Amsterdam Master Plan. The aim was to increase the attractiveness of the core of the Randstad conurbation in terms of housing and new inhabitants' entrance (after a new towns city politics, the center of Amsterdam lost its population). The « fourth report » (1988) extends the strategy of compact city to the whole country¹. The notion of sustainable development is added in 1991 (VINEX). The main purpose is to limit the use of car. With the purpose of achieving this aims, more than 50.000 inhabitants districts are planned as « growth nucleus » while « rural » districts have to keep their profile unchanged. The main purpose of the National plan is therefore clearly urban renewal with also a politics for a concentration of the urbanization into the belt Utrecht-Amsterdam-Den Haag-Rotterdam. Added to these general principles, the Government organize itself the urban development. The 1991 National plan try consequently to dissuade drivers from using their own vehicles, especially for house-job commuting. Several means are set up and in particular the ABC politics which try to « put the good firm in the good place ». It is a location strategy which crosses the « accessibility shape » of the place with the « mobility profile » of the firm (both in human and goods terms). As a result, three zone types are defined:

¹ FOUCHIER (V), « Maîtriser l'étalement urbain : une première évaluation des politiques menées dans quatre pays », 1999

- A Profile: third sector activities or equipments with a lot of employees and/or visitors (theatres, museums...). They must be located in the city-core and benefit of good local and national public transport accessibility.
- B Profile: activities with not so much employees but which must keep a very good car accessibility (production, distribution, hospitals, research centres...). Their location, further from the city-cores, must combine both motorway accessibility and public transport servicing.
- C Profile: activities dependent upon roads, characterized by a low density of jobs and which location must be a peripheral one (few public transport servicing required).

In order to reduce the use of the car, car-park rules must be personalized to each profile: for instance, a reduced number of parking-places must reduce the use of car for commuting mobility when it is possible to access someplace by public transports. Therefore, A-type firms will get one parking-place for 10 employees; B-type, one for five and C-type one for two.

The ABC politics works in the two following directions:

- It tries to set up firms looking for a new location in places in accordance with their need in terms of mobility ;
- It tries to improve places accessibility according to the type of firm already set up.

To achieve this politics, each Regional Authorities had to elaborate its own Implementation plan in order to locally arrange national principles. Communes had to put in their Master plans every type of accessibility amenities and relevant authorized equipments. When Regional and Local Plans did not sufficiently correspond to the « Government location strategy », this last just had to say what to do. Firms which wanted to move towards the best Profile zone could catch subsidies.

At the end of the 1990's, a first assessment of this politics is realized : it shows that if 90% of relevant zones have been classified, 72% are neither in A nor in B or C but in an « other locations » category which do not corresponds to one of the 26 areas concerned by the new parameters taking into account.

Secondly, to put the good firm in the good place requires space in order to built new equipments but the lack of land is real and especially for A and B profiles, close to city-cores.

In the third place, the involvement of biggest municipalities into this politics was more hypothetical than true. Indeed, the economic situation often put a stop to goodwill: concurrency between territories and employment crisis make difficult for a municipality to refuse the set up of a firm because it does not corresponds to the wished profile of the zone in which this last wants to be located. When a choose is required, communes rather choose job development than car reducing.

At last, the Netherlands mobility politics is quite mitigated (according to other points of view, such as the fight against the remote suburb urbanization, this politics was quite much more a success) : to reach its first goal (the compact city), this politics considered urban areas as independents from each others but it is not the case because The Netherlands cities form, as a whole, a genuine network. This bad idea obviously restricted the accomplishment of this politics. The second aim (ABC politics), came within the scope of a vision in which transportation floods go for most of them towards inner-cities but reality is different. Moreover, the ABC politics was too much simplistic: it did not take into account the origin of employees and/or visitors, mobility profiles was not sufficiently developed and at last, the range of possible location profiles is much more important than three.

Nowadays, because of the new neo-liberal Government, the « Fifth report » (2005) make a clear choice in terms of Spatial planning: it is simply a help for economic development. The ABC politics is now officially ended. The will of a bigger economic growth go through more liberty for the local territorial level and more flexibility for an adjustment to local specificities. Now, location chose are only made according to the hypothetical capacity of firms to strengthen towns and villages. Nevertheless, the will of a reduce of car use often exist: indeed, the State wants to aggregate the urbanization near transportation axis; this « corridor strategy » come through the development of big industrial zones around transportation axis coming from the Randstad Holland to the Eastern and Southern parts of the country.

3. The urban sprawl: which future for the French territory?

The urban sprawl can not be totally constrained because of its dynamic feature, not easy to be anticipated by communes and with a too small capacity of land politics to control it. So is it necessary to wonder what the negative externalities of this phenomenon, on the ecological, social and political levels are.

3.1. The end of landscapes?

The remote suburb urbanization, as we have seen, generates a variety of habitat which devours a lot of space (housing and ground). Equally, big firms, superstores, warehouses which all need a lot of space for their equipments move to the periphery. Last statistics about population evolution show an important transfer of

demographic growth towards less peopled communes. Unfortunately, these communes are the most rural ones, those in which the agricultural activity is the most significant and where natural spaces are the most abundant.

It is easy to understand that urban sprawl catch it place against agricultural spaces. Indeed, urbanized surfaces represent nowadays 4,5 millions hectares. Between 1992 and 2000, 39.66 km² agricultural lands get back to urbanization when only 3,76km² artificialized land get back to agricultural use. Part of artificialized land transformed into natural (or leisure) spaces is quite important (natural spaces consumed almost 1,05% of artificialized land when these last only consumed approximately 0,2% of natural spaces). This evolution can be linked to the important work of housing rehabilitation or urban renewal in the Nord-Pas-de-Calais Region, which could be one part of solution against the excessive consumption of natural spaces because of uncontrolled urbanization. Nevertheless, these spaces can not return to a total natural condition.

For instance, every six years, in France, a surface corresponding to a department is artificialized. In most of cases, this land can not be used again by agriculture. Most of time, this land can not be developed within an agricultural activity. The change of use is irreversible. This phenomenon is in particular important today because the urban tissue spreads principally out on agricultural plains. But, these plains are precisely the best for agricultural mechanization then modernization and do have the most important water retention capacity (interesting for a good resistance against dryness periods) and allow a wide range of cultivations. If the erosion of agricultural ground because of urban needs appears unimportant at the communal scale, it is very important at the national one. Hence, both added individual and communal decisions threaten this natural no-renewable resource. Moreover, future lack of oil, already prospected, will however confer this land an essential function for food but also for both new energies and new building materials production.

The question of consequences of urban sprawl in the countryside could also lead to social tensions or interests conflicts. Indeed, settlement of new city dwellers in small towns or villages sometimes strengthens contrasts between individual ways of life. City dwellers, fascinated by a certain image of what should be the countryside (a quiet space close to wilderness...), are sometimes disappointed because of a very different reality: noise (agricultural apparatus, cock song), timetable rather different, cleanliness of roads, odors..., which generate clash of interests about space use. The question of an excessive turn of rural space into a leisure space for city dwellers is also asked by the reality of the number of secondary residences and recreational activities (riding schools, walk path...). On the other hand, such a speech must be moderated because rural spaces find in the same way a new dynamism because of a remote suburb urbanization which help the local economic market (fruits and vegetables for instance), allows some public services to stay here (schools) and so, generate jobs.

If the city and the countryside tend to mix through the urban sprawl phenomenon, each one carries its own specificities which complement and are at variance each other, both in economic and social terms.

3.2. A menu for future fat men and women?

As we have seen before, the urban sprawl went and is already going on, because of the collective then individual transportation development. This evolution leads to accurate « car-cities » in which car reigns supreme and where other « alternative » transportation means, struggle with the first one.

So does it exist a real dependency to individual cars: undeniably, because of the urban sprawl and ever-increasing of distances, everyday jobs such as shopping get harder both by foot and by bicycle. So, at the opposite of the wish of a better living environment, a settlement in the remote suburban space usually go together with an increasing of sedentarily (a driver lives, according to average estimation, five years of his life driving his car), with recognized bad consequences for health : a acknowledgment of obesity cases has already been done.

But obese people face following risks¹:

- Medical disorders : cardiac diseases (infarcts), vascular diseases, metabolic diseases (diabetes), jointure troubles, hypertension
- Psychological disorders: nervous breakdown, hate of its body...
- Sociological disorders: discrimination, ostracism...

In 1992, in France, 178.000 persons died because of obesity troubles.

If the urban sprawl is obviously not the only obesity cause (with stress, nutritional lack of knowledge...), the urbanism must be considered by states as a essential challenge for public health².

Nevertheless, according to a recent study (PLANTIGA, BERNELL, 2005), if the urban sprawl is really an obesity factor, persons who do have an excessive wealth however used to choose suburb for living. According to these authors, the individual wealth is a determining factor for settlement location chose : people use to chose « the location which will give them the most important features for them : people who like walking chose a location in which such an activity could be done easily and those who do not like it will chose an other one ».

¹ FRANK (L-D), FRUMKIN (H), JACKSON (R), « Urban Sprawl and Public Health », Décembre 2001

² As try to say the authors of the book *Urban Sprawl and Public Health*, L. D. Frank, H. Frumkin et R. Jackson.

3.3. Towards a densely built-up city?

Is it necessary to bring together high density city and spread city within the context of ecological, economical, socio-cultural and territorial organization risks shown by this last model? How much cost exactly the urban sprawl? In order to be able to give an answer to these questions, a small comparison should be made in terms of compact-city advantages and disadvantages.

People favourable to compact-city do have quite numerous arguments: reducing of the number of moving and distances then lowest energy consumption; reducing of land consumption allowed by urban renewal politics; wider use of public transports because of shorter distances and undersized urban sprawl, with at last a greater mobility and accessibility, and a dropping of car addiction.

People against compact-city put first and foremost traffic-jam and over cost problems, equipments ageing, pressure on rare free areas with a quick destruction of the city environment and reducing of urban environment quality.

However this strict comparison between compact city and spread city do have limits. Indeed, it is visible that economically speaking, costs generated by compact or spread city are not paid by the same actors and thus, are difficult to be compared: in the compact city case, the cost of infrastructure ageing (especially roads) which is the highest at short time is paid by the local public Authority involved in. But in the spread city case, daily transportation fees for commuting from peripheral to central areas are the most important and payable by the user.

We must also notice that it is not because the choice of spread city cost much more that it is however disused (The correlation between remote suburban space growth and increasing of oil price proofs it!). Remote suburban space households exchange this over cost against a better quality of life, perceived as much more important (maintaining a big garden, living near the countryside...). Moreover, the individual car use is deeply anchored into way of life. Diminish of this use must follow a change of mentalities which could take a lot of time. Therefore, a analysis of the urban sprawl only through theoretical models is not enough to take into account individual motivations, sometimes illogical.

Nevertheless, if we go far from this citizen scale logic to appreciate real long time costs, there can we see an ecological necessity. But this one is a collective one, and then can not be uncared for only individual interests. An economical necessity also exists because of the reducing of energetic resources. That is a reason for a wish of a city development model, thrifty in terms of sustainable development. We have seen that compact or spread city models are too much precise to be realistic. Advantages and disadvantages their show largely depend on interpretations (is urban concentration a way towards traffic reducing?).

So, what model is the best one?

A consensus between supporters of compact or spread city has been formed through the « new urbanism » movement. It is this of the polynuclear city in which, functions usually concentrated in the main core are spread over several other sub centres linked by efficient public transportation infrastructures. These last should allow an easier control of the excessive individual transportation means and then authorize a much more sustainable territorial management. Moreover, this model supposes that inner suburbs density of these sub centres is relatively high and characterized by a multifaceted land use, guarantee of an urban sprawl plummeting.

This polynuclear city model appears like the most realistic. It is yet only an abstractive goal, a kind of final target to be reached. At last, the priority is not to define an ideal city form but to say how transform existing shapes. The example of the ABC project in Amsterdam showed us that a static model of what a city must be is not sufficient. It is also necessary to identify complex ways towards sustainability. Of course links between urban morphology and transportation system occupies the first place in the debate relative to the hunt of sustainable city development.

Conclusion

The urban sprawl is an old trend, started with the improvement of private and public accessibility of peripheral urban spaces. But the will of a control of this phenomenon was a long time coming and most of time occurs when the sprawl is already effective. Difficulty to set up such a control is due to the multiple definition of the reality of this geographical, economical, social and cultural multifaceted process. If this phenomenon can now be precisely known because of the number of sources available, its control remains not easy.

Concerns relative to the urban sprawl appeared really during the 1980's with the transfer of soil control from the State level to Communes one. But, the passing of the SRU Act ten years later proves the ever-increasing of the problem. Communes are now in charge of this question through the elaboration of their PLU and their SCOT. However, the main limits of these politics are both the lack of communal knowledge to supervise their own territories and the difficulty for them to hold out against the weight of the real-estate business. Several efforts have been made in certain countries like The Netherlands to improve this control through a new kind of planning strategy. But these models often suffer from a lack of plasticity to a complex territorial and economic reality.

But the problem is pressing because of the growing environmental, economic and social cost of the spread-city. But is it necessary to diabolize the spread-city and oppose it to a densely built-up city model? It is not that certain. The sustainable city could take different types of morphologies and why not this of a polynuclear city?

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