Assessment report of strategies: Montpellier case study

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PLUREL

Governance and Planning Scenarios

Module 3

June 2010

PERI-URBAN LAND USE RELATIONSHIPS – STRATEGIES AND SUSTAINABILITY ASSESSMENT TOOLS FOR URBAN-RURAL LINKAGES, INTEGRATED PROJECT, CONTRACT NO. 036921

D3.3.9

Assesment report of strategies

Montpellier case study

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Document status:

Draft:	completed
Submitted for internal review:	completed
Revised based on comments given by internal reviewers:	completed
Final, submitted to EC:	completed

SIXTH FRAMEWORK PROGRAMME

Contents

Colophon

Assessment report of strategies

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29.06.2010

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Abstract

This assessment report of strategies for the Montpellier case study presents three territorial levels: the Agglomeration, three communes in the context of agriculture dynamics and one commune which is involved in a flood protection plan. This study follows the general framework of the module 3 in the PLUREL project, which proposes to use criteria to assess the strategies and describe the regional level of performance in front of issues or challenges located in the urban fringe.

The first part considers the Scheme of Territorial Coherence (SCoT) of Montpellier's Agglomeration with the main challenge to use the concept of landscape for the metropolitan project. In this part, one important result is that landscape was "*both an element of consensus and division*" and made important impacts on strategy: conceptual approach and adhesion of local public actors were efficient. The second step of the report proposes a view on the implementation of the Scot in municipalities of Montpellier Agglomeration, with two poles (regional planning and local development). In this part, three strategies are considered: territorial governance (cooperation among local governments in the field of spatial planning), the intensified urban development, and agriculture in the city-region development project (to interrogate farming as a "natural way" to manage urban / rural limit in urban fringes). As a conclusion of this chapter on the implementation of the Scot at municipal level, the author considers "the strategy of Montpellier Agglomeration as successful for a major part". Local elected representatives of Montpellier Agglomeration unanimously adopted the Scot and are following its recommendations when implementing new urban developments at municipal level, particularly a major recommendation about urban intensification. About the role dedicated to farming, the study shows greater difficulties in the local reality: speculative strategies are still observed on land market in urban fringes. (land owners are still expecting their land to be developed as the best alternative for their future). The consequence is a weak of farming in urban fringes, amplified by the general agricultural crisis. The last part gives attention to risk management, with the illustration of an intervention of Montpellier Agglomeration to prevent flooding in the municipality of Lattes. The strategy was under strong constraints: risk protection plan is a State framework to apply in local hazardous context. An emergency to implement a flood risk prevention plan has been integrated into spatial planning of Montpellier Agglomeration and the commune. A first strategy failed face to the logic of private land owners and a second strategy, more expensive, was finally implemented. Despite revisions of procedures, which are consequence of the first initial emergency, the strategy is ultimately an interesting opportunity for the Agglomeration to justify its general management areas and to build its local identity and its solidarity role in the face of risks generally exceeds the capacity of municipalities to cope.

Classification of results/outputs:
For the purpose of integrating the results of this deliverable into the PLUREL Explorer dissemination platform as fact sheets and associated documentation please classify the results in relation to spatial scale; DPSIR framework; land use issues; output indicators and knowledge type.

Spatial scale for results: Regional, national, European	Regional
DPSIR framework: Driver, Pressure, State, Impact, Response	State, Response
Land use issues covered: Housing, Traffic, Agriculture, Natural area, Water, Tourism/recreation	Housing, Agriculture, Natural Area, Water
Scenario sensitivity: Are the products/outputs sensitive to Module 1 scenarios?	No
Output indicators: Socio-economic & environmental external constraints; Land Use structure; RUR Metabolism; ECO-system integrity; Ecosystem Services; Socio-economic assessment Criteria; Decisions	Decisions
Knowledge type: Narrative storylines; Response functions; GIS-based maps; Tables or charts; Handbooks	Narrative storylines, Handbooks

How many fact sheets will be derived from this deliverable:	**3**

Introduction

This report consists of three parts, each studying some strategies involved in the change of land use in the urban fringe of Montpellier. The figure on the next page summarizes these parties and their scope.

The methodology was to interview players who wear these strategies, particularly public actors Agglomeration of Montpellier and of common targets for which different sectorial issues (agriculture, natural hazards) imposed on these strategies.

Describe the context of your region	We fully agree	We agree	We are Neutral	We disagree	We very much disagree	We do not know
1) Real estate prices in the urban fringe are very high and negatively impact rural types of land use.	☒	❑	❑	❑	❑	❑
2) Non-urbanized land in the fringe is typically owned by:	☒Private owners	❑State organization	❑ Envir. NGOs			
3) The peri-urban/open landscape/agricultural landscape just outside the city is appreciated by our citizens.	❑	☒	❑	❑	❑	❑
4) The peri-urban/open landscape/agricultural landscape just outside the city is accessible for outdoor recreation.	❑	❑	☒	❑	❑	❑
5) All social groups have equal opportunities to enjoy the fringe landscape.	❑	❑	❑	☒	❑	❑
6) Our city region structure is	❑ polycentric			☒ monocentric		
7) Our city region's core population density is	876 inhab/km²					
8) Our city region's fringe population density is	115 inhab/km²					
9) Our city region's core growth is	28,2%					
10) Our city region's fringe growth is	26,7%					
11) The standard of living in the urban core is higher than in the fringe.	❑	❑	☒	❑	❑	❑
12) There is a formal planning system that enables governments to be influential.	❑	☒	❑	❑	❑	❑
13) There are immigrant communities in our city region.	❑	☒	❑	❑	❑	❑

Redaction:
- Chapter 1: J. Buyck
- Chapter 2: F. Jarrige
- Chapter 3: J.-P. Chéry

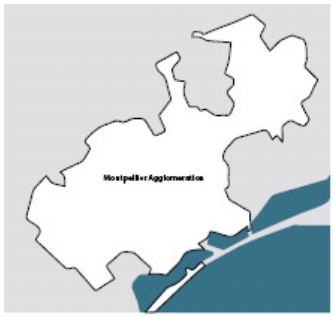
ASSESSMENT TOOLS FOR MONTPELLIER AGGLOMERATION

Jennifer Buyck (Alfred Peter Paysagiste, France), Jean-Pierre Chery (AgroParisTech, France), Françoise Jarrige (SupAgro, France)

Montpellier Agglomeration developed a strategy on urban fringes named the SCoT (Scheme of Territorial Coherence). It was already presented into the "Analysis of regional spatial planning and decision making strategies and their impact on land use in the urban fringe" (D 3.3.2). And, our question now is: how is it possible to assess this strategy?

1st scale of study: SCOT PLANNING

Landscape as a vector for the metropolitan project in the SCoT of Montpellier Agglomeration



Perimeter:
Montpellier Agglomeration

Planning document:
SCoT

Area of study:
440 km² - 400 000 inhab.

Methodology
Interviews of the main actors

Actors: 7 actors selected to represent contracting owner and project management

Interviews: semi directive

Variables for analyse: housing offer / transportation / economic activity / preservation and emphasizing of landscapes

First results
A new point of view on landscape structured the strategy

- Landscape allowed to bring actors and territories together giving the possibility of individual appropriations.

- The point of view on landscape developed by the project management group fed on this multiple identity. It became the filter through which general objectives of actors were rephrasing.

Assessment of the SCoT objectives at the scale of town planning

2nd scale of study: TOWN PLANNING

From regional planning to local development : a view on the implementation of the SCot in three municipalities

Perimeter:
Towns of Fabrègues, Castries and Pérols

Planning document:
Urban studies for urban planning

Area of study:
60 km² (30 + 25 + 5)
20 000 inhab.

Methodology
Interviews of the main actors

Actors: mayors, planners and farmers

Interviews: semi directive and directive

Variables for analyse: coordination frameworks / land use / land price

First results
Assessment of SCoT strategy in spatial planning and inter-communal cooperation

- Territorial governance : cooperation among local governments for spatial planning.

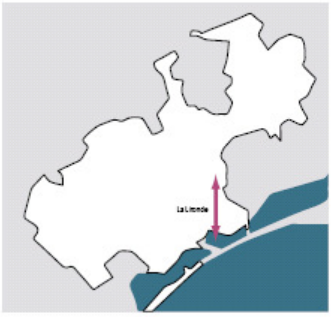
- Precise and long lasting development zoning at regional scale to induce changes in land owners strategies.

- farming as a natural tool to manage urban / rural limit ?

Assessment of the SCoT objectives at the scale of local planning

3rd scale of study: LOCAL PLANNING

An intervention of Montpellier Agglomération to prevent flooding in the Lironde's valley



Perimeter:
Lironde valley

Planning document:
Local planning

Area of study:
around 10 km²

Methodology
Interviews of the main actors

Actors: mayors, planners and farmers

Interviews: semi directive and directive

Variables for analyse: actors' objectives / common interest

First results
individual and collective strategies in front of flood risk

- differents scenarios in the Agglomeration strategy
- Method and results of concertation and public inquiry
- The problem of land use under flood risk : expression of explicit strategies
- Risk as potential, strategies as actions: an assessement of land use change process

= *SCoT assessment*

1. The Scheme of Territorial Coherence (SCoT) of Montpellier's Agglomeration: landscape as a vector for the metropolitan project

In 2006, Bernard Reichen won the French price of urbanism for his attention to territories as exposed in the project of the Scheme of territorial Coherence (SCoT) of Montpellier's agglomeration. This project appears emblematic of a time where the metropolitan construction is a reconversion insofar as it is a "transformation of an object already transformed in the past". Besides, the SCoT of Montpellier agglomeration relies on a special point of view on landscape in order to get a sprawling urban territory in motion. However, what is hidden beside this stance on landscape? Is it really a vector for the metropolitan project? In order to give elements of answer to these questions, we have to start first with the definition of the SCoT before explaining Montpellier's one and our method to analyse it. Then, our main results will be presented to give a new definition of landscape as one of the new actor of metropolitan project.

1. 1 A 7 years' experience on the Schemes of Territorial Coherence (SCoT)

The law named "Solidarité et Renouvellements Urbains" have introduced since the 1st April 2001 a new document of urbanism, the Scheme of Territorial Coherence (SCoT) . This one replaced the Director Scheme (SD) and had for main purpose "to organise and to make mutually coherent, at the scale of the population catchment's area, the political project and the urban one defined by elected officials". The objectives are more general than the Director Scheme ones as they include social, economical and environmental concerns. The SCoT is developed at the towns' initiative by a public organization of inter-towns coherence (EPCI). Unlike the Director Scheme, the SCoT has to be submitted to a public enquiry. Thus his legitimacy is reinforced and a debate can take place on the theme of the political and urban project.

In terms of content, the law is quite evasive but the professional practice follows a structure divided into three axes: a report of presentation, a project of urban planning and sustainable development and a document of orientations. The report of presentation serves as an environmental diagnostic and underlines the needs regarding urban development. The project of urban planning and sustainable development reveals the strategy built for the studied area and explains the main objectives. For his part the document of orientations specifies the objectives of the project of urban planning and sustainable development.

If the document includes drawings and maps, he hasn't to give a general map representing the ground's occupancies as in the Director Scheme. This absence is due to the idea of subsidiary that has to let the towns free to establish their own planning (PLU). It is difficult to find equivalence for the SCoT into the other urban planning tools in Europe as he is specific of the French planning system.

In 2008, more than 30 SCoT are approved and around 400 are under construction. So this is a considerable work that mobilises elected officials, government services and urban planners. The time for an elaboration of a SCoT, defined with use, is between 4 and 6 years in average, from the definition of the perimeter to the date of the approval of the SCoT.

The rule of "limited urbanisation" or "of the 15 kilometres" was very efficient to encourage the towns on urban fringes, or on the coasts, to make their SCoT . Regarding the 10

biggest French cities, excluding the special case of Paris, all of them have started the elaboration of their own SCoT and four of them, including Montpellier, have already approved their SCoT.

Processes of assessment were introduced mainly within the EPCI. Nowadays what we learnt from these processes is that the choice of the perimeter is absolutely decisive. The problem of some SCoT is that they don't have a good perimeter. It doesn't have to be too small or too big and the good balance is very difficult to find. The correspondence with the PLU, the tool of urban planning at the scale of a town, may also be a hard task. In fact this one needs a follow-up that transcends the EPCI's competences. In terms of urban concepts, some recurrences can be underlined. The ideas of mobility, proximity and sustainability seem to meet general approval. Then, landscape is consistently presented by a diagnostic on this matter that leads to ideas on the urban project.

Landscape the definition of which is controversial comes from the term "land" and suggests the area of land that is offered to an observer. So landscape refers to the representation that the man makes about what is around him. These representations may be objective as the ones of English landscape designers from the XVIII and XIX centuries. They may be subjective too. For example, the functional logic was obvious from the first part of the XX century to the seventies. The principle of "green zoning" was used in planning documents and the main idea was to locate, to qualify and to quantify green spaces, agricultural lands, lakes and rivers. Then, the law from the 8th January 1933 addressed for the first time the idea of protection and emphasizing landscapes. The government established directives in relation with the vested interest of some areas in order that they get a special attention in urban planning documents.

SCoT are for landscape a perfect field of experiences. This matter is inevitably presented into the report of presentation whatever the size of the perimeter, for grouping rural villages as for a metropolitan area. But the way to speak about landscape isn't univocal. Different attitudes may be noticed. First, there is the conventional one that qualifies and protects landscapes of the studying area. This idea is often completed by a will of organizing coherence between landscapes. On the other hand, an other attitude appeared. To this new point of view, the discourse on the protection of landscapes and emphasizing is the basis of planning project. Thus the two main poles of the territory, the rural and urban ones, are not anymore systematically opposed.

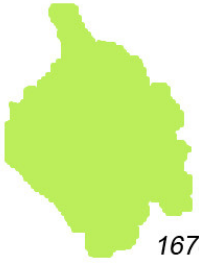
This orientation of project develops innovative spatial forms where new relations are established between indoors and outdoors, city and countryside. The SCoT of Bordeaux, Montpellier and Rennes are some of the projects developing right to the end the idea of a landscape as main actor of urban renewal. They develop like this new urban forms that are described by oxymora between rural and urban world. Montpellier's SCoT relies all its method on an approach of landscape encouraging a "sight's inversion". So landscape is presented as an integrative part of the reflection on urban development. Thus, a new approach is developed, summarised by Alfred Peter with the idea of "drawing the countryside to reinvent cities". The purpose of this part of the paper is to assess the strategy of the SCoT focusing on the new definition of landscape.

Comparative approach of the SCoT of Bordeaux, Montpellier and Rennes

BORDEAUX — MONTPELLIER — RENNES

SCoT's PERIMETERS

Source SCoT of Bordeaux, Montpellier and Rennes



1670 Km²

440 Km²

1140 Km²

INHABITANT

Source INSEE 99

863 000 Inhab

391 000 Inhab

429 000 Inhab

SCoT's STRUCTURES

Source SCoT of Bordeaux, Montpellier and Rennes

1 Metropolitan Area
3 Communities of cities

1 Urban Community

1 Urban Community
4 Communities of cities
1 City alone

DENSITIES

Source INSEE 99

520 Inhab/Km²

840 Inhab/Km²

380 Inhab/Km²

1. 2 Assessment of the strategy on periurban areas: the SCoT of Montpellier Agglomeration

As explained previously, the SCoT of Montpellier Agglomeration relies on landscape to develop the project of territorial restructuring. But, in fact, what is the landscape in question? How individual representations on landscape proceed to build a collective point of view on landscape, key element of the urban project? In order to answer to these questions, we have first to present the principal characteristics of the studied area. The perimeter is exceptionally the one of Montpellier Agglomeration. The structure in charge of the project is a strong one, relatively united. Then, regarding the general development of the metropolitan area, several elements have to be underlined. «Montpellier Agglomeration knew, these last decades, a great development consolidating its role of regional metropolis» (« *L'agglomération de Montpellier a connu, ces dernières décennies, un essor formidable confortant son rang de métropole régionale* ») said Georges Frêche in introduction of the SCoT of Montpellier Agglomeration. The attractivity of Montpellier, and also of the towns around, is a key element of the territory and of its future. The SCoT plans an increase of 100 000 inhabitant for 2020. The economic development of the agglomeration has to be exposed too. In fact, Montpellier, the agglomeration, and beyond, the urban area, are famous for a dynamic economy, especially at the two extremities of the social scale.

The principal characteristics of Montpellier Agglomeration in terms of urban development may be summed up as hereafter. The urbanised area is sprawling every day. This extensive urbanisation leads to a waste of land assets. It also damages the everyday landscapes and increases the social segregation.

The natural and ecological heritage of the territory, for its part, is composed by singular places, natural environments, mainly known for the richness of their biodiversity. Several elements of landscape constitute the structure of the territory: the coast and its ponds, the rivers and the hills of garrigue. We have to underline that these landscapes have to be considered both as geographical and physical elements and as the amenities of places. The water, air and soil quality is also a trouble that needs a high level of vigilance. Then, it's the presence of important natural risks that have to be presented. Fires and inundations are everyday worries in this territory between the sea and the dry vegetation of the garrigue.

The main issue for urban development in the region of Montpellier has proved to be the mastery of the effects of its attractivity. In order to do this, the idea is to reduce pressures both on land assets and on environmental resources or agricultural spaces. Then, housing and transportation have to be accessible for everyone.

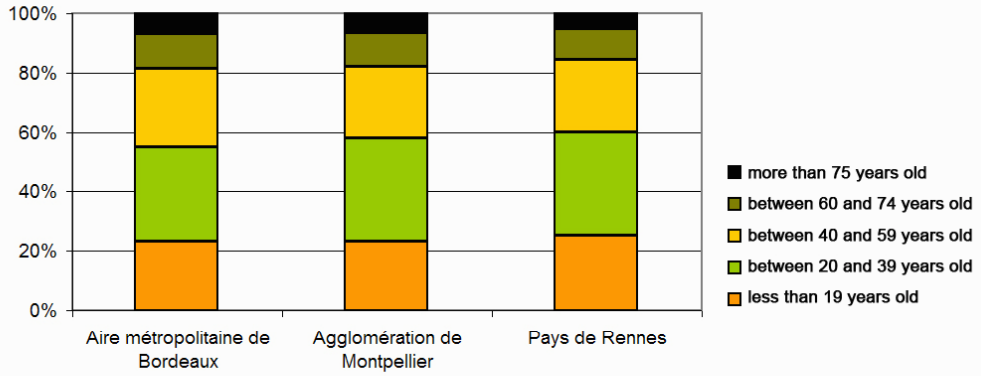
During the three years before the approval of the SCoT, the work of elaboration has led to many meetings and debates animated by services of urbanism from Montpellier Agglomeration. Diagnostics from the MaSCoT and ENSAM-INRA groups acted as a root for the work. Then a first study was proposed. This one largely contributed to the elaboration of the prospective reflections on the main issues from the SCoT. The project management of the SCoT was then assured by the group composed by Bernard Reichen, mandatory, Hervé Huntziger, TETRA and Alfred Peter. The key idea of the team was to mastery urban development by working on three different axes: the environmental, social and economical values of the territory. These issues were respectively carried out by Alfred Peter, Bernard Reichen and Hervé Huntzinger. The whole workshops were organised in order to discuss about these three axes. The main issues aren't pre-conceived ideas as they resulted from the investigative approach on the territory.

Perspectives on urban development

BORDEAUX — MONTPELLIER — RENNES

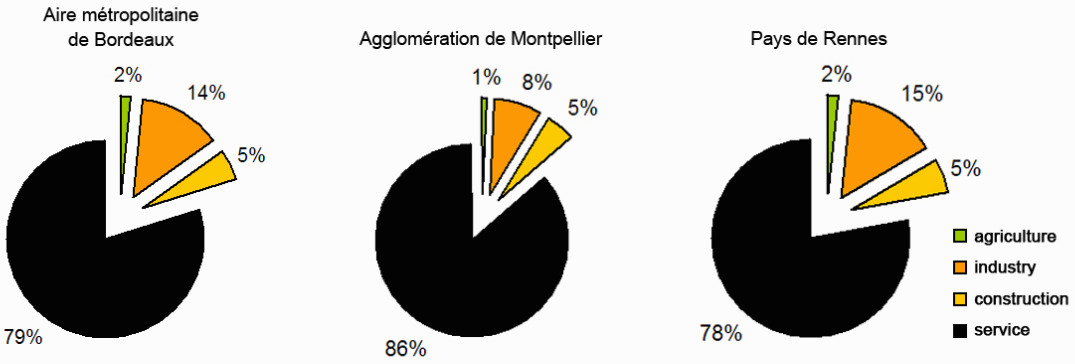
INHABITANT

Source INSEE 99



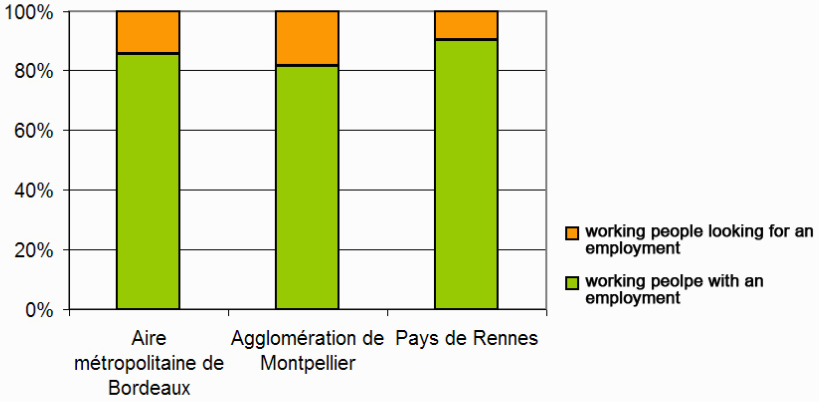
LINES OF BUSINESS

Source INSEE 99 - Nomenclature d'Activités Françaises n°4



WORKING PEOPLE

Source INSEE 99



LANDS CONSUMPTION

Source INSEE 99

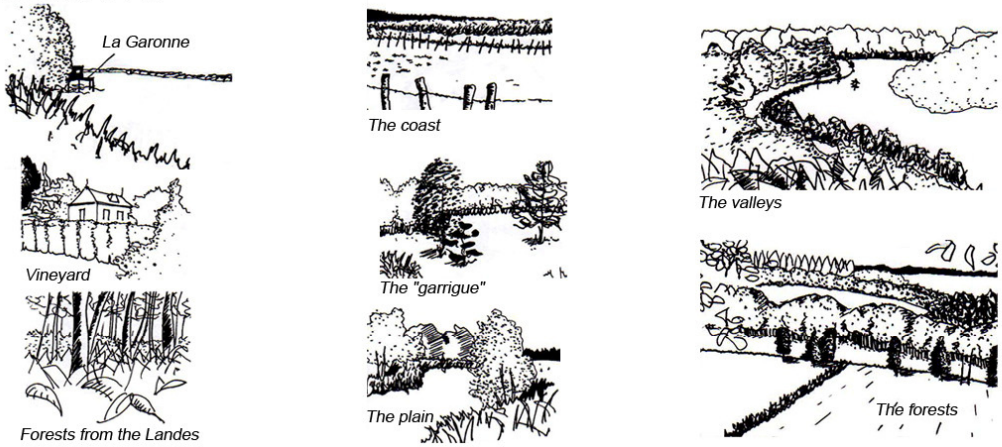
	Aire métropolitaine de Bordeaux	Agglomération de Montpellier	Pays de Rennes
Urban space consumption per inhabitant	1 300 m²/inhab	800 m²/inhab	300 m²/inhab
Land prices in agricultural parts	5000 to 6000€/ha	6000 to 7000€/ha	4000 to 5000€/ha
Rents in the city center	12,4 €/m²	12,7 €/m²	11,2 €/m²

Perspectives on environment

BORDEAUX — MONTPELLIER — RENNES

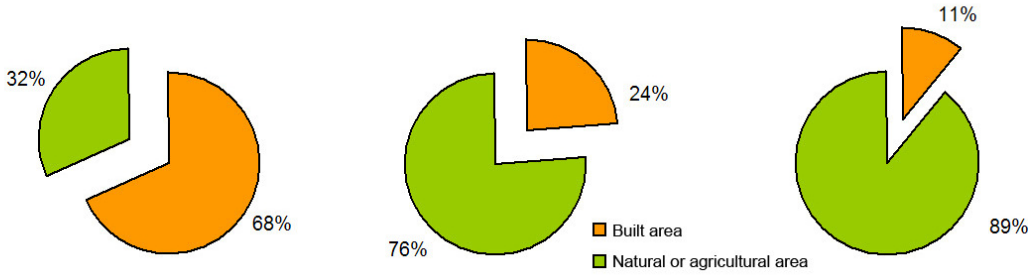
LANDSCAPES

Source SCoTs



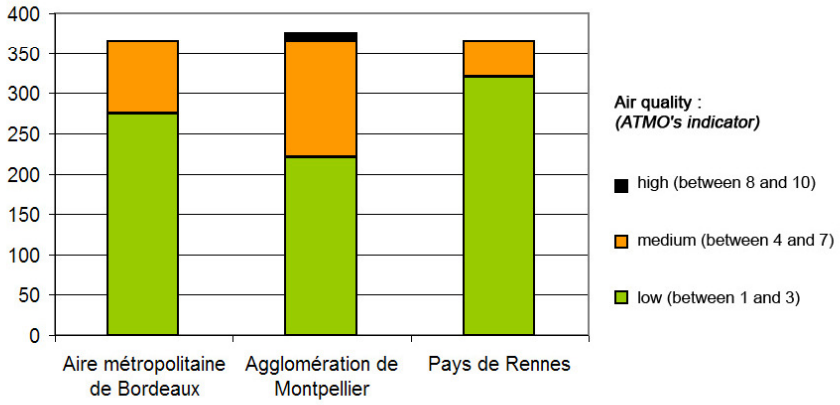
NATURE + AGRICULTURE

Source INSEE 99 - SCoTs - Chambres d'agriculture



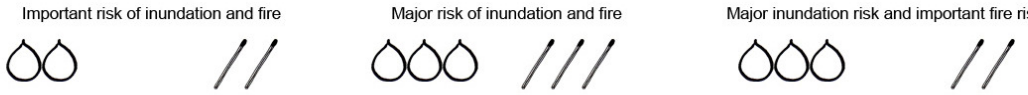
NATURAL RESOURCES / The example of air

Source ADEME 2006



RISKS / Inundation and fire

Source SCoTs



After the first proposals from the three groups, geography appeared as the key element of the project. And, the geography of the territory led the group represented by B. Reichen to propose a "sight's inversion" by privileging the containing, the network of natural and agricultural spaces, against the content of development projects. The primary step of this work was the qualification of these natural and agricultural spaces, and their connection. Once this natural and agricultural network brought to light, the idea was to underline its limits in order to specify intangible spaces that shouldn't be urbanised. These limits aren't to be thought as a simple line but as a special place, that have to be invented, where city and nature can give value to each other.

A reflection on transportation and housing completed this point of view on geography. The idea was indeed to use public transportation as the lever of urban development. The SCoT puts in place levels of intensity for urban development that give minima of density in order to take better advantage of the proximity of public transportation and to adapt the project to urban context. Thus, the project plans to preserve and to promote natural and agricultural spaces, to assure one third of the development by urban rehabilitation and to master urban extensions. Then, an innovative approach for local projects was drafted by the presentation of the "maps of reference" (plans de reference). These ones aim to constitute a key step into the elaboration of the important urban projects.

At the present time, the assessment of the SCoT is in process. The issue of landscape is, within this framework, an important axis of research. However, the studies organised by Montpellier Agglomeration focus on the assessment of results. Contrary to this approach, the idea is for us to question the value of landscape trough the conception of the project. In order to do this, the documents of synthesis and other graphical documents aren't sufficient. Thus, we choose to discuss with the main actors of the project to underline the inherent representations on landscape. Seven actors were selected to represent in the better way contracting owner and project management (Appendix A & B).

The interviews, semi directive, are based on a discussion opened by one question: To your point of view, what is the project of the SCoT? The minimal list of issues having to be discussed was thought using the final documents from the SCoT and preliminary interviews.

The development of housing offer, this one of transportation and of economic activity as well as preservation and emphasizing of landscapes acted as bases of the interviews and of the analysis. The variables, took into account for the analysis of the actors' system , are the four general items of the project exposed previously. The idea was to understand what the relations between each of them are. The analysis of results was conducted from the point of view of the management project. Indeed this group, represented by A. Peter and B. Reichen, developed a special conception of landscape. The tools used for the analysis aimed to answer to the following questions: Do the individual representations on landscape turn out to be a unifying element of the project? Does a collective representation on landscape exist? Is it built *a priori* or *a posteriori*? Then, does this mental construction influence the formulation of the objectives from the project of urban development?

1. 3 The influence of landscape in the project of the Montpellier Agglomeration SCoT

The analysis of interviews presents firstly landscape as a federative element. It makes all the different strategies of the actors convergent to the idea of preservation and emphasizing. The interpretation of the results allows us to say that the general strategies of the actors tally on this point (Appendix C).

In the same way, landscape is systematically represented into the discourses as a link between the disparate parts of the urban and sprawled territory (Appendix D). It is, for A. Peter, the method "to put at the same level centre and periphery". For Nicolas Roubieux,

director of the “prospective studies” department from Montpellier Agglomeration, it appears as “the basis thanks to city and towns may discuss”. Then, Christophe Moralès, town councillor from Montpellier, presents landscape as “the common good leading to the reunion of the different towns from Montpellier Agglomeration”.

It is necessary to underline that the notion of landscape seams also to establish a relation between the different scales of the territory, from global to local. The localised representations of landscape are very varied and develop a large number of figures. The panel of local representations on landscape comes for example from a simple “tree” to the “Mediterranean sea” including diverse scales such as this of the “square”, the “river” or the “beach”. Thus, landscape appears as an element of multiple reunions: an element of reunion of actors, of territories and of its different scales.

The second part of the interpretation moderates a little bit the conclusion exposed previously (Appendix E). Indeed, the in-depth study of the lexical field used to speak about local landscape shows that the idea of landscape is linked to the experience that actors have in this domain. In order to illustrate this fact, we can compare the landscaped representations of Françoise Jarrige and Martine Tourre Darcourt, respectively researcher in charge of the analysis on natural and agricultural spaces and director of the “land and operational planning” department from Montpellier Agglomeration. For Françoise Jarrige, landscape is represented by agro-natural unites such as “agricultural spaces”, “windlands” or “floodplains” whereas for Martine Tourre Darcourt, landscape looks more like “parks” and “gardens”. The landscaped point of view of the two actors appears completely oriented by their respective profession. On one hand landscape opts for agriculture, on the other hand landscape is in favour of housing environment.

In the same way, the themes associated to landscape are very varied and depend on the professional identity of the actors. For Françoise Jarrige, landscape deals with “agriculture” and “durability” whereas for Martine Tourre Darcourt, it is linked to the idea of “nature” as a pleasant space around a built area. Thus, local and thematic representations on landscape are various. They are representative of the fragmentary idea on landscape.

For its part, the point of view from the group of project management relies on an abstract spatial figure. Landscape is indeed defined by A. Peter as well as by B. Reichen, as a “green continuity” creating “a base”, “an intangible network”. It builds with the city a “limit” that is not a simple line but a “deep” one. This place is a special one where porosity between urban and rural systems can be imagined. Thus, landscape becomes “the area of projects”, a “great field of experiments”.

Regarding the atomisation of the individual representations on landscape, we have to discuss about the status attached to this abstracter thought. Is it an a priori? Does it impose itself as the collective representation on landscape? What influence does this new idea on landscape develop in the conception of the SCoT?

In order to give part of an answer, the formulation, and eventually the rephrasing, of the project objectives has to be underlined. Indeed, general objectives of the project expressed by the actors imply a certain point of view on landscape that we have to present. The venue of new inhabitant, a key objective, involves that landscape, here represented by rural spaces around city, moves back in front of the city. This is the representation of land storage. Regarding the objective of developing mobility, notably by public transportation, it implied a fragmentation of landscape. This one is indeed trapped by the will of connecting everything. Under the cover of accessibility, landscape is crossed, divided and thus weakened. In addition, the development of economical activity leads once again to the idea of land storage.

Landscape is indeed excluded from economical development. It is also thought as a park in which farmers are gardeners. Then, the embellishment objective of housing

environment implies the idea that city is an aggressive milieu against which it is possible to oppose the wellness of landscape.

These points of view on landscape are contested, even refused, by the group of project management. Indeed, since the beginning of the project, the SCoT has appeared to B. Reichen as a “windfall” thanks to which it was possible to make a project that was a “creation”. Thus the new landscaped figure imposed itself through the different workshops. Besides, the pedagogical value of this work was underlined by the whole actors interviewed (Appendix F). A real work of negotiation, a bottom-up approach, took place during the project. At the end of these discussions, landscape appeared as a substance that we hadn’t to protect or to fill. The association between landscape and vacant territories turned out obsolete.

Thus, a new definition of landscape appeared (Appendix G). It allowed the rephrasing of the general objectives. Indeed, landscape imposed itself in the project as a guarantee of urban quality. So, it was necessary to rethink the venue of new inhabitant by the preservation of the natural value. Then landscape was presented as the security of territorial coherence. It implied the following change of priorities: from the city of mobility to the city of proximity and local identity. Landscape appeared as a special economical area, active, establishing relations of interdependence with the urban milieu. So the recognition of development intensification, concretised by the principle of space saving, became obvious. Then, landscape was considered as a scalable system, always changing, porter of latent projects. A system of “maps of reference” was imagined in order to be able to adapt a project to a moving environment. Thus, the following objectives - the preservation of the natural heritage, the pointing up of the “city of proximity” and the development intensification – were induced, justified and organised.

In fact, the discussion about landscape allowed bringing actors and territories together giving the possibility of individual appropriations. Therefore landscape was both an element of consensus and division. Then, it is necessary to underline that the point of view on landscape developed by the project management group fed on this multiple identity. It became the filter through which general objectives of actors were rephrasing. This conclusion might be developed, buttressed, even discussed by a similar analysis of the SCoT from Rennes and Bordeaux previously cited.

The following table (table 1) is a preliminary sketch. The idea of this report is to study at different levels the strategy of the SCOT. The two next parts will present local strategies in relation with the SCoT, the first one at the scale of towns, the other one at the scale of a local area.

Table 1: Assessment criteria for the SCoT of Montpellier Agglomeration

Assessment criteria	**Answer** (Tick the right answer in this column)					
Concerning field of action of the strategy: more choices possible:						
a) Reducing land pressure due to housing/ industry	1					
b) Strengthening agriculture in the urban fringe	2					
c) Protecting high biodiversity nature areas at risk						
d) Integration of tourism and leisure	3					
e) More comprehensive overarching policy						
f) Awareness raising						
g) Monitoring and Evaluation						
Concerning outcomes of the strategy:						
(blue boxes are to be answered for all strategies, white boxes only for the regions for which the subject is specifically formulated)	We fully agree	We agree	We are Neutrale	We disagree	We very much disagree	We do not know
1) The strategy is resilient – robust and flexible enough to cope with changes in its context and stays effective at the long term (>25 years)	☒	❑	❑	❑	❑	❑
2) It serves multiple objectives – it employs synergy to create maximum effect (PP or PPP1) or creates many 'winners'.	☒	❑	❑	❑	❑	❑
3) The strategy is effective – it actually produces the outcomes it was designed for.	☒	❑	❑	❑	❑	❑
4) The strategy pushes land use away, creating new land use conflicts elsewhere or at another level.	❑	❑	☒	❑	❑	❑
5) The strategy pushes land use away, not causing new land use conflicts elsewhere nor at another level.	❑	❑	❑	❑	❑	❑
6) The strategy strengthens the unique qualities of the area it pertains to.	❑	☒	❑	❑	❑	❑
7) The strategy contributes to a sustainable dispersion of land use at a regional level, with a balance between resource availability and use.	☒	❑	❑	❑	❑	❑
8) The strategy enables existing rural types of land use to stay or to develop.	☒	❑	❑	❑	❑	❑
9) The strategy creates new or additional urban economy	❑	☒	❑	❑	❑	❑
10) The strategy leads to accessibility for city people to peri-urban, open landscapes/agricultural land	❑	❑	☒	❑	❑	❑
11) The strategy protects land with best agricultural production capacity, based on soil quality	❑	❑	☒	❑	❑	❑
Concerning the process comprised by the strategy						
12) The strategy helps the process of decision-making by making a complex situation more clear.	☒	❑	❑	❑	❑	❑

[1] People, Planet, Profit

Assessment criteria	**Answer** (Tick the right answer in this column)					
13) The strategy raises awareness among (more choices possible)	❑ Business	☒ Developers in specific	❑ Scholars	❑Citizens	❑ Other sectors of authorities	
14) The strategy involves different actors (more choices possible)	☒Individual Business	☒Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	❑ Other Authorities
15) The strategy enables bottom up initiatives by citizens or business, semi-private organizations (more choices possible)	☒Individual Business	☒Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	❑ No
16) There is a clear time span for meeting the objectives contained in the strategy.	☒	❑	❑	❑	❑	❑
17) The objectives of the strategy are clearly defined and in a comprehensible manner	☒	❑	❑	❑	❑	❑
18) There's legal, statutory, financial or cultural commitment to support the process.'	☒	❑	❑	❑	❑	❑
19) The strategy provides for monitoring and evaluation of its internal and external consistency and impacts over time, using existing available data	☒	❑	❑	❑	❑	❑
20) The strategy empowers … (more choices possible)	❑ producers	❑develo-pers	❑ citizens	❑ Local gvt.	❑supra local gvt	❑nat. govt.
21) The strategy restricts free riding behaviour / costs incurred with those who carry the benefits	❑	❑	❑	❑	❑	❑
22) The design of the strategy is area based, tailored to the specific actors, land use pattern, land market and legislation and timewise, influencing the right decisions at the right moment. (more choices possible)	❑ no	❑ timewise	❑To spec. actors	❑To land use patt.	❑To landmrkt	❑ To legislatio

2. From regional planning to local development: a view on the implementation of the Scot in municipalities of Montpellier Agglomeration

The territorial coherence scheme (SCOT) of Montpellier Agglomération is the planning document which states the territorial development project at the inter-communal scale. As it has been underlined in the first presentation of Montpellier case study in Plurel program (D332), Montpellier Agglomération is a new local authority gathering 31 municipalities since the end of 2001. Before that, the city-region has missed political coordination in spatial planning and suffered decades of urban sprawl. The Scot aims at giving an end to this unsustainable land consumption by intensifying development on one hand and protecting natural and agricultural land on the other hand. A major issue for the Scot is to be successfully implemented by municipalities, which remain the key authorities for development regulation[2]. **Can the strategy of Montpellier Agglomération be considered as successful in the fields of spatial planning and inter-communal cooperation?** More precisely, this part of Montpellier Agglomération assessment report will address the three following issues:

1. **Territorial governance: cooperation among local governments in the field of spatial planning.** Municipalities do have legal commitment to implement the Scot objectives, but what does really happen when it comes to local development? How do elected adapt the objectives of the Scot at their local level? Is the cooperation between the municipalities and the inter-communal authority successful?
2. **Intensified urban development**. A major objective of the Scot is to contain urban sprawl, in order to protect natural areas and landscapes of Montpellier Agglomération. As population growth remains the main driving force of local economy, housing supply should not be altered and this requires new forms of urban developments, intensified and more efficient regarding collective infrastructures (transport, water management, …). Do municipalities respect these prescriptions of the Scot? Are new urban extensions located in proper zones and do they achieve the objective of intensified development?
3. **Agriculture in the city-region development project: farming as a "natural way" - or an easy tool? - to manage urban / rural limit in urban fringes?** Among other objectives, the Scot was meant to communicate about new rules in spatial planning and give strong signals to land owners on the future zoning[3], in order to prevent widespread land rent expectation and speculative strategies: has the message been heard and are its objectives achieved? The assumption of the Scot designers was that drawing clear development limits would secure land tenure and consequently allow new farming projects to be elaborated at mid or long term in urban fringes. Farmers would by the same token fulfil urban demands of "landcare"

[2] For details about urban code, development regulation and territorial governance in France see Montpellier Analysis Report, Plurel M3, D332, 2008.
[3] The Scot of Montpellier Agglomération is well known in France to be one of the most precise in development zoning at inter-communal scale and very prescriptive in development rules.

and landscape. Can the intended effects of the Scot be observed? Is a secured spatial planning at regional scale enough a powerful tool to "boost" farming in urban fringes?

These issues of the strategy of Montpellier Agglomération in the field of spatial planning at regional scale are obviously interconnected and of the most relevant for sustainable urban-rural linkages we are studying in Plurel.

From a methodological point of view, it is too early to assert definitive answers to these questions only three years after the Scot has been voted (2006). Still, it is possible to bring some empirical evidences and first analysis. The research material we have to do so mainly consists in the studies made in 2008 in the villages of Castries, Fabrègues and Pérols (Montfraix, 2008. Delay, 2008) and some other observations, meetings and interviews with stakeholders conducted by Françoise Jarrige in Montpellier Agglomération.

2.1 Territorial governance: cooperation among local governments in the field of spatial planning

2.1.1 What does this strategy consist in?

Inter-communal cooperation started with the **constitution of Montpellier Agglomération** at the end of 2001, following the municipal elections in March of this year. Preliminary political negotiations had taken place more or less openly among local elected to decide who will join, at which conditions, and so on... As we explained in the report analysis (D332), the perimeter only got stabilized in 2005 with 31 communes (seven communes from the initial inter-communal association have left), as the result of local agreement (and/or conflict!) and State's arbitration.

The **drawing of the Scot** was then in process and it required new negotiations and procedural adjustments to bring together the views and interests of all stakeholders. We can summarize the main lines of the coordination framework along the spatial planning process:

- diagnosis of the Scot (2002-03): different studies were conducted by experts, coordinated by the development staff of Montpellier Agglomération, which relayed information with elected, and specially with the first deputy president of the community council, in charge of development ;
- working out of the Scot (2004-05): meetings were organized gathering the elected and the stakeholders of communes of same sub-regions (sections) of the Agglomération, in order to discuss local development issues – water management, agriculture, transport, ... - in relation with the regional planning project[4] ; members of the team in charge of the Scot, who most of the time led the debates, could progressively draw the main lines of the project, integrated many aspects of a complex system: sustainable development injunction, local and regional interests and priorities, politically sensitive issues, prospective vision of a development based on landscape, etc...
- communication and final debates: at the end of 2005, a draft version of the Scot was submitted to public enquiry – as imposed by the law: some individual citizens or groups expressed their disagreement, even some institutional representatives might have expressed critics about this project.

Still, the Scot was declared legal and unanimously approved by the community council (February 2006).

[4] It was not a direct consultation of citizens - which would have been difficult to implement with a population concerned of 400 000 inhabitants - but rather series of debates among selected stakeholders: elected, experts and businessmen in different fields, and associations or corporations representatives.

The next step of inter-communal cooperation for regional planning is the **connection between regional and local planning**. This goes through the legal compliance (= compatibility) between the PLU (local urbanism plan) - at communal scale - and the Scot - at regional scale: all municipalities of Montpellier Agglomération should now make sure that their PLU is compatible with the Scot. Apart from these formal aspects about official planning documents, the way they are drawn and implemented might also be good indicators of how inter-communal cooperation works in Montpellier Agglomeration. In order to help municipalities to have their new urban extensions being realized following the objectives - and the "spirit" - of the Scot, some special incentive and supporting tools, as well as a dedicated coordination framework, have been set up by the technical services in charge of development and land issues of Montpellier Agglomération:

- apart from the three legal documents composing the Scot report (presentation report, sustainable development project – PADD – and general orientation document – DOG), a recommendations notebook (*cahier de recommandations*, kind of "good practices notebook") has been written to help the municipalities of Montpellier Agglomération implementing their development projects according to the Scot ;
- before having new urban extension implemented, municipalities are encouraged to make (or have made) preliminary urban studies in order to improve spatial planning, specially when it comes to new urban forms and the management of urban/rural limit ; Montpellier Agglomération dedicates a special fund to help municipalities financing the cost of these studies (50% of the amont), and the community development team is directly involved to support the local team to work out the project ;
- consistently with the ambitious objectives of the Scot, Montpellier Agglomération has developed an ambitious land policy and set a land management service, which ensures – directly or indirectly, in cooperation with municipalities – land market regulation (thanks to ZAD, mainly for social housing development).
- Montpellier Agglomération also set up a spatial observatory. One of the tasks of this service is to watch the implementation of Scot's prescriptions in the PLUs, at municipal level; indicators have been elaborated and a technical framework set up (spatial observatory service with 3 persons partially dedicated to watching the implementation of the Scot, GIS means, numerization of the PLU, …). As potential new urban developments have been clearly located and quantified in the Scot, it should be easy to compare actual developments with what has been planned. So, this should allow to assess the achievement of the containment of land consumption – one of the major objectives of the Scot. Three years after the Scot's approval, the observatory is set up but no official results have yet been publicly delivered about actual land consumption by urbanization in municipalities, compared to what was forecasted or recommended in the Scot. Our informations are that the extension of actual urban developments is under the Scot's prescriptions. This is a good news as far as land consumption is concerned, but might not be considered as so good regarding housing needs.

This qualitative description of the strategy of cooperation among local governments in the field of spatial planning in Montpellier Agglomération can be completed by the following matrix, where the common M3 criteria have been informed (as well as possible, even if the categories don't always fit well with this specific case).

Table 2: Assessment criteria for territorial governance

1. Territorial governance : cooperation among local governments in the field of spatial planning						
Assessment criteria	**Answer** (Tick the right answer in this column)					
Concerning field of action of the strategy: more choices possible:						
h) Reducing land pressure due to housing/ industry						
i) Strengthening agriculture in the urban fringe						
j) Protecting high biodiversity nature areas at risk						
k) Integration of tourism and leisure						
l) More comprehensive overarching policy	1					
m) Awareness raising	3					
n) Monitoring (and Evaluation)	2					
Concerning outcomes of the strategy:						
(blue boxes are to be answered for all strategies, white boxes only for the regions for which the subject is specifically formulated)	We fully agree	We agree	We are Neutrale	We disagree	We very much disagree	We do not know
23) The strategy is resilient – robust and flexible enough to cope with changes in its context and stays effective at the long term (>25 years)	❑	☒	❑	❑	❑	❑
24) It serves multiple objectives – it employs synergy to create maximum effect (PP or PPP5) or creates many 'winners'.	❑	☒	❑	❑	❑	❑
25) The strategy is effective – it actually produces the outcomes it was designed for.	❑	☒	❑	❑	❑	❑
26) The strategy pushes land use away, creating new land use conflicts elsewhere or at another level.	☒	❑	❑	❑	❑	❑
27) The strategy pushes land use away, not causing new land use conflicts elsewhere nor at another level.	❑	❑	❑	☒	❑	❑
28) The strategy strengthens the unique qualities of the area it pertains to.	❑	❑	☒	❑	❑	❑
29) The strategy contributes to a sustainable dispersion of land use at a regional level, with a balance between resource availability and use.	❑	☒	❑	❑	❑	❑
30) The strategy enables existing rural types of land use to stay or to develop.	❑	❑	☒	❑	❑	❑
31) The strategy creates new or additional urban economy	❑	❑	☒	❑	❑	❑
32) The strategy leads to accessibility for city people to peri-urban, open landscapes/agricultural land	❑	❑	☒	❑	❑	❑
33) The strategy protects land with best agricultural production capacity, based on soil quality	❑	❑	☒	❑	❑	❑
Concerning the process comprised by the strategy						
34) The strategy helps the process of decision-making by making a complex situation more clear.	❑	☒	❑	❑	❑	❑

[5] People, Planet, Profit

1. Territorial governance : cooperation among local governments in the field of spatial planning						
Assessment criteria	**Answer** (Tick the right answer in this column)					
35) The strategy raises awareness among (more choices possible)	❑ Business	❑ Developers in specific	❑ Scholars	❑Citizens	☒ Other sectors of authorities	
36) The strategy involves different actors (more choices possible)	❑Individual Business	❑Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	☒ Other Authorities
37) The strategy enables bottom up initiatives by citizens or business, semi-private organizations (more choices possible)	❑Individual Business	❑Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	☒ No more than before or without
38) There is a clear time span for meeting the objectives contained in the strategy.	❑	☒	❑	❑	❑	❑
39) The objectives of the strategy are clearly defined and in a comprehensible manner	❑	☒	❑	❑	❑	❑
40) There's legal, statutory, financial or cultural commitment to support the process.'	☒	❑	❑	❑	❑	❑
41) The strategy provides for monitoring and evaluation of its internal and external consistency and impacts over time, using existing available data	❑	☒	❑	❑	❑	❑
42) The strategy empowers … (more choices possible)	❑ producers	❑develo-pers	❑ citizens	❑ Local gvt.	☒supra local gvt	❑nat. govt.
43) The strategy restricts free riding behaviour / costs incurred with those who carry the benefits	❑	☒	❑	❑	❑	❑
44) The design of the strategy is area based, tailored to the specific actors, land use pattern, land market and legislation and timewise, influencing the right decisions at the right moment. (more choices possible)	❑ no	☒ timewise	❑To spec. actors	☒To land use patt.	❑To landmrkt	☒ To legislatio

2.1.2. How does this strategy of inter-communal cooperation for regional planning perform?

The first step of the process of regional planning and inter-communal cooperation is generally considered as a success because Montpellier Agglomération succeeded in achieving its Scot very fast (less than 4 years). As the first inter-communal planning document for the city region and one of the first Scot in France, it is acknowledged as innovative and meaningful in the field of regional planning. The fact that **Montpellier Agglomération's Scot has been unanimously approved by the community council** shows that political agreement has been achieved among local elected.

Concerning the next step - connection between regional and local planning - it should be noted that some municipalities adopted new planning decisions in a rush before the Scot process started, to make sure their objectives would be taken into account. Others are now carrying out *a posteriori* adjustments, if necessary, so that their PLU be compatible with the Scot. Whatever the case, most of the conflicting - or potentially conflicting - issues have been dealt with - and solved - in political negotiations during the working out of the Scot. According to the information we have, there are only few very localized problems left: a NIMBY conflict about the waste storage area project in Fabrègues, the controversial location of new urban extensions in Murviel... Most of the time, **local elected have clearly understood the orientations of the Scot and are willing to implement them in their local development projects**. That is what we could observe in Castries, Fabrègues and Pérols in 2008. These three municipalities are planning new urban extensions and undertook in 2008 urban studies with the support of Montpellier Agglomération.

Our observations along the process of elaboration of the Scot revealed tremendous progress made in terms of territorial development vision and understanding by local elected, specially those of small municipalities of the Agglomération, from their original point of view based on the issues of a less than 1,000 inhabitants village to the perspectives of a city-region of more than 400,000 inhabitants ! **The regional planning process thus appears to be also a learning process as well as a tool to build common knowledge and a common vision for the territorial governance of Montpellier city-region** (at least for elected, if not yet for every citizen).

2.1.3. How can we explain this level of performance of the strategy of inter-communal cooperation for regional planning performs?

Our assessment, according to the previous statements, is that cooperation among local governments in the field of spatial planning succeeded quite well with the Scot of Montpellier Agglomération. Our analysis brings out the following points to explain this good performance.

- A regional development project greatly expected

The founding of the Communauté d'Agglomération of Montpellier established the local government that the city-region was needing for so long, as political decision level adapted to the growing city-region and its numerous development issues. Even if some observers might consider its perimeter is not large enough regarding the actual extent of the functional urban area of Montpellier which covers more than 80 municipalities (compared to the 31 effectively belonging to the inter-communal cooperation establishment).

The Scot, as major first political act of Montpellier Agglomération, addresses the priority issues of controlling urban sprawl, providing adapted housing, transport, waste and water collective infrastructures, preserving landscape and natural environment, etc... An indisputable assessment of its impacts would hardly be done, firstly because its implementation is too close for a proper view, and secondly because as it is living

experience, alternative scenarii won't be put to the test. Still, an indisputable argument is that the extrapolation of past trends – laisser-faire scenario – in urban sprawl for example wouldn't have been sustainable for long regarding land consumption. It must also be underlined that the Scot is not merely a spatial planning document drawing urban zoning at regional scale ; it builds up the spatial framework of the territorial development project expressed in the PADD (sustainable development project). We could say that the Scot does perform by giving a prospective vision of the development of Montpellier city-region – which, let us insist, has proved to be largely shared by local politicians - and by providing technical solutions to major development issues.

- High technical level of competence in spatial planning

Development planning at regional scale is not an old tradition in Montpellier city-region, as it only started with the Scot. Some skilled urban designers were already working locally before the foundation of Montpellier Agglomération, especially in the services of the city of Montpellier and those of the District. But the elected wanted the best to work out the Scot and managed to mobilize highly skilled experts by different means for this ambitious project:

- interesting positions were created in the development service of Montpellier Agglomération in order to monitor the Scot project: skilled urban designers have been recruited, coming from the city-regions of Lyon and Rennes, where they had experienced regional spatial planning;
- local experts – either academics or of private sector – in different fields were mobilized at different stages during the drawing of the Scot, bringing along their competences and knowledge of the local context;
- urban designers of national, even international fame, were selected to carry out the Scot.

It is worth saying that working out the Scot offered stimulating opportunities of brain-storming and original exchanges of views on regional development. Learning processes did not only take place among elected but also among all experts who took part to the process. We can testify that great mutual mind opening took place between urban and rural specialists.

- Governance / political ability

Under the authority of the first deputy president of the community council, the pilots of the Scot showed a true art of what they - "off record" - call political "mines clearance". Apart from the official and legal consultation framework that comes along with the Scot procedure, they conducted negotiations to ensure political agreement on the development project, priority issues and main orientations of the Scot. Before and during the process, contacts were taken and all the necessary meetings held to discuss sensitive issues with local elected in order to find out acceptable and shared solutions.

- The art of communication

Important means and skills were dedicated to communicate about the Scot and help the project to be accepted and shared by citizens of Montpellier Agglomération.

2.2. Intensified urban development

2.2.1. What does this strategy consist in?

The content of Montpelllier Agglomération Scot has been detailed in the analysis report (D332), and only the main principles for the management of urban fringes and their expected impacts will be reminded here, as means and goals of this strategy.

- Zoning land use at regional scale:

- New urban extensions: **3 minimum levels of housing density** have been defined according to local environment and the quality of public transport accessibility. The better is the accessibility, the higher is housing intensity.
  A: > 50 houses/ha
  B: > 30 houses/ha
  C: > 20 houses/ha

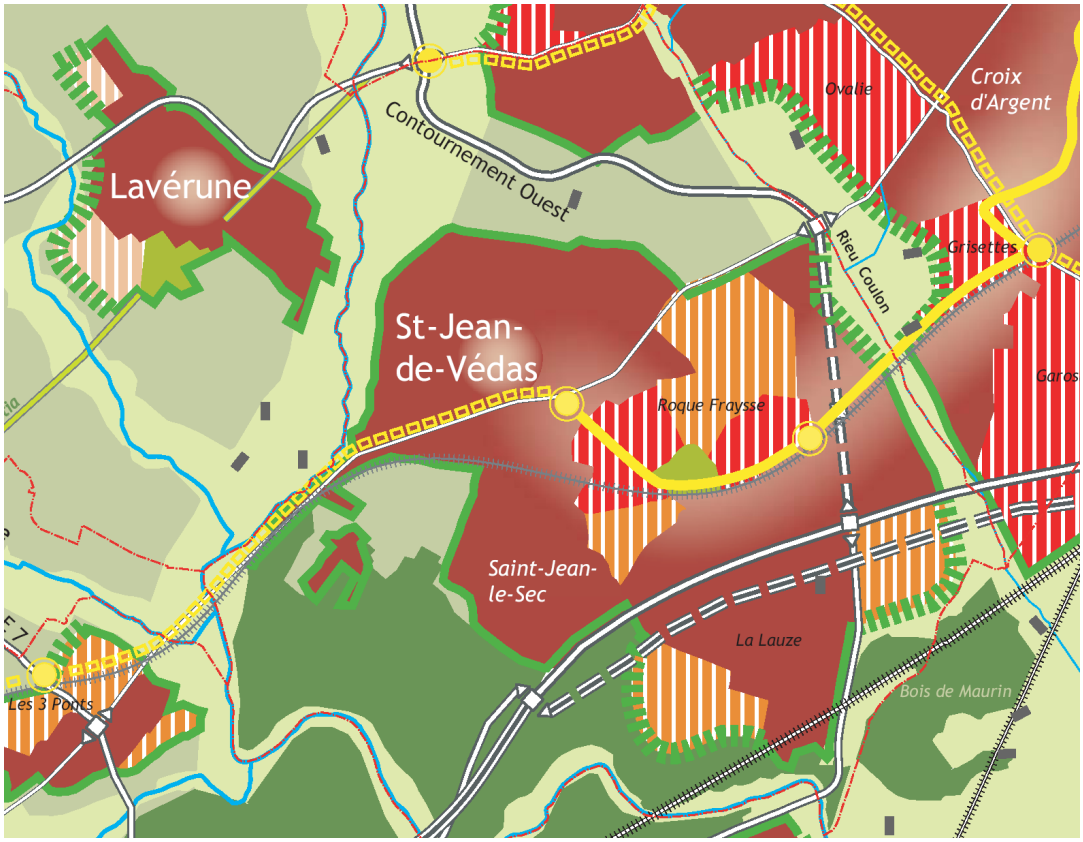


Figure 1: New urban extensions in the Scot of Montpellier Agglomeration, example in the south-west side (source: Montpellier Agglomération, 2005)

- **Framework of natural and agricultural spaces** with very limited development possibilities; "**Agricultural hamlet model**" is recommended in counterpart for farmers (area dedicated to new farming buildings and farmers housing; for collective projects only; with possible public support and incentive).

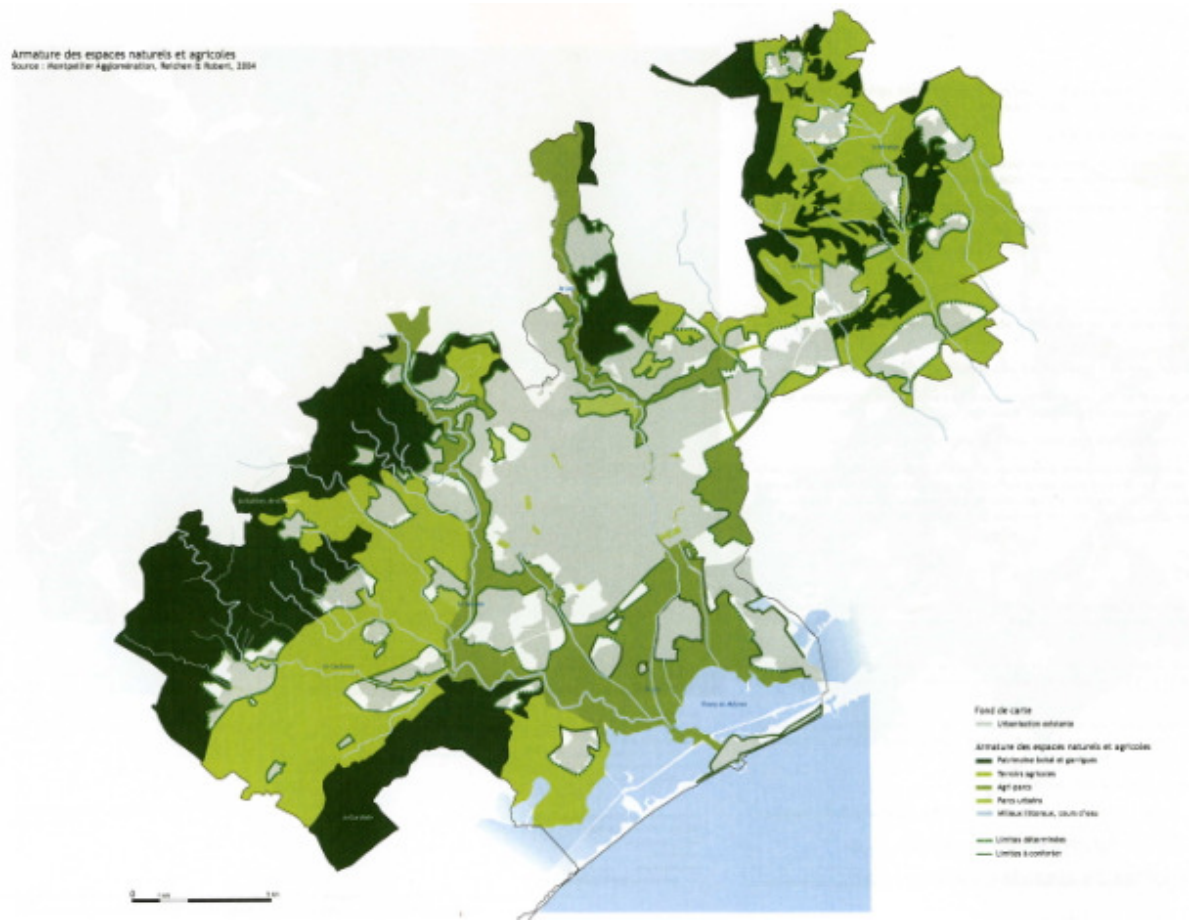


Figure 2: Framework of natural and agricultural spaces (source: Montpellier Agglomeration, 2005)

- **Management of urban fringes : two types of limit have been drawn in the Scot to delineate future urban developments** 1/ determined limits, drawn upon existing natural or structural landscape limits (brook, wood, road, etc…) 2/ limits to be strengthen by the local project (less precisely drawn in the Scot).

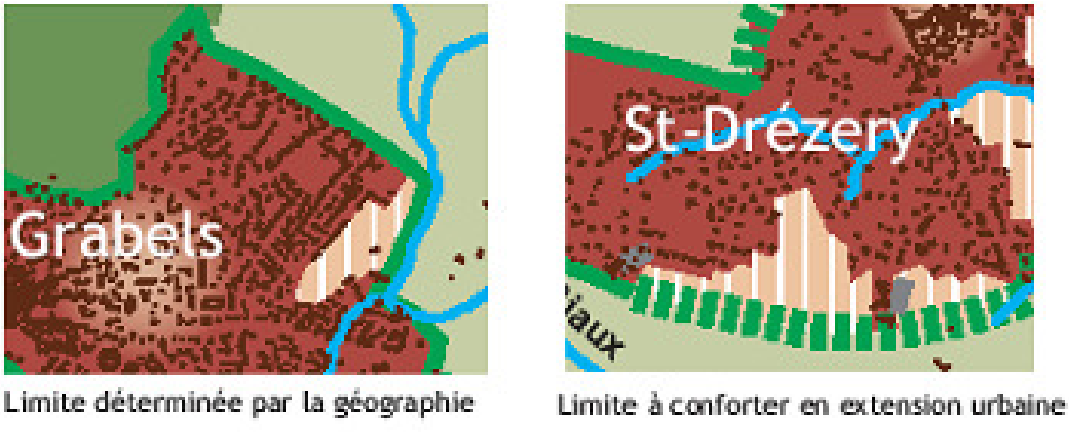


Figure 3: 2 types of limits for the urban fringe in the SCoT – determined limits, (left) and limits to be strengthen (right) (source: Montpellier Agglomeration, 2005)

This precise zoning in the Scot gives an overview on possible urban developments for 15 years in Montpellier Agglomération. The whole land consumption - as planned in the Scot - during this period should not exceed 3,000 ha. This represents a great progress compared to the sprawling trend of last decades. Earliest forecasts, at the beginning of the Scot process, were at least of 6,000 ha required for development needs for the same period. This policy should stop the on-going defacement of landscape. Intensified development, sparing space, is nevertheless supposed to meet housing needs of the growing population of Montpellier Agglomeration.

- Tools to implement new developments at local level according to the Scot's recommendations

In order to implement these objectives of "smart growth", municipalities of Montpellier Agglomeration first have to design their PLU according to the Scot.

Moreover, different possibilities are proposed for public intervention or regulation concerning new urban developments and the protection of natural and agricultural land.

- **Public land market regulation** is possible with different public rights that can be used according to the type of zone and land concerned (different types of land pre-emption rights: urban, natural, rural ; delayed development zone…) can be implemented if necessary by municipalities in urban fringes ;

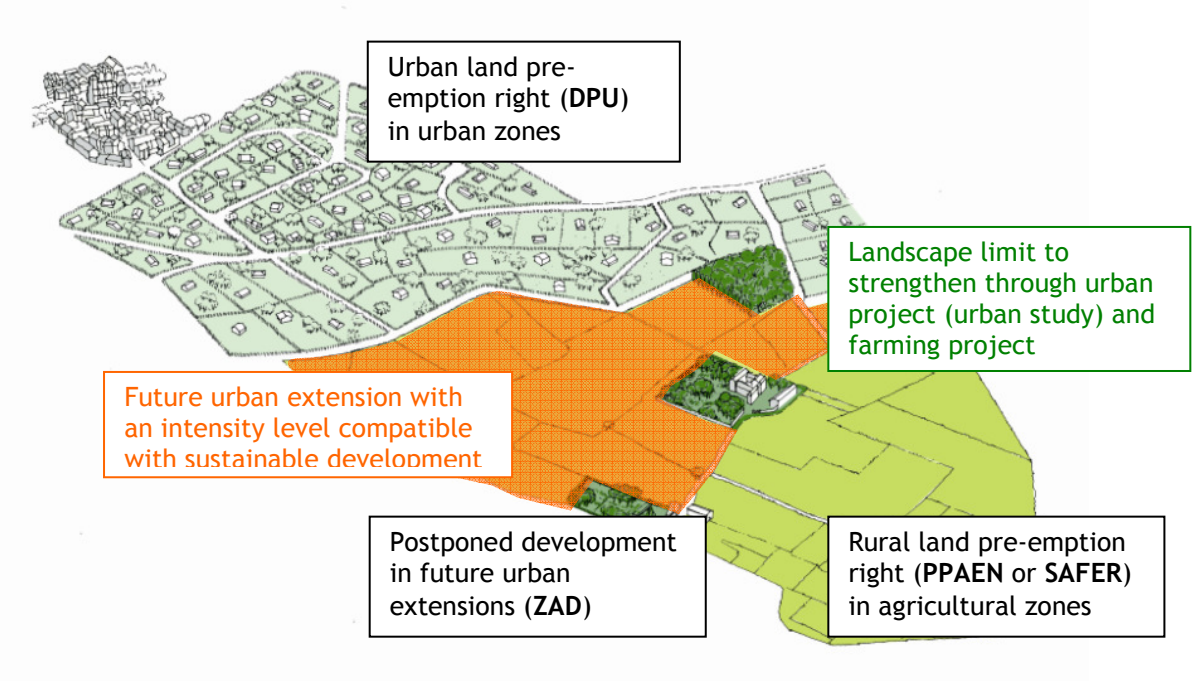


Figure 4: Types of land pre-emption rights (source: Montpellier Agglomeration, 2005)

- **Enhancing the quality of new urban developments**, of higher density, **on the urban side of the limit: urban studies** are supported by Montpellier Agglomération (50% funding, technical support) to design new developments according to the recommendation of the Scot regarding density, urban design, landscape, green spaces and transportation…)
- **On the rural side of the limit**: (see next part)

- Expected impacts

- (On the urban side of the limit) urban designers and developers are expected to be innovative and propose new developments located in proper zone and sustainably designed; urban studies are supposed to be done before

implementing new developments at local level; cooperation between Montpellier Agglomération and municipalities is set up to improve development practices in respect with local issue and the global objective of sustainable development.

- (**On the rural side of the limit** : see next part)

The following matrix sums up the characteristics of this strategy in a comparative perspective.

Table 3: Assessment criteria for intensified urban development strategy

2. Intensified urban development						
Assessment criteria	**Answer** (Tick the right answer in this column)					
Concerning field of action of the strategy: more choices possible:						
o) Reducing land pressure due to housing/ industry	1					
p) Strengthening agriculture in the urban fringe						
q) Protecting high biodiversity nature areas at risk						
r) Integration of tourism and leisure						
s) More comprehensive overarching policy	2					
t) Awareness raising						
u) Monitoring (and Evaluation)						
Concerning outcomes of the strategy:						
(blue boxes are to be answered for all strategies, white boxes only for the regions for which the subject is specifically formulated)	We fully agree	We agree	We are Neutrale	We disagree	We very much disagree	We do not know
45) The strategy is resilient – robust and flexible enough to cope with changes in its context and stays effective at the long term (>25 years)	❑	☒	❑	❑	❑	❑
46) It serves multiple objectives – it employs synergy to create maximum effect (PP or PPP6) or creates many 'winners'.	❑	☒	❑	❑	❑	❑
47) The strategy is effective – it actually produces the outcomes it was designed for.	❑	☒	❑	❑	❑	❑
48) The strategy pushes land use away, creating new land use conflicts elsewhere or at another level[7].	❑	☒	❑	❑	❑	❑
49) The strategy pushes land use away, not causing new land use conflicts elsewhere nor at another level.	❑	❑	❑	☒	❑	❑
50) The strategy strengthens the unique qualities of the area it pertains to.	❑	☒	❑	❑	❑	❑
51) The strategy contributes to a sustainable dispersion of land use at a regional level, with a balance between resource availability and use.	❑	☒	❑	❑	❑	❑
52) The strategy enables existing rural types of land use to stay or to develop.	❑	☒	❑	❑	❑	❑
53) The strategy creates new or additional urban economy	❑	☒	❑	❑	❑	❑
54) The strategy leads to accessibility for city people to peri-urban, open landscapes/agricultural land	❑	☒	❑	❑	❑	❑

[6] People, Planet, Profit

[7] « Stepping process » is observed : new urban developments that can not take place in Montpellier Agglomération are located further outward.

2. Intensified urban development						
Assessment criteria	**Answer** (Tick the right answer in this column)					
55) The strategy protects land with best agricultural production capacity, based on soil quality	❑	☒	❑	❑	❑	❑
Concerning the process comprised by the strategy						
56) The strategy helps the process of decision-making by making a complex situation more clear.	❑	☒	❑	❑	❑	❑
57) The strategy raises awareness among (more choices possible)	❑ Business (land owners)	☒ Developers in specific	❑ Scholars	❑Citizens	❑ Other sectors of authorities	
58) The strategy involves different actors (more choices possible)	❑Individual Business	❑Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	☒ Other Authorities
59) The strategy enables bottom up initiatives by citizens or business, semi-private organizations (more choices possible)	❑Individual Business	❑Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	☒ No
60) There is a clear time span for meeting the objectives contained in the strategy.	❑	☒	❑	❑	❑	❑
61) The objectives of the strategy are clearly defined and in a comprehensible manner	❑	☒	❑	❑	❑	❑
62) There's legal, statutory, financial or cultural commitment to support the process.'	☒	❑	❑	❑	❑	❑
63) The strategy provides for monitoring and evaluation of its internal and external consistency and impacts over time, using existing available data	☒	❑	❑	❑	❑	❑
64) The strategy empowers … (more choices possible)	❑ producers	❑develo-pers	❑ citizens	☒ Local gvt.	☒ supra local gvt	❑nat. govt.
65) The strategy restricts free riding behaviour / costs incurred with those who carry the benefits	❑	☒	❑	❑	❑	❑
66) The design of the strategy is area based, tailored to the specific actors, land use pattern, land market and legislation and timewise, influencing the right decisions at the right moment. (more choices possible)	❑ no	☒ timewise	☒To spec. actors	☒To land use patt.	☒To landmrkt	☒ To legislatio

3.2.2. How does this strategy of intensified urban development perform?

- A large public control on land to be developped

Three years after the Scot has been approved, it appears that more than 2,000 ha of land located in future urban extensions are under ZAD zoning, either at the initiative of municipalities or of Montpellier Agglomération. It means that these areas are clearly dedicated to future urban developments but with land prices under control for 14 years. This legal tool – zone d'aménagement différé, ZAD - allows public authorities to prevent land speculation in strategic areas for future urban developments. Once a ZAD has been officially designed, land price stays at they current level and the public authority is in a prioritary position for land acquisition in order to implement collective development projects.

- Managing new developments at local level: the success of urban studies

Most municipalities of Montpellier Agglomération that intend to open land to new developments follow the recommendations of the Scot. Before they get into a revision of their PLU, the municipalities order a preliminary **urban study** so that new urban extensions be optimised. In 2008 we study the cases of Castries, Fabrègues and Pérols. These three municipalities had undertaken urban studies with different private partners (urban designers, architects…). In each case, members of Montpellier Agglomération urban design services were closely associated.

According to preliminary observations, these urban studies set great opportunities to plan innovative forms of collective housing, respecting both local landscape and incomers' expectations in terms of housing facilities.

2.2.3. How can we explain this level of performance of the strategy intensified urban development?

Several reasons explain the success of the strategy of intensified development. First of all, giving an end to urban sprawl and land consumption was a shared objective among the local elected and the population of Montpellier Agglomération.

Zoning, either at local or regional level, is often considered as an insufficient mean to control urban extension and promote new housing forms. In the case of Montpellier Agglomération (as in other places in France), it seems that legal tools of public control or public regulation of land market are strong enough to reach the objective of higher density and efficient new urban developments. This can only be possible because they are supported by true political will and implemented in the scope of a proper policy. It appears that the local political consensus was strong enough on that point of intensifying urban developments.

But it wouldn't work without efficient technical tools. Drawing precise limits for areas dedicated to futures developments at regional scale gives developers an overview on their working possibilities and allows them to make projects. The exercise of local political power to regulate land market in urban fringe is another decisive point to prevent speculative strategies. And investing public means - either human resources or funding - in urban studies gives the opportunity to design ambitious and innovative urban developments. Municipalities "play the game" consistently and efficiently with Montpellier Agglomération on this point.

To conclude this part on containing urban sprawl and intensifying new urban developments, we can stay that things work rather well on the urban side of the limit of new urbanisation. Our observations will now concentrate on the rural side of the limit, where it doesn't work that well.

2.3. Agriculture in the city-region development project: farming as a "natural" way to manage urban / rural limit in urban fringes

2.3.1. What does this strategy consist in?

We have seen that zoning areas of future urban extensions at regional scale is the main tool of the Scot to contain urban sprawl in the territory of Montpellier Agglomération. Several legal tools, technical and financial supports (urban studies) are recommended and / or provided to help municipalities designing innovative forms of urban development in order to meet the objective of intensified development.

What has been planned concerning the rural side of the limit? Drawing the limit of future developments in the Scot is supposed to **regulate land market** (with clear delineation between urban land and farmland, with fair prices for each category) and thus **prevent widespread land rent expectation and speculative strategies of land owners and developers**. This strategy of Montpellier Agglomération is supposed to secure land tenure enough to enable farmers to have a long term vision on land status so that they be in a position to make professional projects and carry on their activity. Farmers, whose right to develop new buildings in agricultural zone is strongly restricted, can receive public support to develop collective hamlets for their professional or personal housing needs.

Apart from this, **no special incentive nor support policy** have been planned in the Scot to support farming in urban fringes. Scot designers argue that property speculation (because of on going mutation of agricultural land to be developped) was the limiting factor to be solved for periurban farming. Moreover they add that Montpellier Agglomération, as local government, has no legal authority (no legal competence) in the field of agricultural policy and can not do much more than this zoning in the Scot for periurban farming.

So, to sum up, on the rural side of the limit of new urban developments, land market is supposed to be regulated thanks long time zoning; farmers are expected to develop new projects linked to urban demands and/or opportunities in urban fringes.

The following matrix sums up the characteristics of this strategy in a comparative perspective.

Table 4: Assessment criteria for Agriculture city region development project

3. Agriculture in the city-region development project : farming as a "natural" way to manage urban / rural limit in urban fringes						
Assessment criteria	**Answer** (Tick the right answer in this column)					
Concerning field of action of the strategy: more choices possible:						
v) Reducing land pressure due to housing/ industry						
w) Strengthening agriculture in the urban fringe	1					
x) Protecting high biodiversity nature areas at risk	2					
y) Integration of tourism and leisure						
z) More comprehensive overarching policy						
aa) Awareness raising						
bb) Monitoring (and Evaluation)						
Concerning outcomes of the strategy:						
(blue boxes are to be answered for all strategies, white boxes only for the regions for which the subject is specifically formulated)	We fully agree	We agree	We are Neutrale	We disagree	We very much disagree	We do not know
67) The strategy is resilient – robust and flexible enough to cope with changes in its context and stays effective at the long term (>25 years)	❑	❑	☒	❑	❑	❑
68) It serves multiple objectives – it employs synergy to create maximum effect (PP or PPP8) or creates many 'winners'.	❑	❑	☒	❑	❑	❑
69) The strategy is effective – it actually produces the outcomes it was designed for.	❑	❑	☒	❑	❑	❑
70) The strategy pushes land use away, creating new land use conflicts elsewhere or at another level.	❑	☒	❑	❑	❑	❑
71) The strategy pushes land use away, not causing new land use conflicts elsewhere nor at another level.	❑	❑	❑	☒	❑	❑
72) The strategy strengthens the unique qualities of the area it pertains to.	❑	☒	❑	❑	❑	❑
73) The strategy contributes to a sustainable dispersion of land use at a regional level, with a balance between resource availability and use.	❑	☒	❑	❑	❑	❑
74) The strategy enables existing rural types of land use to stay or to develop.	❑	☒	❑	❑	❑	❑
75) The strategy creates new or additional urban economy	❑	❑	☒	❑	❑	❑
76) The strategy leads to accessibility for city people to peri-urban, open landscapes/agricultural land	❑	❑	☒	❑	❑	❑
77) The strategy protects land with best agricultural production capacity, based on soil quality	❑	☒	❑	❑	❑	❑

[8] People, Planet, Profit

3. Agriculture in the city-region development project : farming as a "natural" way to manage urban / rural limit in urban fringes						
Assessment criteria	**Answer** (Tick the right answer in this column)					
Concerning the process comprised by the strategy						
78) The strategy helps the process of decision-making by making a complex situation more clear.	❑	☒	❑	❑	❑	❑
79) The strategy raises awareness among (more choices possible)	☒ Business (agriculture)	☒ Developers in specific	❑ Scholars	❑Citizens	❑ Other sectors of authorities	
80) The strategy involves different actors (more choices possible)	☒Individual Business (farmers)	❑Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	☒ Other Authorities
81) The strategy enables bottom up initiatives by citizens or business, semi-private organizations (more choices possible)	❑Individual Business	❑Business interest groups	❑ Individual citizens	❑ Civic soci. Groups	❑ Nature NGOs	☒ No
82) There is a clear time span for meeting the objectives contained in the strategy.	❑	☒	❑	❑	❑	❑
83) The objectives of the strategy are clearly defined and in a comprehensible manner	❑	☒	❑	❑	❑	❑
84) There's legal, statutory, financial or cultural commitment to support the process.'	❑	☒	❑	❑	❑	❑
85) The strategy provides for monitoring and evaluation of its internal and external consistency and impacts over time, using existing available data	❑	❑	☒	❑	❑	❑
86) The strategy *is supposed to* empower … (more choices possible)	☒ producers	❑develo-pers	❑ citizens	❑ Local gvt.	❑supra local gvt	❑nat. govt.
87) The strategy restricts free riding behaviour / costs incurred with those who carry the benefits	❑	☒	❑	❑	❑	❑
88) The design of the strategy is area based, tailored to the specific actors, land use pattern, land market and legislation and timewise, influencing the right decisions at the right moment. (more choices possible)	❑ no	☒ timewise	☒To spec. actors	☒To land use patt.	☒To landmrkt	☒ To legislatio

2.3.2. How does this strategy of considering farming as natural tool to manage urban / rural limit perform?

Long term guarantee (15 years) for the agricultural status of land: is it enough to maintain or even boost farming dynamics in urban fringes? Experts of farm sectors, whose recommendations were not followed in the Scot, doubt of it. Our observations in three municipalities of Montpellier Agglomération - Castries, Fabrègues and Pérols - in 2008 tend to confirm the following facts:

- There is an on going breaking up of agrarian property in urban fringes
- There is an on going turn over from perennial crops to short cycle crops in urban fringes.

- Decapitalization and dismantling of periurban farming structures

As an illustration of the generalized process of dismantling of periurban structures, in urban fringes, we can show on following figures the changing of land cover on Fabrègues west fringe from 1971 to 2008 (réalisation C.Delay (2008), from IFN images and in situ observations).

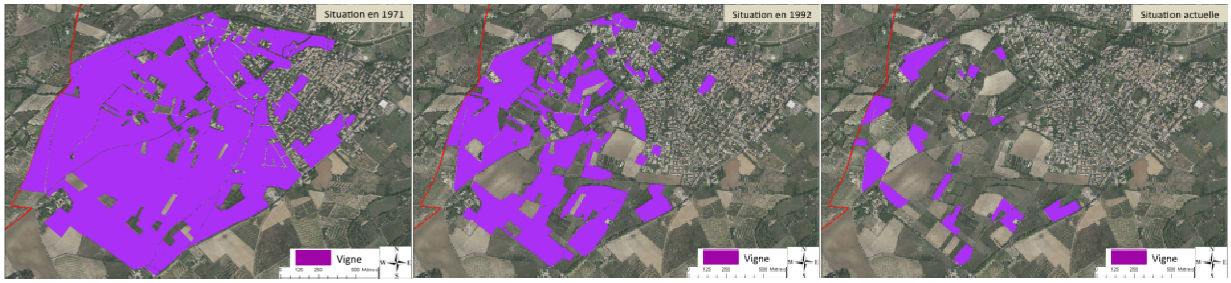


Figure 5: Vineyard being pulled up and rejected outward (realisation by C. Delay (2008), from IFN images and in situ observations)

Figure 6: More annual crops (realisation by C. Delay (2008), from IFN images and in situ observations)

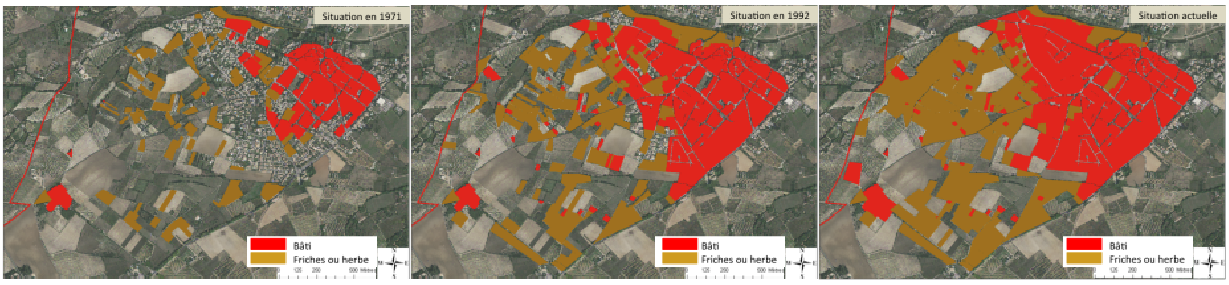


Figure 7: Extension of grassland, fallows and building (nucleated and scattered settlements (realisation by C. Delay (2008), from IFN images and in situ observations)

The traditional perennial crop - vine - quasi-disappeared during the period. Farming area seems to globally remain, but annual crops succeeded to perennial ones. And, less visible in the figures, scattered-site housing largely developed in urban fringes.

- Land owners strategies: development anticipations remain

Land owners strategy has been tested in Castries according to following criterias (Montfraix 2008) (details in appendix A):

- Urban proximity, land status (either to be developed or not), surface and legal property status, type of cropping (vine pulled out or not, with or without public incentive)
- Land tenure, status of the farmer, his age, the fact that he owns or not several pieces of land
- Indicator of disturbance on farmland market (SAFER)

Results show the impact of urban zoning on land owners strategy: the proximity of developped land leeds to anticipate a change in land status. The agricultural use then changes; for example, vine is pulled out and annual crops succeed to perennial crop.

General observations in the situations we studied show that farmland status is not enough to stop development anticipations in urban fringes. Another criterion appears to be necessary. A criterion that owners do consider as legally stronger and more credible in the long term to guarantee non-building land status: for example the protection of an historic monument (Castries's castle), or flooding risk zoning.

2.3.3. How can we explain this level of performance of the strategy of considering farming as natural tool to manage urban / rural limit?

Securing development zoning in the Scot is not enough to:

- **reverse land owners strategies**, because they might not know the Scot (which is a recent document), and have such a long experience of changing urban limits, and even believe in their own power to have them changed by lobbying in local decision-making on future development zoning ;
- **help farmers (grape growers) facing crisis in wine sector** (selling part of their land to develop is sometimes a way for them to ensure the cash position of their farm, and doing so, providing funds for they agricultural activity… which is decapitalization)
- **allow / encourage new farmers to settle and provide diversified agricultural supply**: land owners are still reluctant to commit in long term land-rent contracts ; as a consequence, accessing to farmland remains the limiting factor for would-be farmers to settle in urban fringes.

Facing these difficulties and the limited impact of the Scot, Montpellier Agglomération has implemented other tools and recently set up a new policy in order to support farm sector. Different types of actions are implemented in order to provide complementary support to farmers in periurban fringes:

- **special actions have been dedicated to support grape growers and wine industry** from the very start of Montpellier Agglomération, even before the Scot has been achieved: wine road, wine fair, support to new wine cellars…
- more recently, as a response to the limits of the Scot in sensitive areas, the creation of **agriparks** is envisaged to combine farming activities with landscape protection, outdoors activities, gardening, outdoor markets for agricultural products… Two projects are already planned in cooperation with municipalities in high value places close to Montpellier. Public acquisition of land will be explored, in addition to other supports to the creation of these multifunctional areas where farming will be part of the land uses.
- support to **short channels for agricultural products**, from farmers to consumers: the thought process on that point is still at an exploratory stage. It requires for Montpellier Agglomération to get in touch with new partners from

the farm sector, because most professional institutions in this field are still largely concentrated on wine sector problems and little open to innovative forms of farming.

The heritage of table wine as mass production and vine monocropping, as well as the land tenure system with farmers as major land owners, make it complicated to develop innovative forms of periurban farming around Montpellier. Nevertheless, we can consider the Scot as the first step of a working process to "embed" farming in urban development planning. Deciders of Montpellier Agglomération have already gone further with special support to wine industry and the current project of agriparks.

As a conclusion of this chapter on the implementation of the Scot at municipal level, we can consider the strategy of Montpellier Agglomeration as successful for a major part.

The first point, on territorial governance is positive because the cooperation among local governments in the field of spatial planning appears fully achieved. Local elected representatives of Montpellier Agglomération unanimously adopted the Scot in 2006. They are now consistently following its recommendations when implementing new urban developments at municipal level.

One major recommendation of the Scot was to intensify urban development in order to spare space. And on that point too, the strategy of Montpellier Agglomération is successful. The Scot really gave a start to new forms of urban developments, by providing collective housing meeting sustainability standards and available at a fair price.

The last point we studied, on the role dedicated to farming as a "natural way" to manage urban / rural limit in urban fringes, shows greater difficulties in real life. Three years after the Scot has been adopted, speculative strategies are still observed on land market in urban fringes. Land owners (a majority of farmers) are still expecting their land to be developed as the best alternative for their future. Combined to agricultural crisis, these anticipations carry on weakening farming in urban fringes. Working together to help new farming activities to emerge now appears as a challenge for stakeholders concerned by periurban land use management.

Eventually, compared to the situation of other large French city-regions, the planning strategy of Montpellier Agglomération appeared as successful, and its Scot is widely known for its strong recommendations to promote "smart growth". However, as far cooperation between farm sector and the city is concerned, the situation has still to be improved.

3. Risk management: an intervention of Montpellier Agglomération to prevent flooding in the place of "la Lironde", municipality of Lattes

Montpellier Agglomeration is one of the main French urban areas where flooding risks are high, because of the pluviometric regime and local topography: "Cevennol" storms are autumn rainfalls which can cause a rapid rise of water in the small Mediterranean watersheds of Languedoc. Against this flood risk, all the territorial entities, from the State to the municipalities are involved in policies to prevent flooding and protect the inhabitants and their goods. In the Montpellier Agglomeration area, the case study of the municipality of Lattes is relevant to illustrate the strategies for the risk management (figure 8).

The commune of Lattes is located on the mouth of the small coastal river of Lez, upstream along the city of Montpellier and the Agglomeration through the north to south. The watershed of this river is therefore subject to rapid changes of land use in recent decades, with a high artificial cover, linked to the periurban system of this region. Against flooding, the struggle began in the area from the 80's: dikes were built along the Lez, between eastern downtown of Montpellier and Lattes.

This commune was characterized by a high population growth and a very strong expansion of its urban area since the late 80's. The state of the old dykes at Lattes and housing estate developments in their neighbourhoods has alerted authorities, who decided to apply very quickly, near the years 2004-2005, a protection procedure: the Prevention Plan natural hazards of flooding (PPRNI). At the same period, the Montpellier Agglomeration was currently designing its SCoT. How a public procedure for flood protection, which can be apply to all areas which are technically suitable (areas prohibited for buildings, expropriation, heavy developments) can be integrated into the overall approach of sustainable development, such as the SCoT Montpellier trying to integrate? Pragmatic strategies of public actors have been carried out (construction of a diversion channel, strengthening of embankments), and were confronted with the strategies of private actors characterized by their vision of the land development in the Agglomeration and their economic strategy.

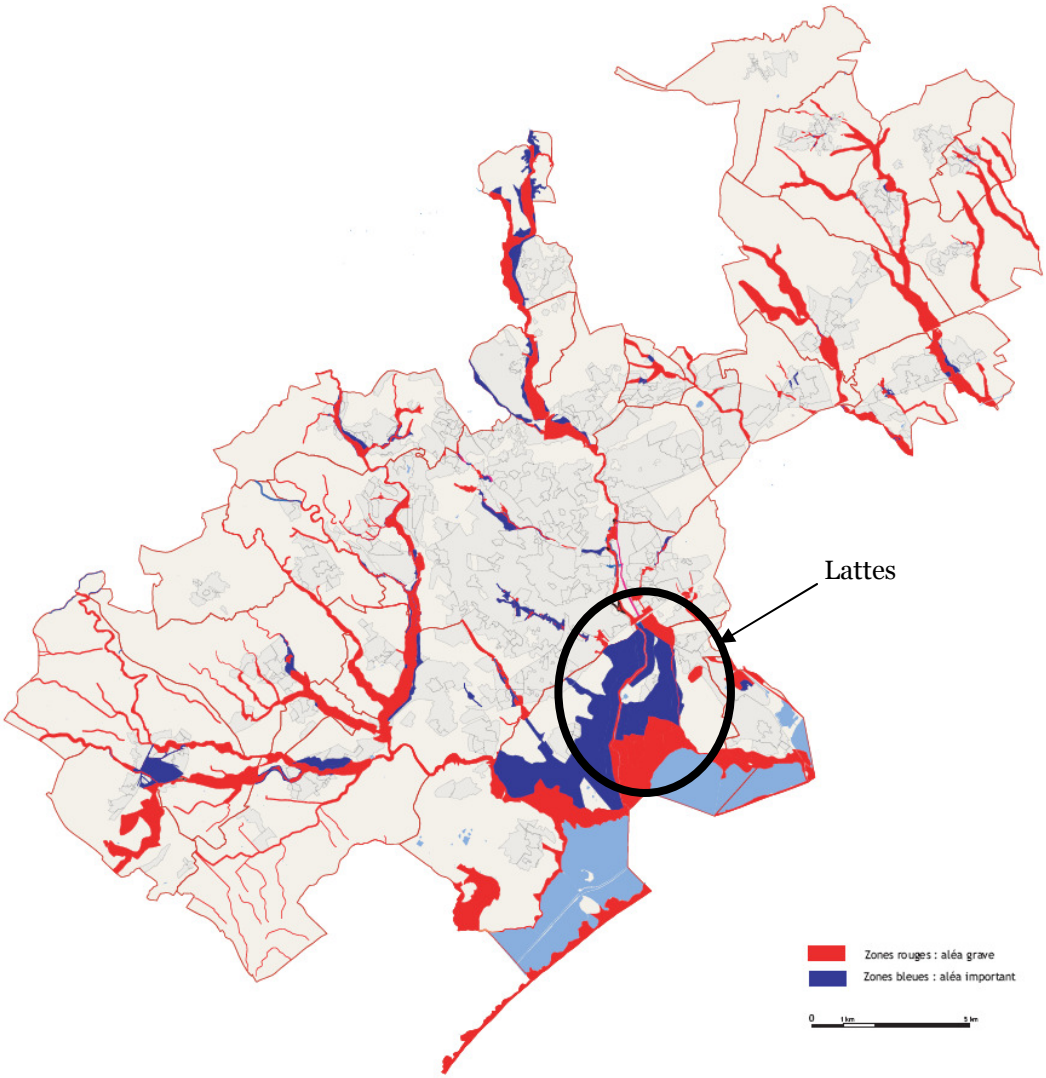


Figure 8: Flood Risks Prevention Plan (source: DDE 2004 and Montpellier Agglomération, 2005)

3.1 How does the strategy perform in the context of Montpellier agglomeration objectives?

3.1.1. No many choices for flooding management in Lattes

In 2006, Montpellier Agglomération has prepared a project to strengthen the protection against flooding in the commune of Lattes. The floods of Lez river have been underestimated up to the present and Lattes was not protected by current dikes designed without a security spillway and in poor condition, for events exceeding the 20 years flood occurrence. *"The risk of loss of life was real. This situation required an immediate response"* (Quévremont, 2006) (figure 9 and Appendix I).

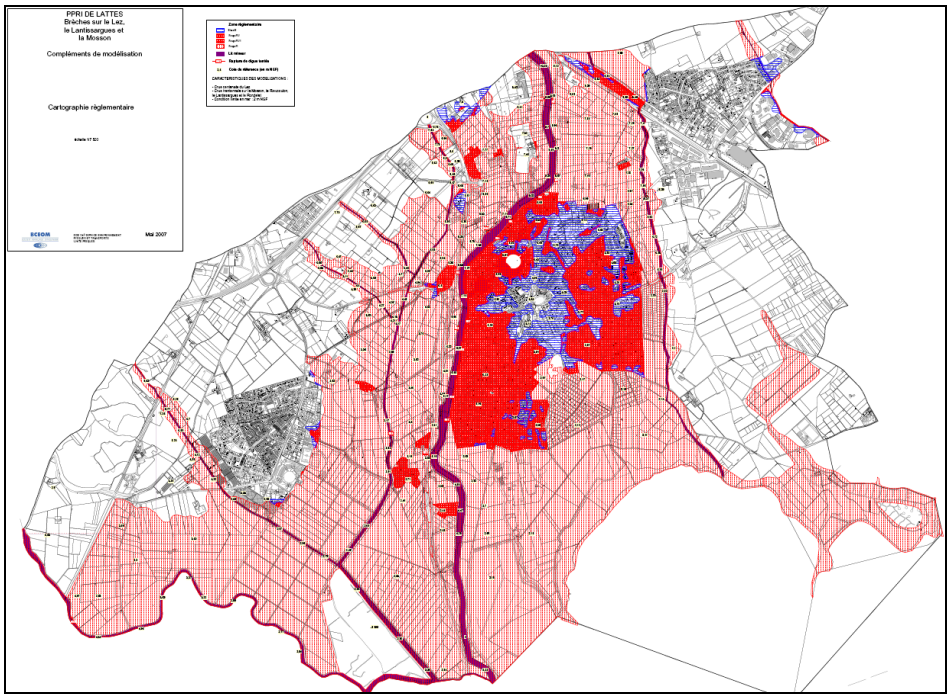


Figure 9: Modelling the effects of the dikes breaking, before protection developments of the Lironde spillway: very high risks in urban areas. (Source: DDE34, 2007)

In his report of expert, Mr Quévremont wrote the first step which involved Montpellier Agglomeration to develop the Lironde spillway and define a strategy for sustainable management of affected areas in the commune of Lattes. The hydraulic project prepared and adapted by Montpellier Agglomeration with the technical expertise was considered very urgent. This particular context (emergency) for an important project was a real challenge for an sustainable policy point of view: how make the good choices in a very short time, which are not modifiable, regarding the impacts (spillway, dikes) and the global costs (40M€ in the first estimation). The perspective to make acquisitions of existing homes too close to the dikes indicated a future revaluation of the cost (figure 10).

Figure 10: Recent housing too close to the dike, in Lattes (source: MEDD, 2006)

Beyond the prospect of compensation for lost properties and land exploitations in the area, Montpellier Agglomeration has planned to evaluate the impacts on natural habitats and to compense the destruction of remarkable natural environment included in the Natura 2000 network (Quévremont, 2006). For the legal protection of the Agglomeration, it is necessary to take into account these aspects.

State administration was involved to define and implement an emergency procedure plan for the prevention of flood risk in the Lattes area, so that it may be valid in 2007: it was the process of "*Plan de prévention des risques (PPR) par anticipation*" (flood risk prevention plan by advance), from 2006.

The meetings with Montpellier Agglomeration stakeholders who were involved in the landed property management in the Lironde spillway area helped to build the table about the assessment criteria (table 6).

3.1.2. Initial strategy

The initial strategy was defined after an Impact Assessment (2005) about agriculture and environment issues. It proposed new agriculture uses in the spillway area adapted to future floods (fodder crops), taking into account that this type of production is deficient in other areas of the département of Herault (appendix K). Public meetings with neighbors ware made. The first proposition was about location of affected lands: landowners could rent their land for suitable crops. But they would not. The context of emergency has placed Montpellier Agglomération in a new procedure: the purchase of all the lands in the spillway area: 60 hectares which were good lands for agriculture.

The initial strategy failed. As Montpellier Agglomération became owner of these lands, the choice of future use was then more independent of the other landowners, but more related to local population of the commune of Lattes. The Lironde spillway was achieved during the autumn of 2008. The next step in the commune of Lattes was to develop important dikes on the Lez banks near the urban area.

3.1.3. Second strategy

The new strategy was developed during years 2008-2009: the Lironde spillway will be a recreation area (walk and bike paths) in an open landscape near the natural area of the pond in the south part of the commune. In 2010, a landscape creation is underway: 8,000 trees and shrubs (hackberry, arbutus, pine, pistachio ...) that will be planted on the edge of the spillway and on the slope outside the drainage areas (appendix J).

Local cooperation between Montpellier Agglomeration and the Commune of Lattes aims to develop an education of risk of flooding and modify the local land use representation by the inhabitants with this new space for recreational use. Some experiences with scholars are made (April 2010): planting activities and exploration of the natural area. In the future, cultural activities will grow with the development of archaeological sites opened after the developments of the Lironde spillway.

Table 6: Assessment criteria for the flooding risk management in commune of Lattes

Assessment criteria	**Answer** (Tick the right answer in this column)					
Concerning field of action of the strategy: more choices possible:						
cc) Reducing land pressure due to housing/ industry	3					
dd) Strengthening agriculture in the urban fringe	1					
ee) Protecting high biodiversity nature areas at risk						
ff) Integration of tourism and leisure						
gg) More comprehensive overarching policy	2					
hh) Awareness raising						
ii) Monitoring and Evaluation						
Concerning outcomes of the strategy:						
(blue boxes are to be answered for all strategies, white boxes only for the regions for which the subject is specifically formulated)	We fully agree	We agree	We are Neutrale	We disagree	We very much disagree	We do not know
89) The strategy is resilient – robust and flexible enough to cope with changes in its context and stays effective at the long term (>25 years)	❑	❑	❑	❑	☑	❑
90) It serves multiple objectives – it employs synergy to create maximum effect (PP or PPP9) or creates many 'winners'.	❑	❑	☑	❑	❑	❑
91) The strategy is effective – it actually produces the outcomes it was designed for.	☑	❑	❑	❑	❑	❑
92) The strategy pushes land use away, creating new land use conflicts elsewhere or at another level.	❑	☑	❑	❑	❑	❑
93) The strategy pushes land use away, not causing new land use conflicts elsewhere nor at another level.	❑	❑	❑	☑	❑	❑
94) The strategy strengthens the unique qualities of the area it pertains to.	❑	☑	❑	❑	❑	❑
95) The strategy contributes to a sustainable dispersion of land use at a regional level, with a balance between resource availability and use.	❑	❑	☑	❑	❑	❑
96) The strategy enables existing rural types of land use to stay or to develop.	❑	❑	☑	❑	❑	❑
97) The strategy creates new or additional urban economy	❑	❑	❑	☑	❑	❑
98) The strategy leads to accessibility for city people to peri-urban, open landscapes/agricultural land	❑	☑	❑	❑	❑	❑
99) The strategy protects land with best agricultural production capacity, based on soil quality	❑	❑	❑	☑	❑	❑
Concerning the process comprised by the strategy						
100) The strategy helps the process of decision-making by making a complex situation more clear.	❑	☑	❑	❑	❑	❑

[9] People, Planet, Profit

Assessment criteria	**Answer** (Tick the right answer in this column)					
101) The strategy raises awareness among (more choices possible)	❑ Business	☑ Developers in specific	☑ Scholars	☑Citizens	☑ Other sectors of authorities	
102) The strategy involves different actors (more choices possible)	☑Individual Business	☑Business interest groups	☑ Individual citizens	❑ Civic soci. Groups	☑ Nature NGOs	☑ Other Authorities
103) The strategy enables bottom up initiatives by citizens or business, semi-private organizations (more choices possible)	☑Individual Business	☑Business interest groups	☑ Individual citizens	☑ Civic soci. Groups	☑ Nature NGOs	❑ No
104) There is a clear time span for meeting the objectives contained in the strategy.	❑	☑	❑	❑	❑	❑
105) The objectives of the strategy are clearly defined and in a comprehensible manner	☑	❑	❑	❑	❑	❑
106) There's legal, statutory, financial or cultural commitment to support the process.'	☑	❑	❑	❑	❑	❑
107) The strategy provides for monitoring and evaluation of its internal and external consistency and impacts over time, using existing available data	❑	☑	❑	❑	❑	❑
108) The strategy empowers … (more choices possible)	❑ producers	❑develo-pers	☑ citizens	☑ Local gvt.	❑supra local gvt	❑nat. govt.
109) The strategy restricts free riding behaviour / costs incurred with those who carry the benefits	❑	☑	❑	❑	❑	❑
110) The design of the strategy is area based, tailored to the specific actors, land use pattern, land market and legislation and timewise, influencing the right decisions at the right moment. (more choices possible)	❑ no	❑ timewise	☑To spec. actors	☑To land use patt.	❑To landmrkt	☑ To legislatio

3.2 A level of performance under constraints

The strategy of Montpellier Agglomeration was designed according to some principles:

- legal application of risk protection plan, which is an obligation when the local situation is clearly under risks;
- Management of land use with priority to involve the local landowners: means to conserve the land tenure system with the principles of sustainable development. This point is clearly a economic position: private actors can support the main constraints of the risk protection plan, with help of public authorities.

Indeed these two points are important limits for the strategy:

- The risk protection plan is designed with technical consideration, local capabilities and flood protection workings are supported by a multi-actors budget (from the State to the Commune) which is the only realistic possibility in relation to this type of project.
- The private landowners system is connected to the local and regional economic dynamics, with characteristics of the periurban private strategies of farmers and developers. For some private actors, the obligation to have other land use for their lands is a godsend. The prospect of selling their land to a significant price, related to the compensation of the exploitation, replaces the short and medium term strategy of waiting to sell at high prices if these areas become buildable (but the flood risk translates this perspective as unrealistic).

Under these constraints, the strategy is managed with the process to elaborate the risk prevention plan (table 5) and the different potentialities of the area (agriculture to maintain a good level of the periurban landscape, natural heritage or cultural heritage, recreational uses).

Table 5: synoptic chart of the elaboration of the PPRNI (Plan for the Prevention of Natural Risks of Flooding), (source: DDE34, 2004)

Main phases	Steps
A. Development phase	1. Preliminary information for elected representatives
	2. Prefectorial bylaw for the "Plan for the Prevention of Natural Risks of Flooding" (PPRNI) study
	3. Development of the file by the local state service (DDE, Public works Direction of the Departement)
	4. Consultations (municipalities) and public information for inhabitants (public meetings)
	5. Official sending of the PPRNI to municipality
B. consultation phase	6. Official consultations (assent expressed by the Commune Council, the General Council of the Departement, the Regional Council, the Agglomeration, the Board of Agriculture and the Regional Centre of Forest Ownership)
	7. Public inquiry which takes place in city hall
	8. Conclusions by the inquiry commissioner (possible changes according to the opinion expressed)
	9. Prefectorial bylaw for PPRNI approval
C. Approval phase	10. Advertising measures and information (publications in two local newspapers, file disseminated to the public in town hall and prefecture)
	11. PPRNI becomes an appendix of the PLU (Local Urbanism Plan)
D. Application of PPRNI	12. Implementation of prevention, protection and safeguarding measures of the PPRNI

For the commune of Lattes, the process to elaborate the Plan for the Prevention of Natural Risks of Flooding (PPRNI: Plan de Prevention des Risques Naturels d'Inondation) was involved in 2006 (after two years of preparation, 2004-2005).

In July 2006, Montpellier Agglomeration approved the draft of the protection plan against flooding of the Lez River. According to the successive phases for the elaboration of this plan, the important phase of concertation with the public was involved under the control of the state administration (Prefecture). The project relates over 8,000 people in Lattes who would be affected by flooding. In addition, about 500 people, occupying houses in the immediate vicinity of the Lez, are located in areas of very serious risk because they are directly affected by the flood wave in case of breach of the Lez dikes. To help Montpellier Agglomeration in this project, the Ministry of Ecology and Sustainable Development was appointed in 2006, a mission of the General Inspectorate of the Environment that appraised the project and then particularly confirm the necessity and emergency of implementing the program of work defined by Montpellier Agglomeration (see § 3.1.1).

Following the public inquiries, the development program of protection of the lower valley of the Lez was declared of public utility by the Prefecture in May 2007. Since this date, the protection works against flooding along the lower valley of the Lez have been largely achieved (end of 2009).

3.2.1. Legal problems... as usual

Despite holding several public meetings and information provided to the public until 2006, the Administrative Court of Montpellier cancelled in July 2009 the Prefecture order declaring the public works (emergency plan), for substantial procedural violation under the lack of prior consultation (Urban planning Code). Montpellier Agglomeration was therefore necessary to do again the process to complete the first phase of land acquisition and secondly to obtain new transferability by-law.

Figure 11: consultation meeting *(Source: Montpellier Agglomeration, 2010)*

3.3 A level of performance under a coordinate of an institutional actors system

The flood risk management is a typical system of coordination between the different territorial levels in France: the State, the Region (Languedoc-Roussillon in our case), the Departement (Hérault), the Agglomeration (Montpellier Agglomeration) and the Commune (Lattes and Montpellier). Besides, a european actor, the FEDER, and a sectorial structure (French Water Agency) are involved. All these different public actors

have major strategies to ensure their involvement in the protection project and to ensure their own spatial and economic activities and rights.

The financial aspect of the project, which is a main part of the strategies, was supported with some differences for each public actors (costs for the Lironde spillway –green area in the figure 12 - and for the Lez dikes – orange areas in the same figure).

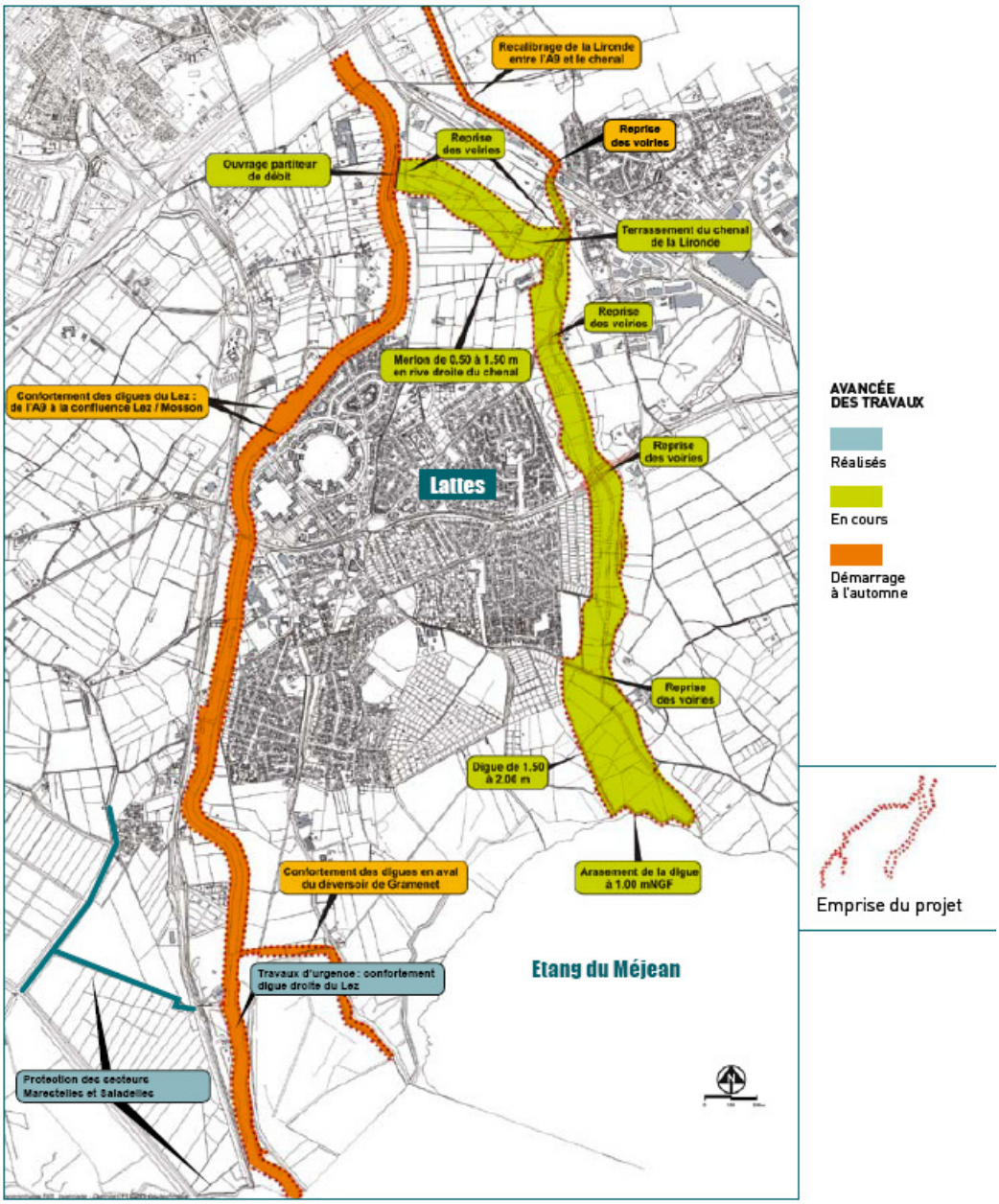


Figure 12: State of flood protection workings in 2008 (source: Montpellier Agglomeration, 2008). Blue and green areas are made, mid 2009

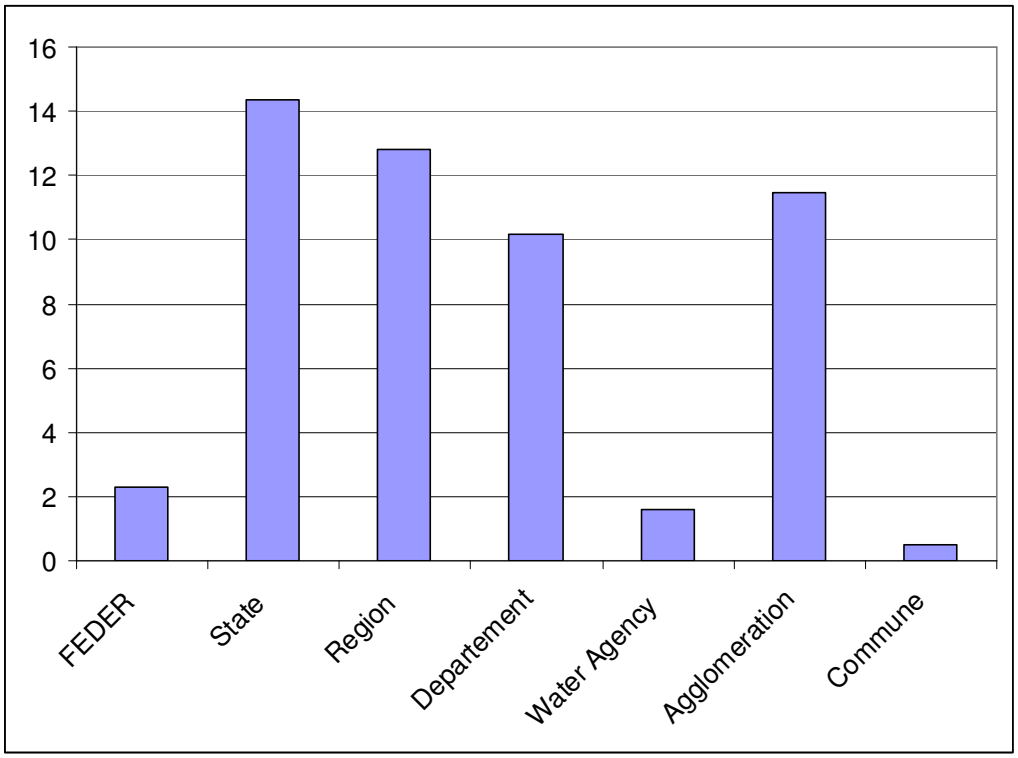


Figure 13: Flood protection workings for Lattes - Budget (Millions €) (Source: Montpellier Agglomeration, 2010)

The different public actors are stepping in the project with different legitimities:

- Feder, State and Water Agency: financial sources, legal control, technical aspects;
- Region and Departement: animation support, solidarity founds
- Agglomeration and Commune: local choices for land uses.

The Montpellier Agglomeration strategy in the project of flood protection is difficult to assess because of lack of hindsight: this project is very recent, and its start was made under an emergency principle which can't be easy to assess too. The local government between Montpellier Agglomeration and Communes made an easier context to manage the urban planning, linked to the Scot for land tenure and change of land uses in the impacted areas.

We can estimate that over the long term, this type of very restrictive project can establish legitimacy for the level of the Agglomeration. In the French context, the Agglomeration level remains a level which is still searching its legitimacy and its identity in front of the Commune. The Commune is the main territorial unit of attachment for the inhabitants, and is more directly involved in the issue of natural risk for negative impacts (it becomes the place identified as potentially hazardous). The Agglomeration, to this point of view, may come more clearly as the level of local support (land compensation, animation for risks awareness). While the strategy is quite constrained, potential benefits may appear.

4. Conclusion

The different strategies being studied actually show a peculiarity of the Agglomeration of Montpellier, which is the status of its Scot. It indeed has a high level of legitimacy, both in its development (with elaborations on the landscape that are meaningful and allow the membership of local politicians), as applied in fields as diverse as long-term management of urban density or the emergency of risk management. However, the current urban system of Montpellier, with a high population growth and urban pressure sustained puts land owners in private strategies that appear to be main limits of the general strategy of the Montpellier Agglomeration. In France, the Montpellier Scot appears still quite effective as a strategic framework. The size of this territorial collectivity, actually quite small compared to its functional urban area, may be an explanation for success. Future challenges are serious: a major strategic decision to expand the scope of the Agglomeration will certainly provide new financial resources for intervention and support policies, but the coordination of development and consistency of results in a space structurally more diverse, from urban to rural, may be important thresholds.

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Appendix

APPENDIX A:

TABLE 1: ACTORS INTERVIEWED FOR THE SCOT ASSESSMENT

N°	Actors interviewed	Roles into the SCoT
1	A1	Professeur, chercheur, chargée de l'analyse des espaces agricoles
2	A2	Conseiller municipal de la ville de Montpellier, délégué au développement durable
3	A3	Directrice du Foncier et de l'Aménagement Opérationnel à l'agglomération
4	A4	Paysagiste, membre de l'équipe de maîtrise d'œuvre
5	A5	Directeur du pôle « étude prospective » de la direction de l'aménagement et du développement
6	A6	Architecte urbaniste, mandataire de l'équipe de maîtrise d'œuvre
7	A7	Premier vice-président de Montpellier Agglomération, Maire de Cournonsec

APPENDIX B:

TABLE 2: ACTIONS BETWEEN ACTORS 1/3

Action of below actors on opposite actors	A1	A2	A3
A1	**But:** Faire reconnaître l'agriculture **Pb:** Pas de pouvoir majeur **Moyen:** Travail scientifique	Pas d'action	Pas d'action
A2	Pas d'action	**But:** Développement durable **Pb:** Discours avec les autres élus **Moyen:** Pressions, rencontres	Pression interne car rapport de hiérarchie
A3	Pas d'action	Pas d'action	**But:** Prendre en compte l'habitat **Pb:** Dépend des élus **Moyen:** Connaissance du terrain
A4	Commande une expertise sur les territoires agricoles péri-urbains de l'agglomération	Anime les ateliers thématiques et soumet de nouveaux points de vues à la discussion	Anime les ateliers thématiques et soumet de nouveaux points de vues à la discussion
A5	Pas d'action	Informe sur les pratiques d'aménagement et de planification	Ecoute et prend en compte les compétences
A6	Commande une expertise sur les territoires agricoles péri-urbains de l'agglomération	Anime les ateliers thématiques et soumet de nouveaux points de vues à la discussion	Anime les ateliers thématiques et soumet de nouveaux points de vues à la discussion
A7	Pas d'action	Pas d'action	Donne la ligne directrice

TABLE 2: ACTIONS BETWEEN ACTORS 2/3

Action of below actors on opposite actors	**A4**	**A5**	**A6**
A1	Informe de manière scientifique les territoires agricoles de l'agglomération	Pas d'action	Informe de manière scientifique les territoires agricoles de l'agglomération
A2	Garantit le développement durable du projet	Pression interne sur le développement durable	Garantit le développement durable du projet
A3	Informe et questionne les données relatives au bâtit	Informe et questionne les données relatives au bâtit	Informe et questionne les données relatives au bâtit
A4	**But:** Prendre en compte le paysage **Pb:** Réunir et sensibiliser **Moyen:** Projet	Propose une méthodologie de projet et invite à la réflexion sur les objectifs spécifiques	Travail conjoint et information spécifique sur le paysage et les infrastructures
A5	Donne le cadre du travail, du programme	**But:** Projet d'urbanisme pour l'agglo **Pb:** Rassembler autour de l'idée **Moyen:** Connaissance du terrain	Donne le cadre du travail, du programme
A6	Coordonne l'équipe, retranscrit les données et travaille de manière conjointe	Propose une méthodologie de projet et invite à la réflexion sur les objectifs spécifiques	**But:** Questionner la planification **Pb:** Idées reçues en place **Moyen:** Projet
A7	Donne son avis et son accord, commente les proposition par rapport au terrain	Donne la ligne directrice	Donne son avis et son accord, commente les proposition par rapport au terrain

TABLE 2: ACTIONS BETWEEN ACTORS 3/3

Action of below actors on opposite actor	**A7**
A1	Pas d'action
A2	Garantit le développement durable du projet
A3	Pas d'action
A4	Propose une méthodologie de projet et invite à la réflexion sur les objectifs spécifiques
A5	Information de l'état d'avancement par rapport au programme, aux objectifs
A6	Propose une méthodologie de projet et invite à la réflexion sur les objectifs spécifiques
A7	**But:** Projet d'agglomération **Pb:** Rassembler les divers élus **Moyen:** Discours, ateliers, alliances

APPENDIX C:

TABLE 3: GENERAL OBJECTIVES

N°	General objectives	Abréviations	Carried on by
1	Accueillir de nouveaux habitants, développer la surface consacrée aux logements dans la ville	LOG	A3, A5, A6, A7
2	Accroître la mobilité des habitants en développant l'offre de transports	INF	A2, A4, A5
3	Soutenir l'activité économique, développer les infrastructures d'accueil conséquentes	ACT	A1, A2, A5, A7
4	Embellir le cadre de vie, préserver et mettre en valeur le paysage	PAY	A1, A2, A3, A4, A5, A6

APPENDIX D:

TABLE 4: RELATIONS BETWEEN LANDSCAPE AND SPACE 1/2

	Municipalities or groups of municipalities into the SCoT perimeter	Element of nature or agriculture into the SCoT perimeter	Geographic elements taller than the SCoT perimeter
A1	Zones périurbaines (5) communes de 2ème ou 3ème couronne (2) agglomération (2), communes rurales, Castries, Fabrègues, Pérols	Espaces agronaturels (10), espaces pour les chevaux, friches, zones inondables	Littoral, terroir, région
A2	Communes autour de Montpellier, Montpellier, communes de 2ème et 3ème couronne, aire métropolitaine, communes périphériques	Massifs, ripisylve	Cours d'eau
A3	Communauté d'agglomération, différentes communes, petites communes	Zones d'activités et de logements, terrains agricoles	
A4	Petits villages, Sète, Lunel, agglomération	Zones agricoles (3)	Collines, rivières
A5	Communes (3) les communes de la périphérie (2)	Espaces naturels et agricoles (8) territoires agricoles périurbains, territoire agricole	Le terroir
A6	centre et périphérie (2) les 31 communes, les 30 communes qui gravitent autour de Montpellier	Unités agrophysionomiques (3), terres agricoles, zones d'enjeux communautaires	Mer
A7	Communauté d'agglomération (3), communes rurales (2), territoire communautaire.	Terres agricoles (4)	Littoral, garrigue

TABLE 4: RELATIONS BETWEEN LANDSCAPE AND SPACE 2/2

	Outside places from the SCoT perimeter	Elements non located
A1	Nice	Vignes, oliviers, cheval, tracteur, pavillon, engrais
A2	Nice	Arbre
A3		Jardin, Parc
A4	Barcelone, le Val de Rosselle	Les territoires péri-urbains, la campagne, la garrigue
A5	Les villages languedociens	
A6	Allemagne, Suisse	Terrain de 1000/1200 hectares, terrain de 500/1000 hectares
A7	Nice, les villages de la région	La campagne, le vignoble

APPENDIX E:

TABLE 5: RELATIONS BETWEEN LANDSCAPE AND SOCIAL ISSUES 1/2

	Geography	Nature	Rurality
A1 landscape (7)	Territoire (3), géographie (2)		Agriculture (15)
A2 landscape (4)	Territoire (5)		Agriculture (2)
A3 landscape (2)		Nature (2)	
A4 landscape (7)	Territoire (8), entités géographiques (2), hydrographie, inondation		Agriculture (5), viticulture, campagne, monde rural
A5 landscape (5)	Territoire (10), géographie (1)	Nature (préservation)	agriculture (6)
A6 landscape (6)	Territoire (5), territoire disponible, territoire mis en œuvre	Nature (4), risques naturels	agriculture (1)
A7 landscape (3)	Territoire (5)	Nature (2) (protection)	Campagne (2)

TABLE 5: RELATIONS BETWEEN LANDSCAPE AND SOCIAL ISSUES 2/2

	Ecology	Lifestyle	Spatial and abstract form
A1 landscape (7)	Durabilité (2)	Cadre de vie	Continuité vert, un socle
A2 landscape (4)	Environnement (6), durable	Service	Socle, espace libre
A3 landscape (2)			
A4 landscape (7)	Environnement		Epaisse limite urbaine, zone de projets
A5 landscape (5)		Espaces vitaux	Armature intangible (6)
A6 landscape (6)	Environnement (7), écologie (3), développement durable (2)	Mode de vie	Limite épaisse (7), horizon, extérieur, champ d'expériences formidables, zone de projets
A7 landscape (3)	Environnement (3), développement durable (2), écologie	Cadre de vie, bien-être, vie quotidienne	Image de marque

APPENDIX F:

TABLE 6: DIFFERENT POINTS OF VIEWS ON LANDSCAPE AND METHOLOGY

A4	
Initial position	Une équipe qui n'avait jamais fait de SCoT « On ne savait pas ce que c'était un SCoT », Volonté de faire à projet à partir du territoire en dédramatisant les question du développement urbain.
What is the landscape into the SCoT	Une substance à projets, Un territoire reconstruit en prenant les projets qui étaient dans l'air dans un soucis de clarification, dessiner la campagne pour dessiner la ville, une limite épaisse, la valeur sur de la métropole.
What is not the landscape into the SCoT	Une substance à protéger ni à remplir, une décomposition sectorielle, un reste, une terrain vacant, une victime.
A5	
Initial position	Autodidacte dans le domaine de la ville, le SCoT vu comme une aubaine car il change les conditions générales de projet, volonté de réaliser un projet « une invention », qui soit un trait d'union entre planification et aménagement.
What is the landscape into the SCoT	Un champ d'expérience formidable, qui évolue au fil du temps, une limite épaisse, un horizon, une zone de projets, l'échelle d'intervention manquante pour l'urbanisme.
What is not the landscape into the SCoT	Une barrière, une nature abstraite et à protéger, une interdiction, une zone à couvrir, une zone immuable, un espace à opposer au développement de la ville.
Methodology during the SCoT construction	A1: équipe à l'écoute du projet politique, retours et propositions, discussion avancée A2: valeur pédagogique du projet pour l'agglomération, ateliers, discussion, petits croquis A3: travailler ensemble, valeur pédagogique du SCoT, réunions, comités, plus qu'un doc d'urbanisme une expérience A4: écouter, prendre la matière de chacun pour reconstruire le territoire, nombreux comités sur un temps court, droit de véto. A5: méthode du bottom-up, partir du terrain pour problématiser A6: bâtir cela sur la négociation, embarquer les élus dans l'aventure, mise en place d'un jeu de rôle pour ouvrir le débat, droit de véto pour le paysagiste, mis en mouvement des acteurs A7: ateliers sur le terrain entre les experts, les professionnels, les communes

APPENDIX G:

TABLE 7: RELATIONS BETWEEN LANDSCAPE AND OBJECTIVES

N°	General objectives	Induced points of view about Landscape	Built points of view about the landscape for the SCoT	Specific objectives of the SCoT
1	Accueillir de nouveaux habitants, développer la surface consacrée aux logements dans la ville	Le paysage vu comme une réserve foncière, « le paysage recule quand la ville avance » AP	Le paysage vu comme un gage de qualité de l'habitat urbain	Préserver le capital nature
2	Accroître la mobilité des habitants en développant l'offre de transports	Le paysage vu comme une victime du développement urbain car il est fragmenté par les infrastructures qui elles ont pour objet d'apporter la cohérence territoriale	Le paysage vu comme le garant de la cohérence territoriale	Promouvoir la ville des proximités, identification locale
3	Soutenir l'activité économique, développer les infrastructures d'accueil conséquentes	Le paysage vu comme un parc pour les citadins dont les agriculteurs sont les jardiniers	Le paysage vu comme une zone économique active établissant des relations d'interdépendance avec la ville.	Intensifier le développement, économiser l'espace
4	Embellir le cadre de vie, préserver et mettre en valeur le paysage	Le paysage vu comme une image de bien-être opposable au mal-être de la ville	Le paysage vu comme un système évolutif porteur de projets latents	Création de plans de référence afin de s'adapter aux cas et aux temporalités de la métropole multipolaire

APPENDIX H: data on land owners strategies and their impact on the status of agricultural parcels in urban fringes (Castries, P.Montfairx, 2008)

Annexe n°7

Enquête sur les stratégies des propriétaires **Sélection des propriétaires à contacter**

Objectif : Rechercher les stratégies patrimoniales des propriétaires
Hypothèse : Les stratégies de vente des parcelles dépendent de l'accumulation de certains critères, voir les justificatifs page 89.
Validation de l'hypothèse : Enquête téléphonique

Méthode de pondération

Proximité urbaine	Touche zone U = 4	100m = 3	200m= 2	300m=1
IPFU (Safer)	> aux critères = 3	< aux critères = 0		
Constructibilité	oui=3	partielle=2	non=0	
Surface	Moins 1000m² =3	Entre 1000m² et 1ha = 2	Plus de 1 ha = 1	
Statut juridique	Aménageur =4	Usufruit =3	Indivision simple =2	Simple Propriété = 1
Multipropriété de parcelles	oui = 2	non=1		
Exploitant	non=2	oui=1		
Age	Plus de 60ans=3	Entre 40 et 60 ans=2	Moins de 40 ans=1	
Type de production	Friche=3	Annuelle=2	Pérenne=1	
Arrachage	oui = 2	non=1		
Prime	oui=2	non=0		

Exemple

Anticipation de vente	Faible	Probable (si multipropriétaire)	Importante	Forte

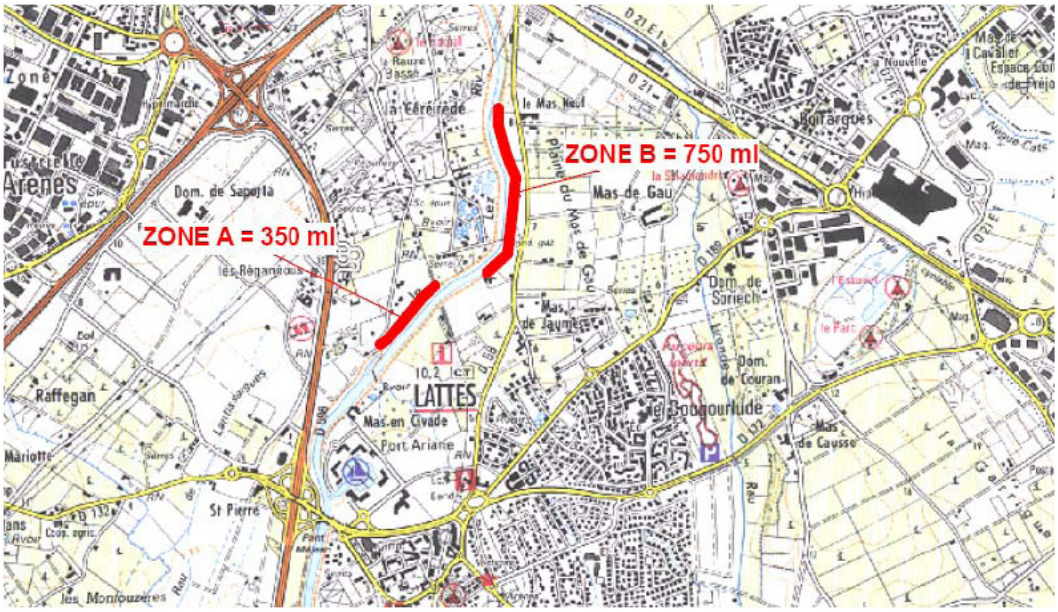
Critères de Pondération	Michel Roland (n°247)	Michel Roland (n°248)	Michel Roland (n°249)	Michel Roland (n°387)	René Brunel (n°164)	Jean Louis Abric (n° 188)	Jean Louis Abric (n°246)	Marie-Josée Goux (n°186)	Marie-Josée Goux (n°187)	René Brunel (n°180)	Marguerite Viguier (n°173)	Marc Viguier (n°183)	Pierre-Marie Brunel (n°164)	Antoine Herleman (n°169)
Proximité urbaine	2	2	2	2	4	2	3	3	3	3	2	3	3	1
Constructibilité	3	3	3	3	3	3	3	3	3	2	0	0	0	0
Surface	3	3	3	2	2	1	2	2	2	2	3	3	1	1
Statut juridique	1	3	3	3	1	4	4	1	1	1	3	1	1	2
Multipropriété	2	2	2	2	2	2	2	2	2	2	2	2	1	1
Exploitant	2	2	2	2	2	2	2	2	2	2	2	2	1	1
Age	3	3	3	2	3	2	2	3	3	3	3	2	2	3
Type de production	3	3	3	3									2	2
Arrachage	2	2	2	2									2	
Prime	2	2	2	2									0	
IPFU (Safer)	3	3	3	3										3
Total	26	28	28	26	17	16	18	16	16	15	15	13	13	14
Validation	Oui	Oui	Oui	Oui	Oui	Oui	Oui					Oui	Oui	Oui

Les hypothèses de travail choisies pour construire la grille

La sélection des propriétaires les plus susceptibles de vendre une parcelle, sur une surface agricole qui en compte près de 500, exigeait de mettre au point un système de critères pondérés. La justification des pondérations répondait aux choix suivants sur chaque parcelle:

Indicateurs	*Justifications*
Proximité urbaine	Le Scot détermine l'urbanisation en suivant une progression par bandes de 100 mètres de côté dans les limites à conforter. En reprenant cette contrainte, on attribue une pondération dégressive aux terrains situés dans des bandes au fur et à mesure qu'on s'éloigne des limites bâties
Constructibilité	Les parcelles situées en limite urbaine sont parfois inclues dans des zones constructibles. La pondération devient alors binaire et du type Oui/Non. Certaines sont cependant partiellement constructibles.
Surface	Les parcelles les plus petites sont inadaptées à une exploitation efficace. On a donc choisi d'attribuer une plus forte pondération aux parcelles dont la surface est inférieure à 1000m²
Statut juridique	On a choisi de considérer que les parcelles en indivision, avec des différences d'âge sensible entre usufruitiers et nu-propriétaires traduisaient une plus forte intention de cession que celles en simple propriété.
Multipropriété de parcelles	La multiplication des propriétés a été considérée comme un facteur facilitant les cessions dans la mesure ou d'autres parcelles peuvent être maintenues en exploitation
Exploitant agricole	Le statut d'exploitant agricole est considéré comme un facteur limitant les cessions de parcelles dans la mesure où la vente du capital grève les capacités d'exploitation.
Age	L'avancée dans l'âge parait être un critère de cession, surtout au-delà de 65 ans.
Type de production	Les cultures pérennes sont interprétées comme révélatrices du maintient de l'activité, ce qui est moins le cas des cultures annuelles et pas du tout celui des friches.
Arrachage	Un arrachage semble traduire, en partie tout au moins, et selon la position de la parcelle, une intention de vente plus affirmée qu'un maintien des productions
Primes d'arrachage	Les primes d'arrachage définitif (PAD) traduisent la volonté de modifier l'usage de la parcelle. En limite de bâti, l'intention de cession n'est pas négligeable.
Indice de Pression Foncière (Safer)	Produit par la Safer, il traduit le déséquilibre du marché foncier par une survalorisation des parcelles agricoles par rapport à la moyenne.

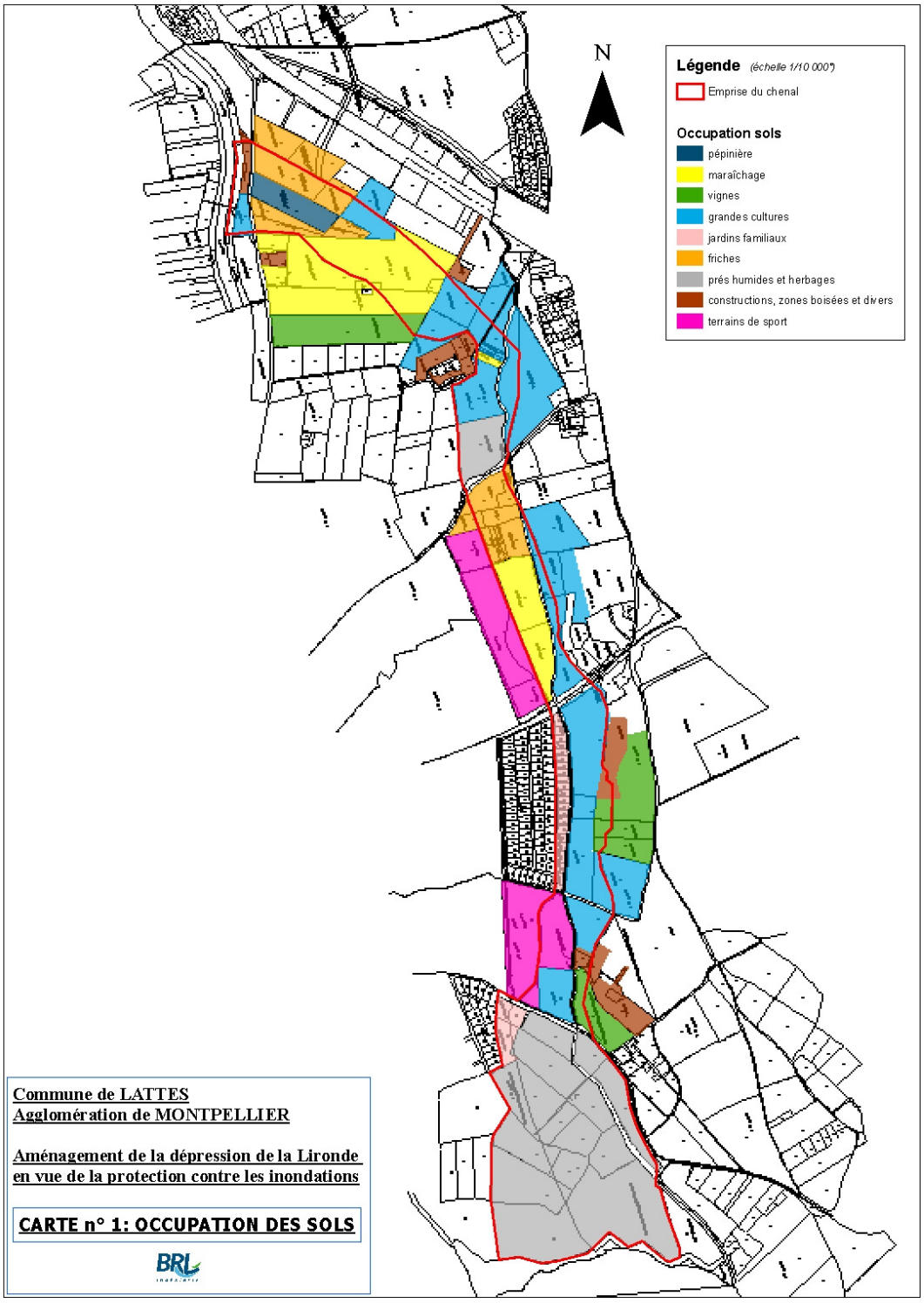
APPENDIX I: The high risk of collapse for dicks close to Lattes urban area



(Source: MEDD, 2006)

Before protection developments, the left bank of Lez River upstream of the built up area were a high risk of collapse for dikes by a high flow

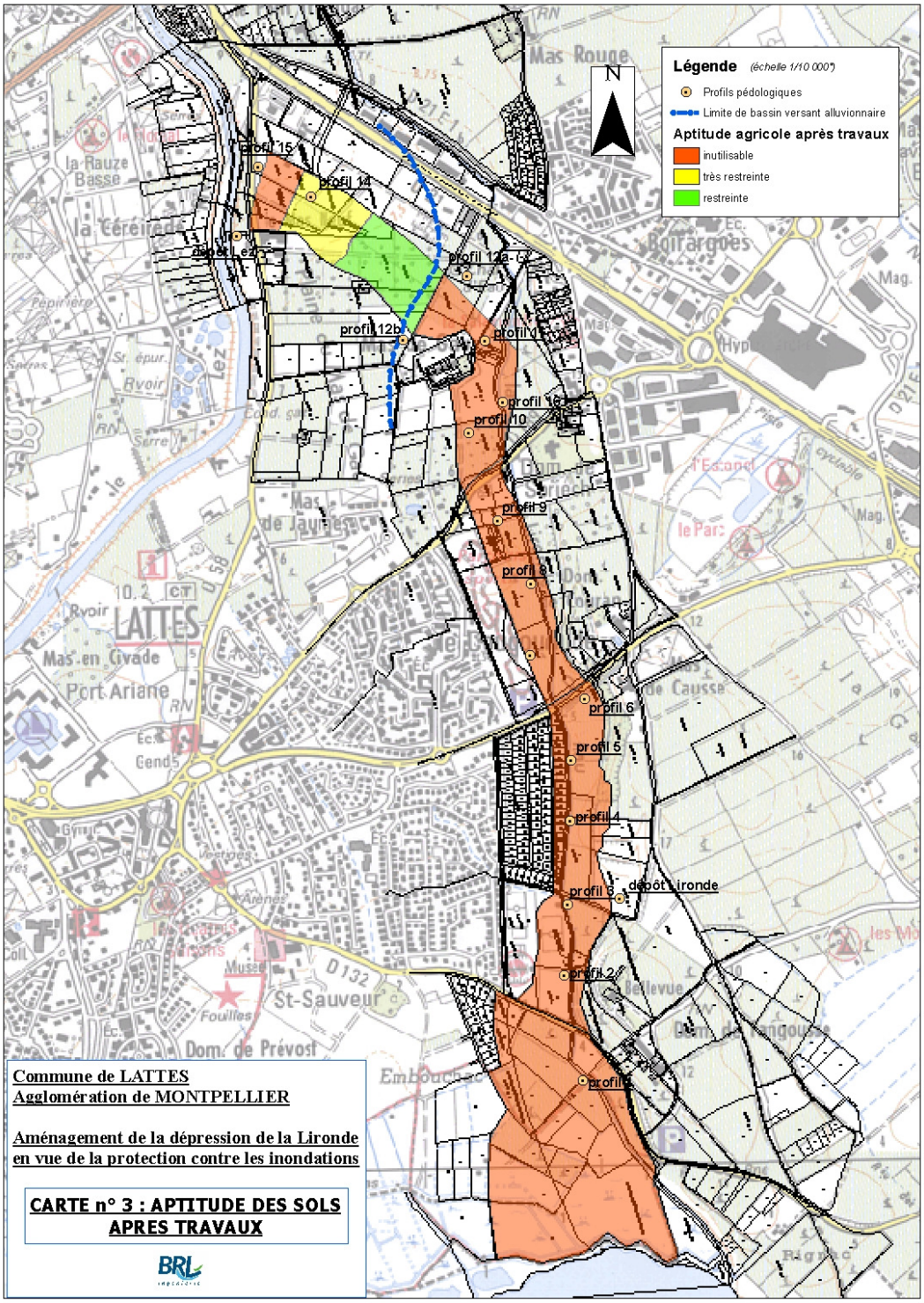
APPENDIX J: Land cover before Lironde spillway



(Source: BRL, 2005)

Land cover in the Lironde spillway: various land uses (tree nursery, horticulture, vineyards, cash crops, home gardens, untilled land, wetlands and grasslands, buildings, woodlands, sport fields.).

APPENDIX K: Soil capability after workings in Lironde spillway



(Source: BRL, 2005)

Strong impact of development in the future land use, in the Lironde spillway: 85% of the area is unusable, 15% is usable for agriculture with medium or high restrictions.