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The Spatial Governance of the Lisbon's Metropolitan Region

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Abstract

The present discussion about the models of spatial governance in metropolitan areas, taken place in different cities all over Europe, is also a matter that concerns the Lisbon's region. The paper aims to focus on urban indicators and the elements of spatial governance: levels and policies fragmentation, resources, democratic leadership, citizen participation, institutional relations and private-public cooperation on strategic projects. In the conclusions, the paper shows the possible innovation of the Lisbon case study, in a comparative analysis.

Key words: spatial governance; Lisbon's region; spatial indicators; comparative analysis.

Brief CV

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1. INTRODUCTION

The metropolitan's regions spatial evolution can be measured by a list of urban indicators. They follow the metropolitan public policies and some of them are used to analyse urban problems on different administrative sectors, like environment, transport or social and economic growth. Before the presentation of the Lisbon's case study, it's useful a comparative analysis of his spatial dynamics, with other metropolitan regions: we've chosen Madrid, Barcelona and Paris.

2. SPATIAL DYNAMICS ANALYSIS

2.1. METROPOLITAN'S REGIONS STRUCTURE

The analysis of spatial dynamics begins recognizing the basic spatial structure of metropolitan regions, especially the ones that have developed monocentric patterns, like most of the European capitals. We adopted three different areas, also identified in many urban studies: the central city, the metropolitan belt and the peripheral region.

The central city is the core of the metropolitan region, with his historic heritage and central business district, generally with social-economic diversity and high density, and the nineteenth residential areas. We consider that the Central Municipality, like in the four case studies of this paper, defines his statistics limits. The metropolitan belt is the natural urban area expansion to the surrounded municipalities, based in the railway lines and stations and the principal traffic roads. Generally, it can support a green space, the industrial and logistical infrastructure and "new towns" for more residential areas, these ones with medium or low densities. Finally, the peripheral region completes the metropolitan region, certainly with a great surface area, but less urbanized. A political or administrative institution that coordinates the spatial planning can define the limits of this peripheral region, which is more dependent from the others in matters of business, employment and public services.

The next pages present the indicators selection, the information source consulted and the basic data, needed on surface area and two years on population, housing, urban land and employment.

2.2. INDICATORS SELECTION

Indicators can be used to prove different issues. Although, quite often it seems that indicators are precisely selected to justify your previous point of view. Frequently in the graphics of time evolution, for example, an economist usually wants to present a line up for consuming, production or benefits – the same issues that an environmentalist could prefer with a line down! Obviously, the indicators selected cannot be the same in both cases.

In this paper, we apply for an integrated group of eleven quantitative indicators and will test them on metropolitan regions, considering the three spatial areas presented before. Focuses on spatial dynamics, they were already used, certainly several times, in documents of planning and research.

Six indicators show an evolution expressed in percentage per year – population, housing, employment, urban land and private and public transports. The other five link the last results for global density, urban footprint, housing density and occupancy and employment density. An integrated reading of those values allows us to make the spatial dynamics picture of these four metropolitan regions.

2.3. INFORMATION SOURCE

The institutions that have competences on spatial planning, at metropolitan and regional level, are the basic source of the data needed for spatial indicators. They work with the social and economic data given by the Statistics Department and produce her own specific documents and urban studies.

In the case of regional administration level, which also defines the metropolitan belt limits, our source was the Madrid Autonomous Community (CAM) and the Ile-de-France Urbanism and Regional Management Institute (IAURIF). In the other cases, we consult the information given by the Barcelona Metropolitan Area (AMB – a voluntary association of municipalities for environmental management, transports and planning) and the Lisbon and Tagus Valley Regional Development and Coordination Commission (CCDR-LVT). The inquiries for more information on transports and employment, like in the cases of Barcelona (IERMB) and Lisbon (CML), complete the data needed to our proposal of metropolitan spatial indicators.

2.4. BASIC DATA FROM 4 CASE STUDIES

		Central City	Metropolitan Belt	Peripheral Region	Total
Surface area	Km2	606	1.203	6.204	8.013
Population	1991	3.010.492	1.475.300	451.800	4.937.592
	2001	2.938.723	1.741.500	748.800	5.429.023
Housing	1991	1.162.900	488.300	271.900	1.923.100
	2001	1.359.200	651.000	426.400	2.436.600
Urban area (ha.)	1996	24.600	19.700	31.300	75.600
	2001	33.200	26.900	37.500	97.600
Employment	1988	1.094.000	326.400	-	-
	2004	1.775.525	893.982	93.561	2.763.068

Figure 1. Madrid's region basic data

		Central City	Metropolitan Belt	Peripheral Region	Total
Surface area	Km2	98	536	2.603	3.237
Population	1991	1.643.452	1.404.937	1.215.943	4.264.332
	2001	1.503.884	1.432.679	1.453.827	4.390.390
Housing	1991	687.329	502.105	533.950	1.723.384
	2002	727.252	593.333	683.542	2.004.127
Urban area (ha.)	1995	7.781	15.115	28.486	51.382
	2000	7.893	15.907	35.010	58.810
Employment	1996	787.507	387.441	422.897	1.597.845
	2002	956.521	503.486	572.788	2.032.795

Figure 2. Barcelona's region basic data

		Central City	Metropolitan Belt	Peripheral Region	Total
Surface area	Km2	105	657	11.250	12.012
Population	1990	2.152.423	3.988.393	4.159.738	10.300.554
	2004	2.164.000	4.170.000	4.958.000	11.292.000
Housing	1990	1.095.108	1.571.080	1.566.503	4.232.691
	2002	1.310.000	1.874.000	1.982.000	5.166.000
Urban area (ha.)	1994	9.461	54.406	175.902	239.769
		-	-	-	-
Employment	1990	1.815.345	1.752.646	1.507.983	5.075.974
	2004	1.650.600	1.887.700	1.807.100	5.345.400

Figure 3. Paris' region basic data

		Central City	Metropolitan Belt	Peripheral Region	Total
Surface area	Km2	85	2.850	8.721	11.656
Population	1991	663.394	1.857.314	768.778	3.289.486
	2001	564.657	2.097.193	805.633	3.467.483
Housing	1991	279.234	798.668	364.114	1.442.016
	2001	292.065	1.001.786	423.611	1.717.462
Urban area (ha.)		-	-	-	-
	2006	4.220	50.130	62.080	116.430
Employment	1991	365.183	834.599	311.900	1.511.682
	2001	337.500	1.063.500	133.300	1.534.300

Figure 4. Lisbon's region basic data

2.5. INDICATORS' READING

- **MADRID**

Spatial indicators	Unit	Central City	Metropolitan Belt	Peripheral Region
Global density	inhab. / km2	4.849	1.448	121
Demographic evolution	% / year	- 0,24	1,80	6,57
Housing evolution	% / year	1,69	3,33	5,68
Urban area growing	% / year	6,99	7,31	3,96
Employment evolution	% / year	3,89	10,87	-
Urban area footprint	m2 / inhab.	113	154	501
Housing density	hou. / urb. ha.	41	24	11
Housing occupancy	inhab. / hou.	2,16	2,68	1,76
Employment density	emp. / 10 hou.	13	14	2
Private transport evolution	% / year	- 0,39	10,08	-
Public transport evolution	% / year	- 0,25	16,44	-

Figure 5. Madrid's region spatial indicators

23 of the 179 municipalities integrated in the Regional Autonomous Community were considered his metropolitan belt. The demographic evolution in the 90's shows a great population growing in the area of the peripheral region (approximately 6,6 %, that represents around 45.000 inhabitants / year), which contrast with the negative growing of Madrid city, the capital municipality.

The housing evolution also matches the great urban growing in all the 3 areas, on approximately 7 and 4 %, between 1.240 and 1.440 ha. / year. The metropolitan belt has twice of the housing density of the peripheral region, but his urban footprint is less than 3 times the one of the peripheral region (154 to 501 m2 / inhabitant).

The decentralization of activities and employment means a negative growing on private and public transport evolution in the central city, but also a positive growing in metropolitan belt, specially on the public transport (16 % of trips / year).

- **BARCELONA**

Spatial indicators	Unit	Central City	Metropolitan Belt	Peripheral Region
Global density	inhab. / km2	15.346	2.673	559
Demographic evolution	% / year	- 0,85	0,20	1,96
Housing evolution	% / year	0,53	1,65	2,55
Urban area growing	% / year	0,29	1,05	4,58
Employment evolution	% / year	3,58	4,99	5,91
Urban area footprint	m2 / inhab.	52	111	241
Housing density	hou. / urb. ha.	92	37	20
Housing occupancy	inhab. / hou.	2,07	2,41	2,13
Employment density	emp. / 10 hou.	13	8	8
Private transport evolution	% / year	2,98	1,44	1,16
Public transport evolution	% / year	- 0,88	- 2,27	0,86

Figure 6. Barcelona's region spatial indicators

Barcelona has a voluntary association that represents his Metropolitan Area and corresponds to the 35 municipalities also considered in this paper by metropolitan belt. 130 surrounded municipalities completes the peripheral region, the smaller of this four case studies, showed by his better result on global and housing density (approximately 560 inhabitants / km2 and 20 houses / urban ha.) and also good on employment density (8 work places / 10 houses or 21 inhabitants).

That surface limit is the reason why the demographic, housing and employment evolution are less spectacular than in Madrid region. In this case, the relation between urban footprint and housing density is not so extended. The peripheral region doubles the urban footprint of the metropolitan belt and is a half in housing density (241 to 111 m2 / inhabitants and 20 to 37 houses / urban ha.).

The private transport is growing in all the 3 areas, on the contrary of the public transport, which only in the peripheral region has positive indicators on numbers of trips evolution, of approximately 1 % / year.

- **PARIS**

Spatial indicators	Unit	Central City	Metropolitan Belt	Peripheral Region
Global density	inhab. / km2	20.610	6.347	441
Demographic evolution	% / year	0,04	0,33	1,37
Housing evolution	% / year	1,64	1,61	2,21
Urban area growing	% / year	-	-	-
Employment evolution	% / year	- 0,65	0,55	1,42
Urban area footprint	m2 / inhab.	44	136	423
Housing density	hou. / urb. ha.	116	29	9
Housing occupancy	inhab. / hou.	1,65	2,23	2,50
Employment density	emp. / 10 hou.	13	10	9
Private transport evolution	% / year	- 1,8	0,9	1,6
Public transport evolution	% / year	- 0,2	1,7	1,5

Figure 7. Paris' region spatial indicators

Ile-de-France is one of the 22 metropolitan regions in continental France. Beside Paris, the capital municipality, the Region has 7 more *Départements*: three belong to the called *Petit Coronne* (Hauts-de-Seine, Seine-Saint-Denis and Val-de-Marne) and four to the *Grand Coronne* (Seine-et-Marne, Essonne, Yvelines and Val-d'Oise), each one with several little municipalities, 1280 in total.

The density of Paris is the highest of this four case studies, 20.160 inhabitants / km2 and 116 houses / urban ha. The central city is also the only one who has a positive demographic evolution, an average of 827 new inhabitants per year, between 1990 and 2004. The urban dynamics of Paris city contrasts with the area of the peripheral region, which has important natural and rural resources, but even a good employment density, of 9 work places / 10 houses or 25 inhabitants. On transport, the loss of employment in the central city influences his negative growing, especially significant in private car, and also a positive one in the other two areas, 1,7 % / year on the trips by public transport in the metropolitan belt (*Petit Coronne*), for example.

- **LISBON**

Spatial indicators	Unit	Central City	Metropolitan Belt	Peripheral Region
Global density	inhab. / km2	6.643	736	92
Demographic evolution	% / year	- 1,49	1,29	0,48
Housing evolution	% / year	0,46	2,54	1,63
Urban area growing	% / year	-	-	-
Employment evolution	% / year	- 0,76	2,74	- 5,73
Urban area footprint	m2 / inhab.	75	239	771
Housing density	hou. / urb. ha.	69	20	7
Housing occupancy	inhab. / hou.	1,93	2,09	1,90
Employment density	emp. / 10 hou.	11,56	10,62	3,15
Private transport evolution	% / year	0,87	4,59	-
Public transport evolution	% / year	- 3,52	- 0,91	-

Figure 8. Lisbon's region spatial indicators

An urban area along both sides of the Tagus River, when he meets the Atlantic, is known by Lisbon's metropolitan area. It has 9 municipalities at the North side of the river, including the capital, and also 9 municipalities at the South side. Although his less influence over the central city, we have considered a peripheral region of other 33 municipalities – those who are also planned by the same regional institute, under the control of central environmental ministry.

The spatial indicators show the great development of the metropolitan belt, not only the demographic evolution of 17 municipalities (growing 24.000 inhabitants / year between 1991 and 2001), but specially his better results on housing and employment evolution (2,54 and 2,74 % / year), when compared with those of the central city and the peripheral region, this one with important rural economy, despite the employment's loss in this sector. In fact, the employment density is similar on the metropolitan belt and in Lisbon, approximately 1 work place per house. The negative results of public transport evolution should concern the public policies for all the metropolitan area.

2.6. FIRST IMPRESSIONS

This previous reading suggests a few interesting ideas, for further research. The relations between different spatial indicators and the possible links of those results with the metropolitan and regional models of governance are important issues that should be developed on the Lisbon's case study.

Global density interpretation needs the three spatial metropolitan areas selected, but demographic and housing evolution and urban growing are 3 indicators that present an integrated image of which spatial dynamics is growing better than the others (see for example Madrid and Barcelona – obviously, the conclusions are possible with the same unity, % / year). Urban footprint is an indicator that confirms the inverse of the density, in this work frequently linked to housing density (presented in urban ha.). Employment evolution and density shows very well the labour dynamics, on those spatial areas, and can be read with the housing occupancy, who tell us about housing quality and market. Finally, the evolution of trips per year, separating private and public transport, can be a consequence of urban footprint and spatial dynamics, and also a good indicator for the public policies in this sector.

These spatial indicators also reveal some options of the metropolitan or regional governance and their urban policies. That's particularly relevant in the case of Madrid. Although the great evolution on urban growing and the higher percentage of private car users, when we look to the total of trips, the investments of the Regional Authority in the expansion of railway lines had very good results on public transport – an evolution of 16 % trips / year between 1988 and 2004. The indicators of Barcelona's metropolitan region show fewer differences between spatial areas, which are certainly a consequence of the metropolitan voluntary association efforts on transport, urban and environmental integrated policies.

In the case of Paris, the persistence of regional spatial planning in Ile-de-France (with more than 50 years) presents positive results on the peripheral region indicators, good employment density and urban footprint. Those indicators are precisely one of the Lisbon's region debilities, which open the discussion of his spatial governance models and planning process. Following, we focus on the levels and policies fragmentation, the resources, the democratic leadership, the citizen participation, the institutional relations and the private-public cooperation on strategic projects.

3. THE LISBON'S CASE STUDY

3.1. LEVELS AND POLICIES FRAGMENTATION

The spatial administration in Portugal has two levels: the Central National State, with some "regionalized" entities, and the Local Administration, with the municipalities (the Regional Administration is only in the Atlantic islands, Azores and Madeira). In the continent, Portugal stays strongly centralized, in administrative, economic and cultural terms. The possible official administrative regionalization of the country was refused in the 1998 referendum.

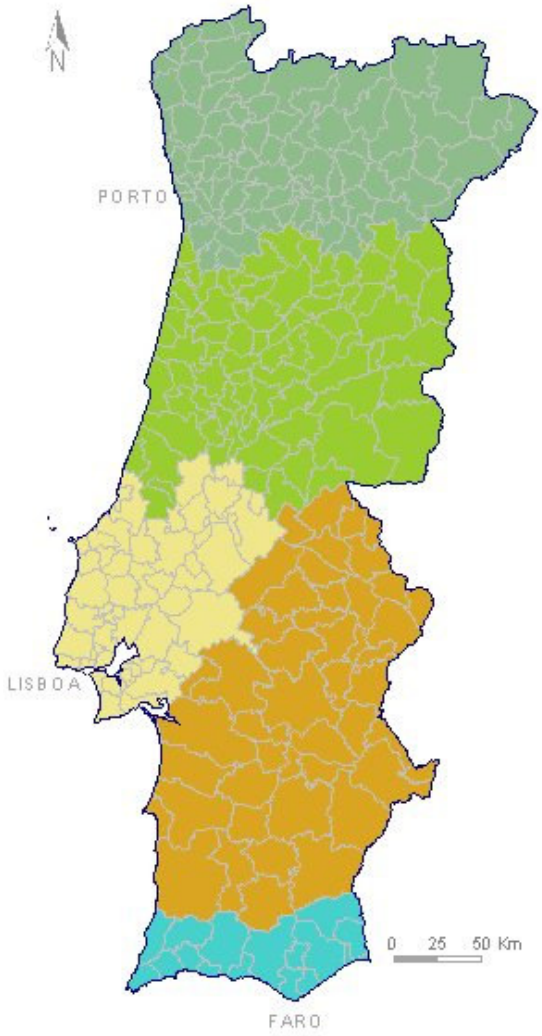

Figure 9 – The Regional Development and Coordination Commissions (CCDR's), by the 5 NUT II in the continent.

Although, there are five Regional Development and Coordination Commissions (CCDR), supported by the Central Administration, with delegated competences on the spatial planning, environmental management and European community funds domains. The Local Administration is divided in 278 municipalities, with a reasonable population size, an average of 36 thousand (10^6 inhabitants in all country / 278). The major city and capital is Lisbon, with around 560 thousands inhabitants.

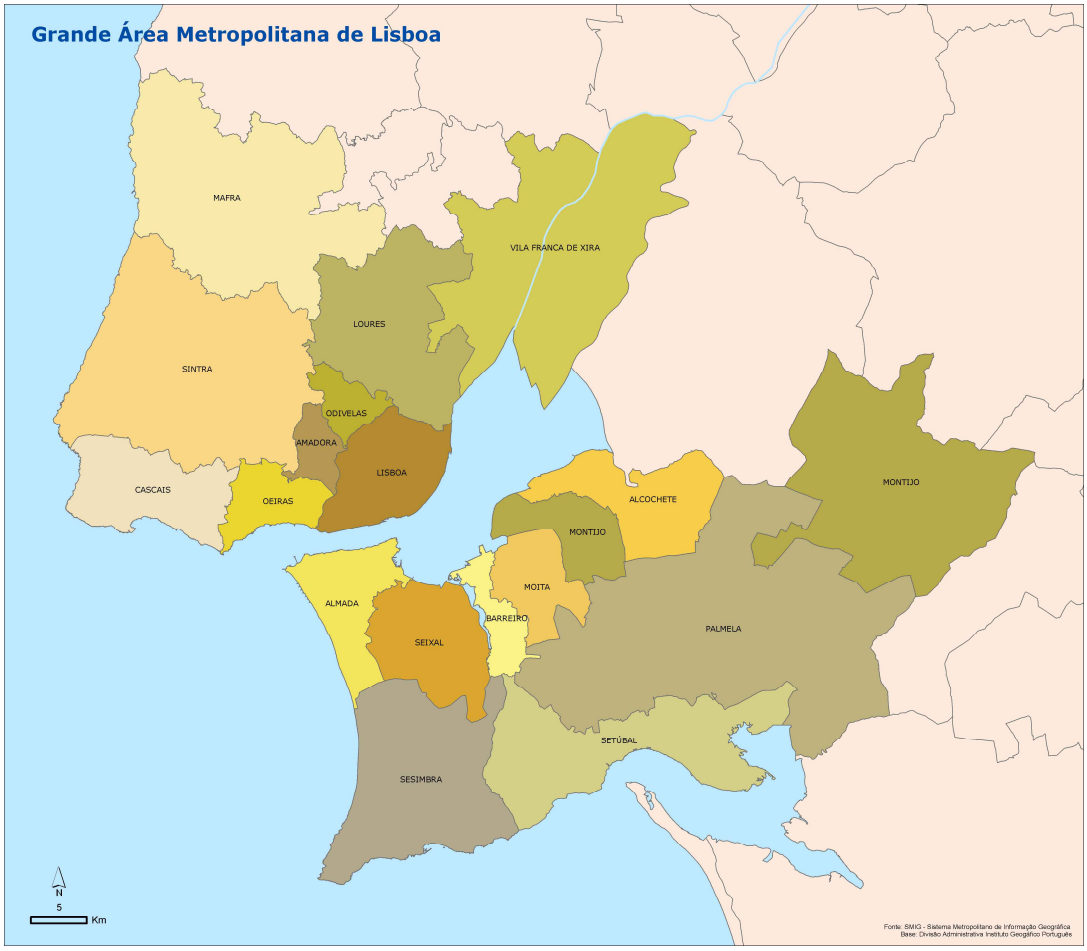

Figure 10 – The municipalities of the Lisbon Great Metropolitan Area. The city of Lisbon in the centre (darker, in the North side of the Tagus river).

To face the integrated problems of the metropolitan region, in 1991 was created a municipality association named Lisbon Metropolitan Area (AML), now called "Great AML" (2003' law for municipalities associations, inspired in the French model, under revision), aggregating 18 municipalities. Despite this new level, no major competences

were delegated to him, and so the metropolitan and spatial policies are still in the hands of the Central Government. The Lisbon and Tagus Valley CCDR has the administration of the Metropolitan Spatial Plan (PROT-AML, approved in 2002) and each one of the elected municipal executives has his own Director Plan (PDM, almost where approved earlier than the Metropolitan). There is no real coordination between the metropolitan or regional spatial strategy and these 18 municipal plans.

Levels	**Plan's Typology**
National	• Spatial Planning National Policy • Sector Plans with spatial incidence • Special Environment Plans
Regional	• Regional Spatial Plan (PROT)
Municipal	• Municipal Director Plan (PDM) • Urban Plan • Detailed Plan

Figure 11 – The Spatial Management System in Portugal.

3.2. RESOURCES

The next figure presents a comparative analysis between the number of qualified human resources in the Lisbon and Tagus Valley CCDR and those in the municipalities of the metropolitan area. The regional institution has more technical competences, to the definition of the metropolitan strategy and planning, contrasting the administrative work of the municipalities.

	AML municipalities	**CCDR-LVT**
Number of qualified resources (QR)	4955	177
QR / total of human resources (%)	15	44
QR / 10.000 inhabitants	18,6	0,7
Average remuneration / person / year (€)	13.017	21.686

Figure 12 – Qualified human resources

Although the good number of qualified human resources in the 18 municipalities (an average of 276 per each one), their percentage in the total of human resources (15) should be improved.

In terms of economic resources, 850 millions euros was the 2006 budget of the Lisbon municipality, not comparable to the one of the CCDR, because it doesn't have to promote the public work, like construction and infra-structural services. Even how, the CCDR manages the European community funds, which are very important to the region development, that leave the Objective One and passed to the Two, called Employment and Regional Competitiveness.

Between 2000 and 2006, the Lisbon and Tagus Valley Region had 385 millions euros per year in European community funds, which represented 764 euros per capita. In the new investment period (2007-2013), the benefits for the metropolitan area will be lesser, only 62 millions per year and 163 euros per capita (a reduction of approximately 80 %). That's a reason to concern the metropolitan municipalities, which hope for better investments from the Central Government.

3.3. DEMOCRATIC LEADERSHIP

A democratic municipal administration was rebuilt in 1976, consequence of the 1974 democratic change in Portugal. The municipal entities are the executive (*Câmara*) and the assembly, both directly elected by the inhabitant's residents in the municipality, under a proportional method of election. This model has been stable through these years – very few are the cases of municipal executives that didn't complete their government period. Anyhow, the multi colour political nature of the municipal executive frequently became inefficient, with an excess of parliamentary. To face it, there are initiatives that want to change this model, for a single colour political one. Therefore, the powers of the municipal assembly had to be enlarged.

Meanwhile, in 1991 the Central Administration created the law for Metropolitan Areas on the major cities, Lisbon and Porto, in which have place all the Presidents and some of the elected in municipal assemblies. Anyhow, the practice of this metropolitan entity reveals total inefficiency, to accomplish his objectives. Besides the competences emptiness, there is a lack of "metropolitan legitimacy", because the democratic basis of the Presidents is not metropolitan, but only municipal.

The revision of this law in 2003 didn't change much and became a reason for a new proposal, written in the Central Government programme. Two options are thought for a democratic leadership in the metropolitan governance: an indirect election, trough the metropolitan assembly, which consists in a soft revision of the present model, or a directly election by the inhabitants, which can be a version of the classic metropolitan region, with strong governance competences.

3.4. CITIZEN PARTICIPATION

The "social capital" of a region is not a concept easy to precise. It's an original idea from economists like Roberto Camagni, only recently applied to spatial and urban policies. In general, it deals with the involvement of the civil society and stakeholders in the definition of public projects. To what this paper concerns, we can talk about the rule of the citizen participation in the "making of" the metropolitan strategy, although this is one of the Portuguese spatial management system debilities, that only can be explained by cultural and social reasons.

During the conclusion phases of the Regional Spatial Plan for the metropolitan area, the CCDR-LVT made that effort, to inform and present to the citizens a proposal that has achieved a large consensus, trough the technical debate. After his approval in 2002, they start a project named Strategic Management, to work with a list of indicators and study their evolution in the recent years, on three analysis domains: Spatial, People and Organizations.

The innovator character of this project has generated more citizen participation in the definition of the new regional strategic vision for 2020. The public sessions had more involvement from the social civil actors and stakeholders, making an opportunity for improving their contribution to the final document, recently presented, in 2007. The conferences were divided in different issues: innovation, environment, human resources, tourism and metropolitan transports and qualification.

Some objectives that were compromised in this strategic vision can stimulate the private-public cooperation on important projects for the region. Examples are the target of stabilizing the population and the employment, around 25 and 70 % of the national, respectively, getting the UE average in productivity and reach the 3,5 % of investments in Research and Development in 2020.

3.5. INSTITUTIONAL RELATIONS

Although the planning system logic, that finally exists, and the technical efforts in the municipalities and the CCDR-LVT, they didn't produce the expected results on the spatial improvement. Besides the municipalities' association inefficiency, to design voluntary compromises at metropolitan level, there are different coordination problems in the institutional relations:

a) Several public entities with their own voice in the planning process, sometimes only with specific perspectives, making hard his resolution to public and private interests – tired of waiting years, they give up the investment;
b) Obsolete municipal plans, without a comprehensive development strategy, many of them focus on the urban land zoning, which is maybe contrary of the regional and metropolitan interests;
c) "Too much competitiveness" between the metropolitan municipalities, to gain to their own territory the great public investments, an excess of localism that have obvious financial consequences.

3.6. PRIVATE-PUBLIC COOPERATION ON STRATEGIC PROJECTS

The cooperation between the private and public sectors is now, maybe more than ever, a usual practice for the developments of government policies, known their limits in the south-European countries. In the case of the Lisbon's metropolitan region spatial governance, we can divide this issue at three levels:

a) Big infra-structural projects, like the new airport, the railway bridge for the TGV and the major highways to complete the road system in the metropolitan belt;
b) Spatial projects in dysfunctional and problematic neighbourhoods, associated to investments for environmental improving;
c) Urban rehabilitation projects in historic areas, like in 18th century' Lisbon urban centre, that are needed for other connected policies, like housing and tourism for example.

The exit of the metropolitan and regional strategies depends very much from the exit of these projects. They will include previous ad-hoc negotiations, especially in the private to public cooperation.

4. CONCLUSIONS

We have seen, in the first part of this paper, that some spatial indicators present serious problems in the Lisbon's metropolitan region spatial evolution. Among them, a negative growing on the central city inhabitants number, the weak employment density in the peripheral region or the concern about the negative evolution of public transport. Now that was explained the spatial management mark we better understand the reasons for those spatial indicators.

In this case, the governance model through an artificial level of municipalities' metropolitan association wasn't able to improve the institutional relations or the spatial dynamics coordination process. On the contrary, it maybe causes more difficulties in the metropolitan strategy implementation, which is being planned, developed and managed by the Regional Coordination Commission (although the lack of democratic legitimacy and his political dependence from the Central Government). The reduction of European Community package funds for the metropolitan area, in the next years, will not certainly help his economic resources, but sometimes the imaginative solutions grow precisely in preoccupant scenarios.

The steps achieved in the citizen and technical participation and a few successful cooperation projects can give the word of hope. Besides, there are informal practices of good collaborative initiatives between neighbourhood municipalities, either in the North or in the South side of Tagus River. These inter-metropolitan informal associations are the table for more voluntary and active process of spatial governance, especially if they have institutional support from the regional level entity. That's a democratic option and maybe the Lisbon's case study possible innovation.

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