

**The struggle to belong**  
***Dealing with diversity in 21st century urban settings.***

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**Urban Sprawl and New Forms of Urbanization in Brazil: The  
Characteristics of Gated Communities in the Valley of the Paraíba  
River, São Paulo State**

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## **ABSTRACT**

The Valley of the Paraíba River, located at state of São Paulo, Brazil, is a developed region and, since 1930's, has been a target of different public policies that made this Region one of the most important for economic and technological development in the country. Some municipalities in this Region, located along the President Dutra Highway, which connects the cities of Rio de Janeiro and São Paulo, have experienced significant urban growth over the past three decades, such as São Jose dos Campos, Caçapava, Taubaté, and Jacareí. Since 1990s, these cities have undergone a revived process of urbanization, connected with the decentralization of economic activities from the São Paulo Metropolitan Area. This eventually stimulated agglomeration of population in new localities, causing migration toward nearby medium sized cities. The urban land market of those cities has been uniquely modified, depending upon social hierarchy (low or high income), such as different land uses in the same neighborhood, which are distant from the downtown. The rich and middle classes are now living in security areas, surrounded by natural spaces. The old model of periphery (urban fringe) with the richest people in the center of a city and poor on periphery, without infrastructure, cannot be used to explain this process. This new process of urbanization in Brazil is producing Gated Communities, characterized by enclosed condominiums and closed plots of lands, usually different in terms of conception: the first one is predominantly occupied by low middle class and the second one by upper middle class and rich people. These new forms emerged, in Brazil, after 1980 and are currently popular due to the feeling of exclusivity and self social segregation of the upper social classes. The local governments have agreed, in a way, leaded up by real estate market, and have approved specific laws, which permit closed suburbs, thereby denying the meaning of a city and creating anti-cities.

## 1. Introduction

The feature of the urban space is the material representation of the continuous development of capitalism (Gottdiener, 1993). Therefore, the distinctive attributes of the urban spatial morphology are dialectically related with the structural changes in the social organization.

According to Campos Filho (1992), the growth process of cities (supported by a fast industrialization, caused by the insufficiency of funds to be invested in the cities, and the concentration of social income, which is also spatially distributed, occurring in the central parts of urban nuclei and in some privileged quarters), causes the rise of prices for lots. Thus, when the typical Third World capitalist city suffers a strong expansion, it expresses in form and structure all the social content typical of the predominating social relations, which are extremely unequal, conflictive, and antagonistic (Borzacchiello cited by Carlos, 1994).

The segregation occurs from this extreme unequal condition. Lago (2000) states that the notion of segregation is attached to the new specialties emerging in the big capitalist cities: these are closed horizontal or vertical condominiums, located outside the city centers, where the low price of the land allows the purchase of the real estate. These new emerging spaces on the peripheries segregate and exclude not only by the price, but especially by the walls and systems for control and security.

In Brazilian cities, the traditional urban growth model – richness in the central area and poverty thrown farther away to the periphery – was accentuated during the 20th century. Only after the 1970s, something similar to the American model (under-urbanization) appeared in some cities, with the constitution of rich condominiums in faraway places (Bogus & Taschener, 2000). For some authors this tendency has been characterized as disperse urbanization (Reis, 2006).

According to Reis (2006), the configuration of urban areas on the periphery of some cities, discontinuous to the already existing urban tissue as well as the formation of new nuclei with multiple utilization forms in isolated points, corresponds more exactly to what the author defines as “disperse” or “diffuse urbanization”. Squires (2002, p. 2) defines disperse urbanization as a pattern of urban and metropolitan growth reflected by low human density, dependency on the car, in the development of a spatial self-segregation, and located at the urban fringe. Some problems in North American cities include daily traffic jams on the main roads, political fragmentation of land use planning, and degradation of the community feeling among residents.

The disperse urbanization has been characterized in the planning and public policies literature as a distinct form of urban growth, scattered and inefficient, disorganized in its configuration, and highly dependent on the car, as emphasized by Hasse & Lathrop (2003). For these authors, the costs and the negative externalities of disperse urbanization have been widely documented. There are positions for and against this process, but the consensus is that this is the result of action from the real estate market, of the consumer rights, and one of the results of public policies. Emphatically, the logic of the real estate market defines the occupation of space, i.e. people are provided with different rights to land ownership and to its environmental quality as a function of the social capacity.

Discussing this phenomenon, which has affected Brazilian cities, is important as a contribution for the elaboration of public policies to inhibit these new forms of urbanization, which are setting up an anti-city (Costa, 2008) and not allowing spontaneous agglomeration of people, so common to the essence of a city.

In Brazil, these new forms of urbanization (gated communities) settle in areas that have strong environmental appeal because developers sell, in addition to security, pleasurable landscape, surrounded by green areas, and far from the urban chaos. On the other hand, the daily commute of the residents from these areas causes many problems, and environmentally fragile areas are not always taken into consideration when gated communities are built.

Considering this, our research aims to characterize and analyze the urban sprawl and gated communities as a result of this process, focusing on the Region of Valley of the Paraíba River, located in the state São Paulo, Brazil. This paper quantifies the urban sprawl in the subregion of São José dos Campos, composed of eight municipalities, classifying the social segregation that exist in these areas. We also detail three cases in the Region: a city with small urban population (less than 10,000 inhabitants), a medium city (population greater than 200,000 inhabitants), and a large city (with almost 700,000 inhabitants). The gated communities of these municipalities differ considerably in terms of spatial and social composition, which does not allow us to establish a spatial pattern, although it gives us a better understanding of this quite recent process in the Region.

## **2. Urban Sprawl, New Forms of Urbanization, and Gated Communities: A Conceptual Framework**

Many authors use the term urban space to address issues related to cities. Studying cities has been a subject for researchers of different academic spheres, planners, politicians, and those who own capital to invest. Comprehending urban dynamics and their consequences concern all city residents, especially bankers, businessmen, real estate market vendors, or members of neighborhood associations.

Milton Santos (1998) stated there is a distinction between city and urban space, affirming that urban space is often abstract, general, and external; city is unique, concrete, and internal. Souza (1999), on the same argument, explains that urban space is a spatial expression of the mode of production: is worldwide, abstract. The world is urban, in terms of population residence as life style. The urban space has experienced recent changes and this has made professionals dedicated to study cities revisit some conceptual frames.

In Brazilian cities, the traditional model of urban growth - rich in well equipped central areas, and poverty increasingly pushed to periphery - arose in the twentieth century. Only after the 1970s, in some cities spatial dynamics emerged that have followed the American urban model (sub-urbanization), such as luxury condominiums located in areas distant from urban centers (Bogus and Taschener, 2000).

Some authors have characterized this trend as urban sprawl. According to Reis (2006), urban areas are increasing toward the periphery (urban fringe) of some cities. These new areas are not contiguous to pre-existent urban tissue, causing the emergence of new urban nuclei, with multiple forms of land use. These are isolated and correspond to what the author defines as urban sprawl or diffuse urbanization. The author emphasizes spatial changes are not just in physical structure or in urban form, but concept of occupation is completely different and new.

The urban sprawl has been characterized in the literature as a distinct form of urban growth, sprawling and inefficient, disorganized and highly dependent on car transportation, as affirmed Hasse and Lathrop (2003), and Costa (2008). For these authors, the costs and negative externalities of urban sprawl have been widely documented. There are divergent and positive positions of the process in the United States, but a consensus exists that this process is a result of real estate market performance, consumer law, and a reflection of public policy. This process

of segregation is followed by environmental problems. It is more frequent in areas occupied by lower social classes than the upper classes. Thus, the logic of land market sets the space occupation, meaning that people are provided different rights to access environmental amenities and quality of life as a function of their social power.

Urban sprawl is pushed not just by new residential condominiums or even gated communities, but also other forms of occupation, such as commercial centers, industrial zones, and new recreational areas, are part of this process of urban sprawl (Botelho, 2007). Considering the Latin America cities specificities, Reis (2006) asserts studies about this subject emphasize gated communities are one important result of this new process of urbanization.

## **2.1 – Urban Sprawl and Gated Communities**

Gated communities have been traced to the first permanent structures built by humans. Ancient walled towns were designed to protect inhabitants and their property, and demands of defense required walls. (...) System of walls, spatial segregation, and class division are also deeply ingrained in Europe as means for wealthy people to protect themselves from the local population (Low, 2004, p.13).

In the United States, the first gated communities emerged in California, Texas, and Arizona, attracting retirees looking for better weather conditions (Low, 2004, p.15). Setha Low also affirms these communities are “an integral part of the building of the fortress city, a social control technique based on the so-called militarization of the city” (2004, p.17). This author also explains that most residents decide to live in gated communities because they wish for safety, security, community, and niceness, “as well as want to live near people like themselves because of fear of others and of crime” (p.9). This feeling is common in residents of Gated communities in Brazil.

According to Caldeira (2000), during 1980s social segregation associated with gated communities increased. It was characterized by vertical or horizontal closed allotments, shopping centers, private hospitals and schools, and by the privileged population’s sense of security to restrict access to these facilities of consumption, which include walls, fences, and private security. The State has a strategic function

in this mechanism. Corrêa (1995, p.63) affirms that the State is an important agent which produces social segregation by giving financial support to construction companies, and helping the process of capitalist accumulation. The author also states that the upper-class population is also responsible when they select the best places to occupy.

Caldeira (2000), explaining U.S. models of urban sprawl, and Barajas (2006), regarding gated communities in Guadalajara, Mexico, agree this phenomenon does not happen with similar characteristics and in same intensity everywhere. According to Sposito (2006), who analyzed different research about "gated communities in Brazilian medium size cities", this phenomenon started in some cities in the state of São Paulo, during 1970s, although just after 1990 it became a real option as a way of life to higher income population. In most cities of São Paulo, these gated communities share similarities in terms of structure, related to ideological and economic trends.

These trends in terms of similarity of shapes and locations can be understood considering the location, proximity or distance from the downtown, accessibility to central areas, as well as presence of public facilities. In some ways, it is necessary to convince higher income population to elect to live far from the shopping centers. Thus, it seems high-income population accepts this new form of urbanization in the name of family security, exclusiveness of living with their peers, and infrastructure available in this gated communities that can increase the market value of their properties.

Caldeira (2000: p.259) mentions that in mid-sized Brazilian cities, gated communities are located, usually, not so far from downtown. This is due to the availability of affordable land when compared to land prices in metropolitan region of São Paulo, which enables such allotments on the urban fringe. These areas are not so far that they become rural real estate developments but not too near to cities problems, such as traffic, pollution, and violence. In mid-sized cities, this new developments in urban areas with rural characteristics became an ideal escape from the metropolitan lifestyle.





The dynamism of the Region can be observed by examining the Region's contribution to total population in the state of São Paulo, which rose from 7.2% in 1960, to 9.1% in 1980, and 10.4% in 2010. In this aspect, the highlight is the micro region of São Jose dos Campos and surrounding cities (figure 2), which in 1980 accounted for 43% of regional population, and in 2010, 62.4%, having the second largest GDP in the state of São Paulo and fourth largest GDP in the country. Comprising eight municipalities, this micro region has had the largest population and economic development of the Valley of the Paraíba Region; and its population increased almost 400% from 1970 to 2010.

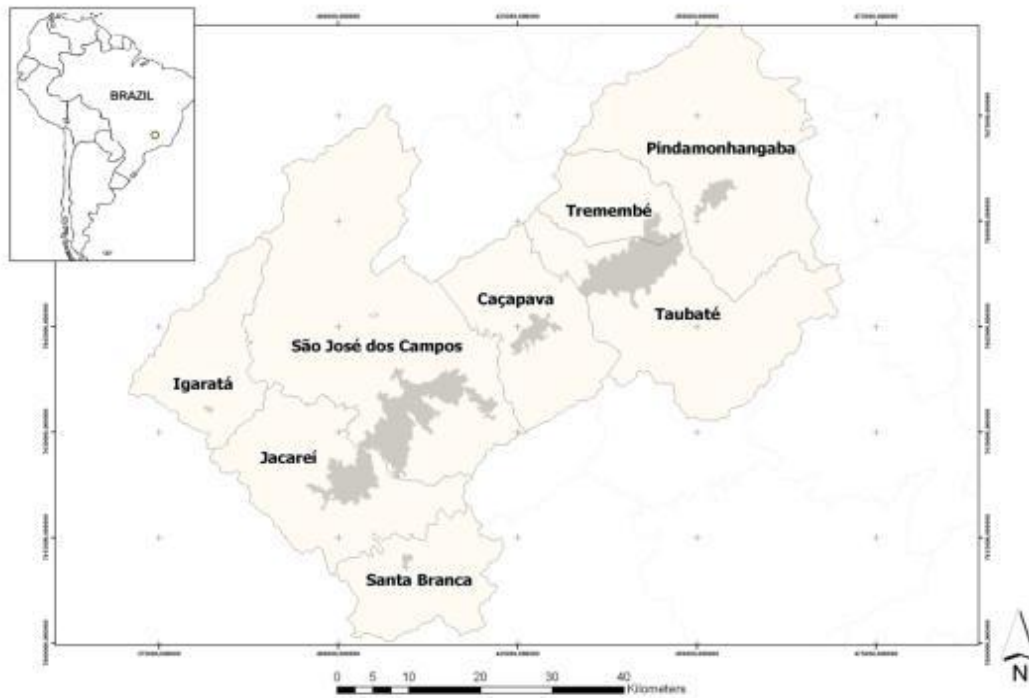


Figure 2 – Study area, located at state of Sao Paulo, Brazil

The municipality of São José dos Campos is the largest economic core of the Region, with a concentration of aerospace and other high-tech industries. According to Souza (2008), in recent years, São José dos Campos had considerable economic indices based on industrial and economic development. In 2002, the municipality had the ninth highest GDP in the country and, and in 2004, the third GDP in the state of São Paulo. In 2006, São Jose dos Campos concentrated more than 1,150 industries, which employed approximately 47,000 employees. It is considered the second largest exporter in the country, behind only the municipality of São Paulo.

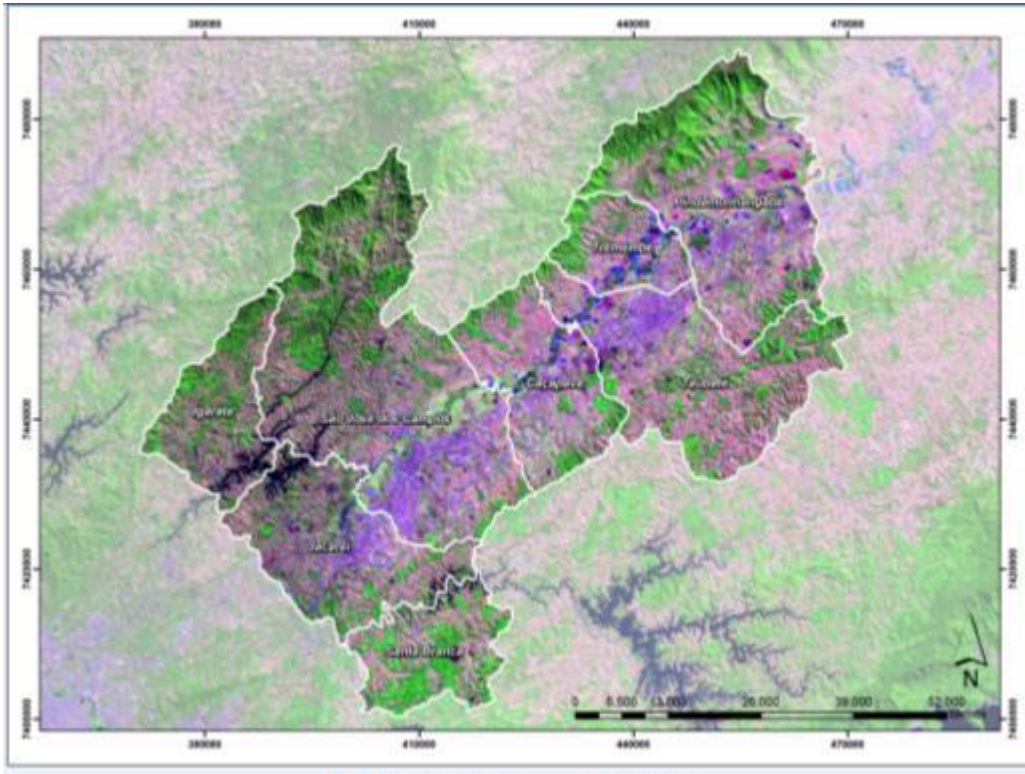
Considering these regional aspects, Reis (2006) states that municipalities of the Valley of the Paraíba River are now organized in an integrated way, as a

metropolitan area. Even in the smaller municipalities of Igaratá and Tremembé, this is reflected in the daily lives of its population, such as their way of life, mobility, and consumption. Old neighborhoods have become more dynamic, and rural areas have been incorporated to urban area, reflecting a distinct model of urban sprawl. This model is discussed in this article, emphasizing the population and economic characteristics of three different municipalities: Igaratá, Caçapava, and São José dos Campos.

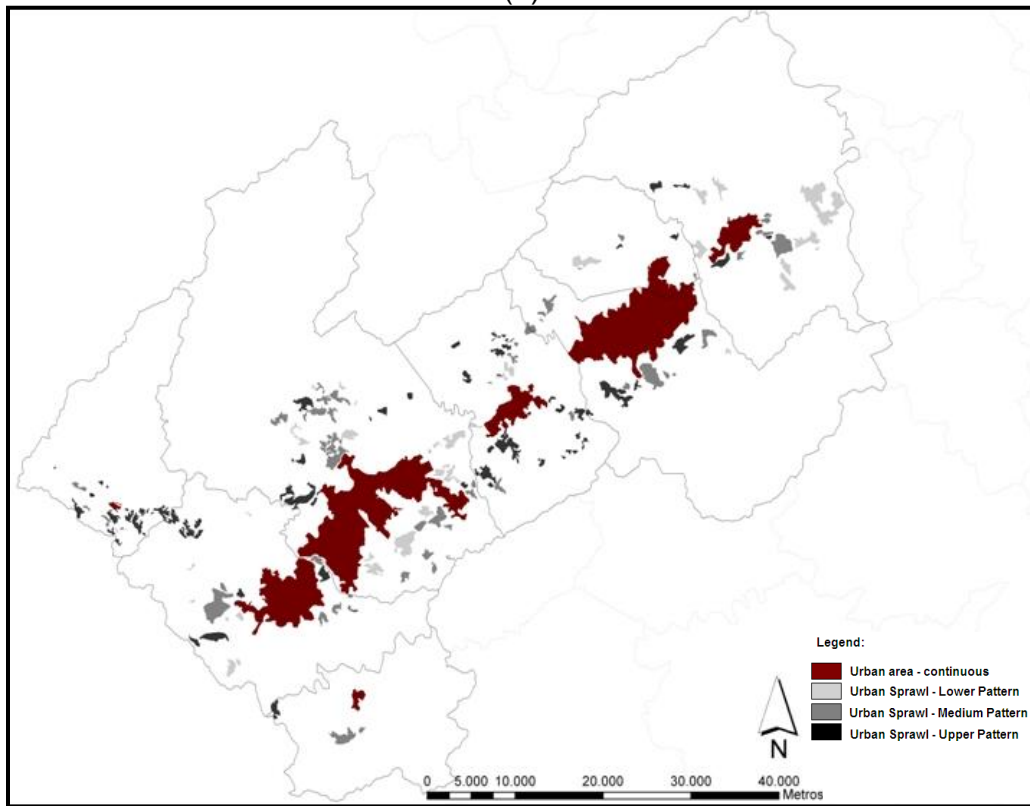
#### **4. Urban Sprawl in the Region of Valley of the Paraíba River, Brazil: General Characteristics in the Subregion of São José dos Campos**

In this study, we assumed the discussions of Hasse and Lathrop (2003) as a definition of urban sprawl, under which urban sprawl is considered as a distinct form of urban growth, not adjoining main urban area, scattered and inefficient, disorganized in its configuration, and strongly dependent on the car. We used satellite images, obtained in October 2010 by the Thematic Mapper sensor of Landsat 5, to elaborate a mapping of urban sprawl to the subregion of São José dos Campos (figure 3). This mapping was improved using an Arc-Map tool called GE Arc-script, which allows users connect the information observed in the satellite image to Google Earth. This tool permitted us to separate the urban sprawl mapped in different socio-economic categories.

The obtained mapping illustrates the distribution of this process in the eight municipalities within the subregion of São José dos Campos. The results showed that 63.2% of the mapped areas refer to the contiguous urban area, i.e. urban areas concerned with the process of concentric growth of the city, and 36.8% of the mapped areas refer to urban sprawl.



(b)



(b)

Figure 3 – Satellite image (a) and the resulting mapping (b) of urban sprawl in the subregion of São José dos Campos

Figure 4 illustrates the importance of urban sprawl in the cities studied. The main contribution to the total urban sprawl in the subregion comes from the city of São José dos Campos, which is responsible for approximately 32% of the total urban sprawl, followed by Pindamonhangaba (27%), Jacareí (12%), and Caçapava (12%). In a local view of the total area mapped and the area of urban sprawl (Figure 4), it is possible to notice the municipality of Igaratá has the highest area of urban sprawl (62% of the urban area is related to urban sprawl), followed by Pindamonhangaba (46%), Santa Branca (45%), and Caçapava (37%). These cities have fewer inhabitants and more physical space available far from the city center, which can be allocated to these real estate investments.

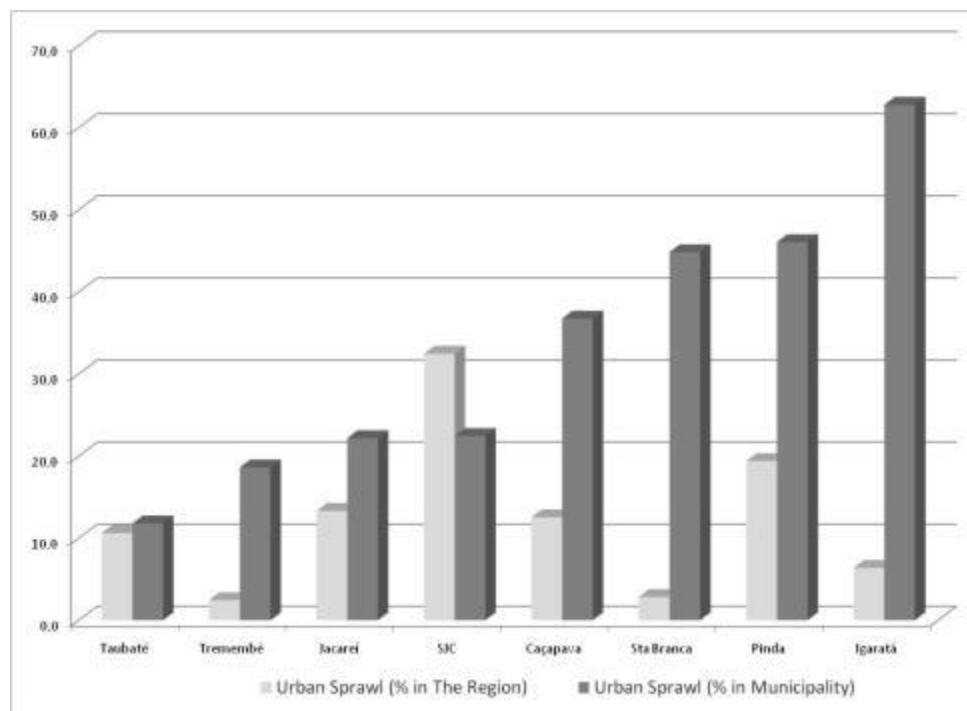


Figure 4 – Dimension of urban sprawl

One main purpose of this mapping was to explain social and spatial characteristics of urban sprawl in this subregion. Studies in Brazil have shown that urban sprawl is predominantly occupied by high-income or middle class gated communities; therefore, we aimed to quantify the percentage of urban sprawl, its social aspects, location, and other specificities. However, the results showed an equitable distribution for this variable: 32% of the areas of urban sprawl are occupied by low-income residents, 33% for high-income population, and 35% by the middle class.

Igaratá is also the city where the largest number of gated communities is occupied by upper-class population; 83% of lots are occupied by expensive condominiums. The municipality of Caçapava also has the urban sprawl area predominantly occupied with upper class condominiums (72%). São José dos Campos, the most

developed municipality of the Region, has 19% of urban sprawl subdivisions occupied with high class gated communities, 42% with middle class lots, and 39% occupied with popular neighborhoods, representing the contemporary idea of Brazilian urban periphery presented by different authors (for instance Santos, 1993, Villaça, 2001).

In relation to distance from downtown (Figure 5), the results revealed there is a predominance of high standard (78% of area) and medium standard (22%) condominiums in the areas of urban sprawl located 15 kilometers from downtown, reinforcing the argument of Caldeira (2000) about location of these new developments.

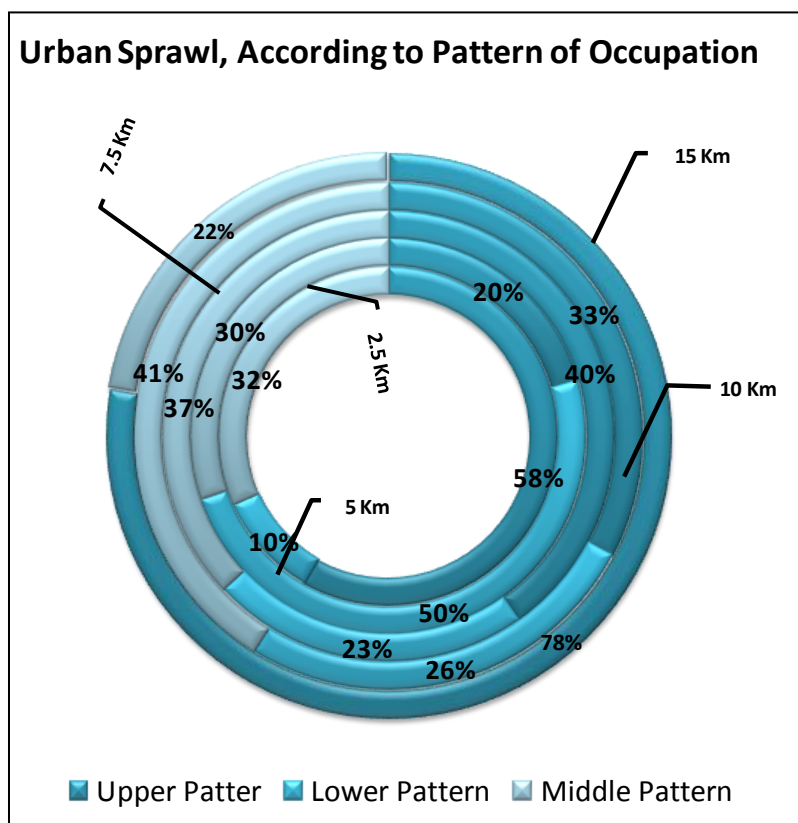


Figure 5 – Distance of urban sprawl from city center

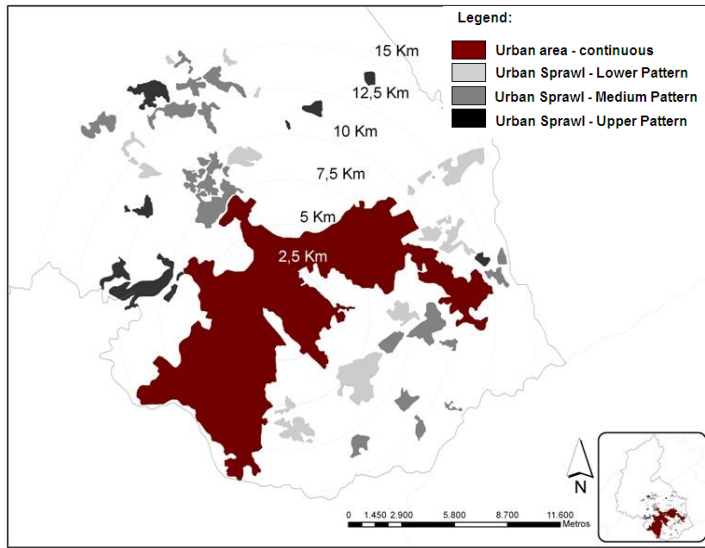
#### **4.1 – A Close View to Urban Sprawl in the Subregion of São José dos Campos: Examples of Igaratá, Caçapava, and São José dos Campos**

The analysis of urban sprawl in the subregion of São José dos Campos can be easily noticed, by taking a close look at some municipalities. We selected three good examples of cities: the small city of Igaratá, the medium city of Caçapava, and the big city of São José dos Campos (figure 6).

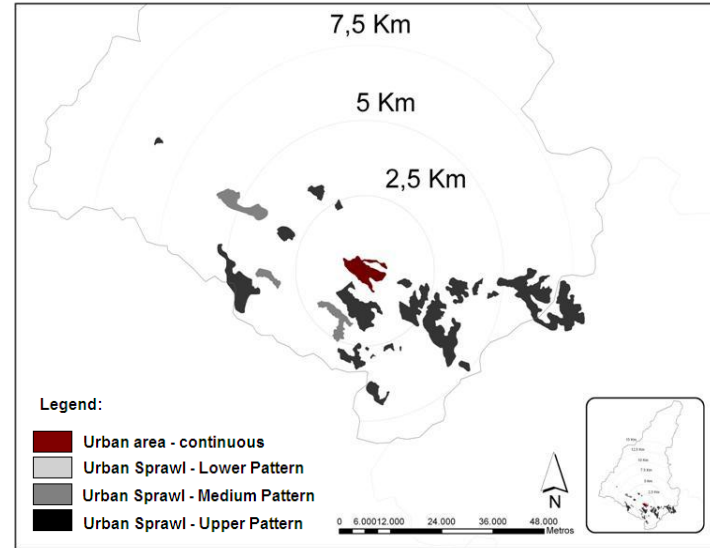
Igaratá is a small municipality with 8,825 inhabitants; 80% of this population lives in the urban area. The economy of Igaratá is mainly based on tourism activities. Its landscape, dominated by the reservoir of Jaguari, increased the local real estate market, which has been directed toward building gated communities. According to urban sprawl mapping, 86% of these areas are occupied with upper class condominiums that are vacant or under occupied most of the time. According to the 2000 Census, 34% of the residences in the urban area are classified as “occasional use”, that is these are weekend and vacation homes. In figure 7, it is possible to visualize some pictures of these areas. In terms of distance from the city center, 94% of the urban sprawl (and gated communities) are located less than 5 kilometers. This municipality is greatly influence by the city of São Paulo and most of the owners of these condominiums live in that city.

Caçapava is considered a medium size municipality, with 84,844 inhabitants, of which 88% are urban population. Its economy is based on industries and services. In the produced mapping, 71% of urban sprawl is occupied with upper pattern houses (figure 8). Most of this urban sprawl is gated communities and was built after 2000; 58% of these new developments were built after 2005. Another important point is distance of these new developments from the city center: most of them (90%) are located less than 10 kilometers from downtown (figure 6).

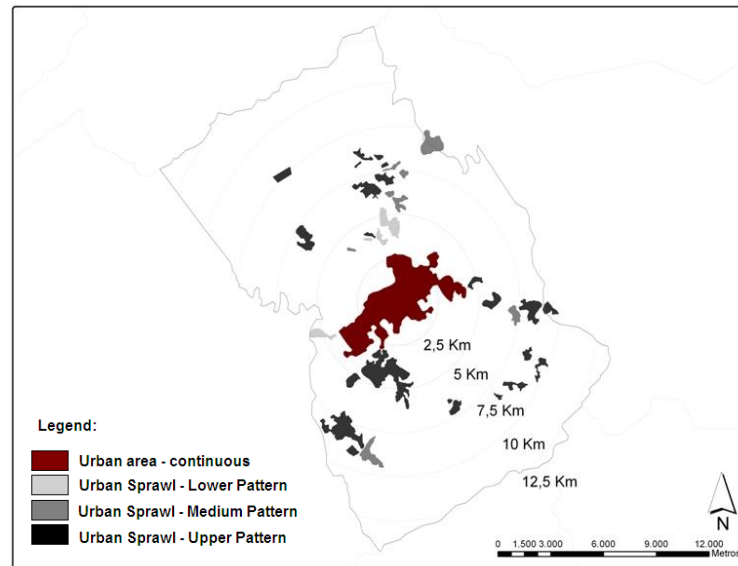
The city is located between the two major urban centers of the Paraíba Valley, São José dos Campos and Taubaté, which facilitates commuting of the population between these two poles of production and consumption. Due to its proximity, the municipality has been acquiring the characteristic of a dormitory town, with people who chose the city to live in these new gated communities and work in nearby cities. Or they live in neighboring cities but chose Caçapava as the ideal place to build recreation areas and country estates, which can easily be accessed by the President Dutra Highway.



(a)



(b)



(c)

Figure 6 – Distance of urban sprawl from the city centers: (a) São José dos Campos; (b) Igaratá; (c) Caçapava.



(a)



(b)

Figure 7 - Example of a Gated Community in Igaratá, showing the pattern of a Upper Class Condominium: (a) Reservoir of Jaguari; and (b) examples of condominiums

Source: Google Earth (2010)



An example of gated communities found in Caçapava can be observed in figure 8. It is a new development located in a rural area, with expensive houses, some costing around US\$ 250,000.



Figure 8 – Gated community located at Caçapava: it is possible to observe the high cost pattern of the houses

The municipality of São José dos Campos, the most important municipality in the Region, has more than 700,000 inhabitants, and 98% of its population live in the city. Its urban area is the largest one in the Region (144 Sq. Km), and its urban sprawl area is much more expressive than other municipalities: corresponding to 33% of the total area (47.9 Sq. Km).

The process of urban sprawl is an old phenomenon in this city. The first spreading begun during 1970s driven by migration as a result of industrial development, which demanded workers that could not be found in the city. At that time, there was not a local habitation policy for the low-income population. These workers occupied the urban fringe by acquiring cheap lots in the East part of the city. During 1990s,

new developments were built in the West part, an opposite area of the first urban sprawl process. This new process was dominated by high class gated communities (figure 9). Some houses of these communities are sold for US\$ 500,000 and occupy more than a thousand square meters.



Figure 9 – Examples of gated communities in Sao Jose dos Campos: (a) an old high standing condominium; (b) proximity between houses in condominium.

Source: Godoi Maria (2008)

Silva (2010) studied gated communities in São José dos Campos and elaborated a mapping of different topologies of condominiums (figure 10). Despite residents of these areas be attracted for proximity of environment, peaceful life, be protected by a security system, have more space available for recreation, be distant from downtown, this research revealed that these areas are not as homogeneity as we thought. They have differences in terms of density of occupation, green areas, size of lots, and distance from city center. This research also figured out that 50% of condominium residents are not satisfied with their living option.

## 5. Final Remarks

The results presented in this paper are the first observations of research that is connecting conclusions. Nevertheless, it is possible to affirm that the Subregion of São José dos Campos has a very distinct model of urban sprawl. Some characteristics are very similar to those found in metropolitan areas of Brazil, such as mix of social classes in urban periphery and existence of gated communities in these areas. However, some specificities are very unique to the subregion, i.e. short distance from downtown, lots size, proximity of houses, and no sense of community.

## Gated Communities Typology – São Jose dos Campos – SP, Brazil

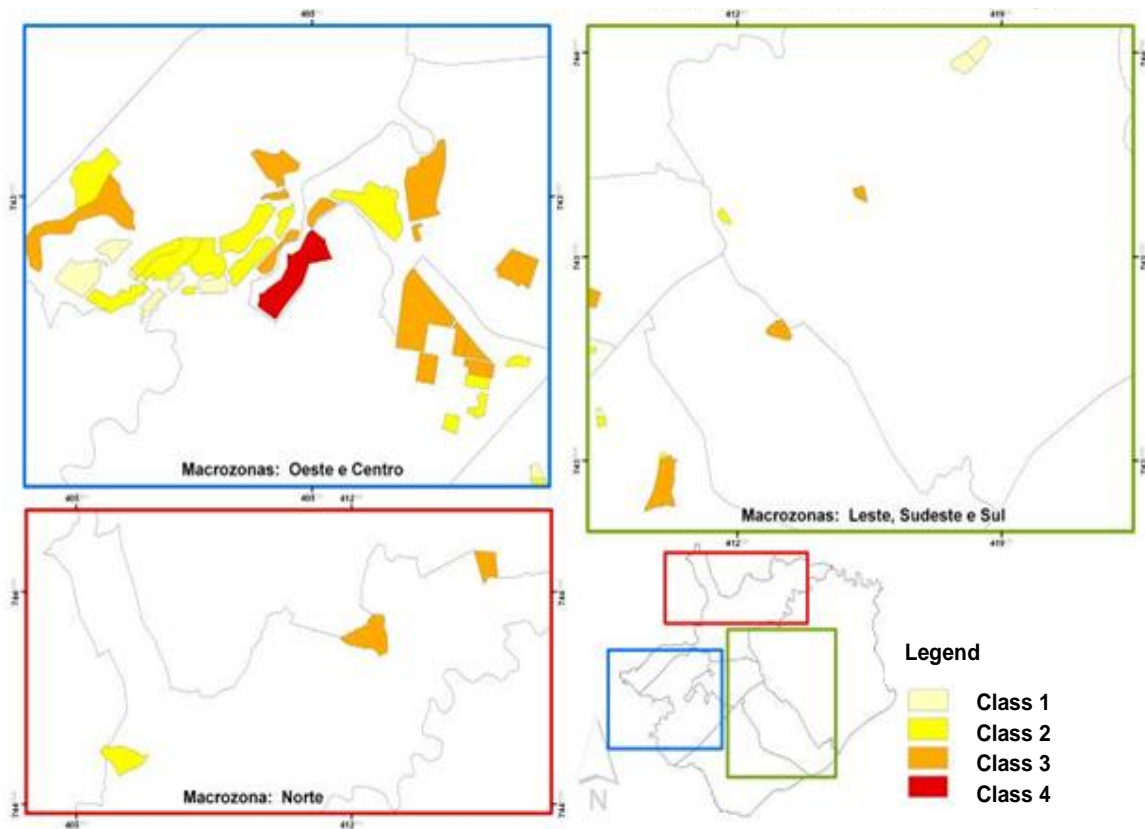


Figure 10 – Typologies of Gated communities

Source: Silva (2010)

The Region studied is clearly influenced by the Metropolitan area of São Paulo and the proximity to that is making the subregion a living alternative for its population, far from traffic, pollution, and violence. It is important that policy makers comprehend the urban sprawl as a process to be included in public policies and to be avoided because the city built as a result of this process is a negative to urban ideology.

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