

## **CHALLENGES FOR LOCAL SUSTAINABLE DEVELOPMENT: AN ANALYSIS OF SOCIO-ENVIRONMENTAL CONFLICTS IN URBAN DENSITIES IN THE FOOTHILLS OF SERRA DA CANTAREIRA, BRAZIL**

*Desafios para o Desenvolvimento Local Sustentável: Uma análise de Conflitos Socio-Ambientais em Densidades Urbanas no caminho de Serra da Cantareira, Brasil.*

**José Maria Bernardelli Junior, Mauro Silva Ruiz, Amarilis Lucia Casteli Figueiredo Gallardo, Diego de Melo Conti, Cristiano Capellani Quaresma**  
Universidade Nove de Julho - Uninove, Brazil

**E-mail:** jmbjr21@gmail.com; maurosilvaruiz@uni9.pro.br; amarilis@uni9.pro.br; diegoconti@uni9.pro.br; quaresmacc@uni9.pro.br

**Abstract:** The Metropolitan Region of São Paulo (MRSP) is a large urban network comprised of 39 municipalities with an estimated population of 18.3 million people, being the fourth largest urban cluster in the world, state, with an estimated population of 11 million. In the northern part of the city, Serra da Cantareira possesses one of the largest urban tropical forests in the world, provides important environmental services and is under pressure to expand the urban network towards its forests, becoming the scene of conflicts between various social actors. The present work materializes a research based on the study of these socio-environmental conflicts aiming at the understanding of the historical process, vectors of pressure, social actors and negative environmental impacts. The conclusion reached is that the policies practiced by some administrations aimed at the isolation of the low income people in the peripheries associated with the lack of planning in the occupation of the territory resulted in an arena of conflicts that lack the articulation of the State and society, as well as a systemic approach to its solution.

**Keywords:** Sustainability. Environmental conflicts. Metropolitan regions. Urban planning.

**Resumo:** A Região Metropolitana de São Paulo (MRSP) é uma grande rede urbana de 39 municípios com uma população estimada de 18,3 milhões de pessoas, sendo o quarto maior agrupamentos urbano do mundo, com uma população estimada de 11 milhões. Na região norte da cidade, a Serra da Cantareira possui uma das maiores florestas tropicais urbanas do mundo, presta serviços ambientais importantes e está sob pressão para expandir a rede urbana em direção às suas florestas, tornando-se um cenário de conflitos entre vários atores sociais. O presente trabalho materializa uma pesquisa baseada no estudo desses conflitos socioambientais visando a compreensão do processo histórico, vetores de pressão, atores sociais e impactos ambientais negativos. A conclusão a que chegou é que as políticas praticadas por algumas administrações voltadas para o isolamento das pessoas de baixa renda nas periferias, associadas à falta de planejamento na ocupação do território, resultaram em uma arena de conflitos que não possuem a articulação do Estado e da sociedade necessária, nem utilizam uma abordagem sistêmica na sua solução.

**Palavras-chave:** Sustentabilidade, Conflitos Ambientais, Regiões Metropolitanas, Planejamento Urbano.

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## INTRODUCTION

Human society is going through a moment of paradigmatic transition, of revision and recognition of the validity of the premises that guided its way up to the present day. Among the various phenomena of these times of great changes, we should highlight the gradual deconstruction of man's anthropocentric understanding of the environment, according to which it should be dominated and exploited, regardless of other issues such as its finitude, towards the consolidation of the understanding of the man as part of the environment that surrounds it, and to the necessary revision of the society model until then in force the change of position regarding the use of natural resources.

Serra da Cantareira presents itself as an integral reservation of the green belt around the Metropolitan Region of São Paulo (MRSP), as well as a rich spring that once supplied practically all the water consumed in the city. Despite the shallow cut that it had suffered to feed the boilers of the industrial revolution, and the intense use of the soil, it re-emerged exuberant and rich in water resources and biodiversity, now valued and legally protected. Nowadays the area is subject to severe pressure vectors, by predatory actions of its resources and conflicts of several orders, as a result of the expansion of the urban network towards the foothills of the Serra. These conflicts, which lie in the understanding that the interested parties have about the ideal model of exploitation of the available resources, and are a rich subject of study, hoping to gather contributions to the model of approach to the issues, to the dimension of the problem installed and the search for solutions.

As the object of study, a fragment of Serra da Cantareira was identified in the city of São Paulo, which is the state capital, in a portion that is located close to the urban network. This fragment has to its' south side, neighborhoods in situation bordering with the State Park of the Cantareira, belonging to the subdistricts of Cachoeirinha and Mandaqui; and to its' north side the São Paulo - Mairiporã municipality boundary, being the polygon between 23 ° 25'49.08 "south latitude and 46 ° 39'12.10" west longitude (Google Earth, 2004). Background information about the area being studied suggested the following question to be answered: How was the occupation of the Cantareira region and what were the main vectors of pressure on the Serra?

### Objective

The research aimed to study the dynamics of the urban occupation process, its actors and the importance of the application of public policies as a fundamental contribution to the resolution of social and environmental problems.

### Methodology

A qualitative research was adopted as methodology, and in the exploratory phase, bibliographical and documentary surveys were carried out. Among the works consulted are: Mediation of Socio-environmental Conflicts, organized by Suzi Huff Theodoro, Ecological Footprint and Human Sustainability of Genebaldo Freire Dias, Environmental Sociology of Cristiano Luis Lenzi, The Environmental Issue: Different Approaches organized by Sandra Baptista da Cunha and Antonio José Teixeira Guerra, Paulista Environmental History: Themes, sources, methods organized by Paulo Henrique Martinez and Limits of Growth: The 30-year update of Donella Meadows, Jorgen Randers and Dennis Meadows.

There are also other important works and references such as: Park Road: sustainable development strategy, the case of the road park in the Cantareira Mountains of Carlos Alberto Dos Reis Conde, The cycle of the caapora: a history of the relationship between the SPMR and the State Park of Cantareira (1963-2005), The Forest and the City: A Historical Approach by Lucia Sousa e Silva and Marta Dora Grostein, Socioenvironmental Conflicts: Theories and Practices by Olympio Barbanti Júnior and The Ethnography of Socio-Environmental Conflicts: Methodological and Empirical Basis of Paul Elliott Little.

As fieldwork, observations and photo records were made, as well as interviews with people who were willing to collaborate with this work. We interviewed Mrs. Alejandra Maria Devecchi, Director of the Department of Environmental Planning of the Secretariat of Green and Environment, Mr. Fernando Descio, Manager of the Cantareira State Park and Mr. Captain Ferreira Filho commander of the 1st Environmental Police Command.

The material collected was systematically analyzed from the point of view of the ethnographic analysis of socio-environmental conflicts, based on the methodology of Little (2004), and based on a discussion that adds elements for the construction of explanatory hypotheses to those who have as workfield the issue regarding social and environmental conflicts.

The methodology proposed by Little (2004) allows the construction of the understanding of a social-environmental conflict, starting with an ethnographic analysis, begins with the identification of the central focus of the conflict, the type of conflict (control over natural resources, around the impacts social or environmental, and around values and lifestyle), the analysis of the main social roles involved and their quotas of power.

A fragment of the problem area was identified as the research subject. It is where the urban network is located in Serra da Cantareira, located to the north of the municipality of São Paulo. The polygon lies between 23 ° 25'49.08 "south latitude and 46 ° 39'12.10" west longitude, to the north the São Paulo-Mairiporã municipality boundary and to the south the Cantareira Reserve along the Mandaqui and Cachoeirinha sub-districts, more specifically the neighborhoods Jardim Peri, Jardim Peri Alto and Pedra Branca. The polygon was sectioned in three sections (Figure 1):

- Section 1 - Section highlighting villages formed along the Santa Inês road, where properties belonging to families classified as upper middle class are sometimes found.
- Section 2 - more heavily forested area, mostly belonging to the Cantareira State Park.
- Section 3 - Frontier area where the urban network meets the forest.

**FIGURE 1 - Area under study.**



**SOURCE: Google Earth (2004).**

### **Analysis and Discussion of Results**

The analysis of the literature and the information gathered allowed the identification of some perspectives to approach the conflicts in the region, described below. To facilitate the presentation of the information collected, these approaches were systematized in four topics: the beginning of the study of conflicts; historical contextualization of the Serra da Cantareira; notes on historical and legal landmarks; and the dynamics of conflicts in the area under study.

## **The Beginnings of Conflict Studies**

The systematic study of conflicts is among the oldest in the history of man, existing even before the formation of schools of thought in ancient Greece (Barbanti Junior, 2002), being the object of greater attention since the 1920s, when in the United States, due to the general strikes in the face of the deep economic recession, conflicts (at the time referring to labor rights) led to the creation of the (Federal) Office of Mediation and Conciliation and later, with the end of World War II and the beginning of the era the United Nations was established to understand and control international conflicts, and it was also created the Peace Research in Oslo, Norway, being the first study center devoted entirely to conflict analysis.

Since the second half of the nineteenth century, the environment has become an object of further study in the economy of natural resources and even in the relations of living beings with the means in which they live. The dedication of scholars has brought the environmental issue to light through the resource-scarcity equation, leading such studies to control action and the protection of natural resources as the main way of solving environmental problems. Little by little the work on the environment was approaching the social sciences, propitiating the development of some lines of ecological and social thought that proposed the defense of the management of contradictory social relations (Scotto & Limonic, 1997 apud Andrade et al., 2002).

Social-environmental conflicts are those in which there are clashes between multiple social groups, in interaction with each other, and with their biophysical environment, in the face of different modes of ecological inter-relationship (Little, 2004). The construction of the understanding of the environment as good converges to the adoption of the principle that is embodied in legislation of international application, for which the resources of nature, when in the public interest, are not subject to individual appropriation. In the face of multiple sets of interests, natural resources often become the object of private appropriation and diverse and conflicting uses, making environmental management a real field of tension between individual and collective interests, lacking increasingly elaborate solutions.

The prevalence of private appropriation is characterized by those orientations and practices in which the logic of the private use of public goods prevails and can cause damage to the environment, affecting its availability to other segments of society and incurring damages to the common use of public goods in question (Scotto and Limonic, 1997 apud Andrade et al., 2002).

## **Historical contextualization of the territorial occupation towards Serra da Cantareira**

The city of São Paulo, capital of the State of São Paulo, is located in a nuclear position of the Metropolitan Region of São Paulo (RMSP), composed of 39 municipalities that comprise an estimated population of 18.3 million people in 2005 (IBGE, 2009) forming, according to the Municipal Planning Department (SEMPA), the fourth largest urban agglomeration in the world. The city of São Paulo had its population estimated by SEMPA in 2007 of 11,091,442 people, distributed in an area of 1,509 km<sup>2</sup> (SVMA, 2008, page 20).

Serra da Cantareira is located north of the extensive urban network that makes up the SPMR, and covers the municipalities of São Paulo, Guarulhos, Caieiras and Mairiporã. It has presented distinct roles in the metropolitan context throughout its history. Its importance lies in the richness of water resources and biodiversity as a remaining fragment of the Atlantic Forest. The Atlantic Forest is considered one of the main priorities for the conservation of the world's biodiversity. It has been reduced to about 7.6% of the original area, which was approximately 1,300,000 Km<sup>2</sup>. Although it has been reduced and fragmented, this biome still exerts a direct influence on the life of more than 80% of the Brazilian population that lives in its domain (Fundação Florestal, 2009). The remaining parts of the Atlantic Forest regulate the flow and quality of water from the springs, provide food and forestry, ensure soil fertility, help in climate-control, sequester Co<sub>2</sub>, protect cliffs, regulate the occurrence of diseases, and help preserve a great historical and cultural heritage.

In the first half of the nineteenth century, the city of São Paulo had no running water and the population was supplied by public fountains, and this water was brought to these places by open trenches. Until the end of the 19th century, the slopes of the southern slope of the Serra da Cantareira were occupied by sugarcane and coffee farms and extractivism, forming the so-called "caipira" belt of the city of São Paulo (Teixeira, 2006). This belt operated simultaneously residential and agricultural functions, characterized mainly by the production of fruits destined to supply their owners, besides accommodating cemeteries, hospitals, colleges, powder deposits, and the production of construction materials; activities considered inappropriate to the central areas of the city (Herling, 2000 apud Silva and Grostein, 2008).

Until the end of the 19th century, the great majority of the population lived in the countryside (Maricato, 2003), but between the end of the 19th century and the beginning of the 20th century, the city of São Paulo experienced intense population growth and an accelerated urbanization process and the possibility of using the springs located in the Serra da Cantareira emerged in this context, constituting one of the feasible alternatives to overcome the problem of water stress that was already evident, due to having a significant amount of springs, and could be incorporated into the system of water supply of the metropolis.

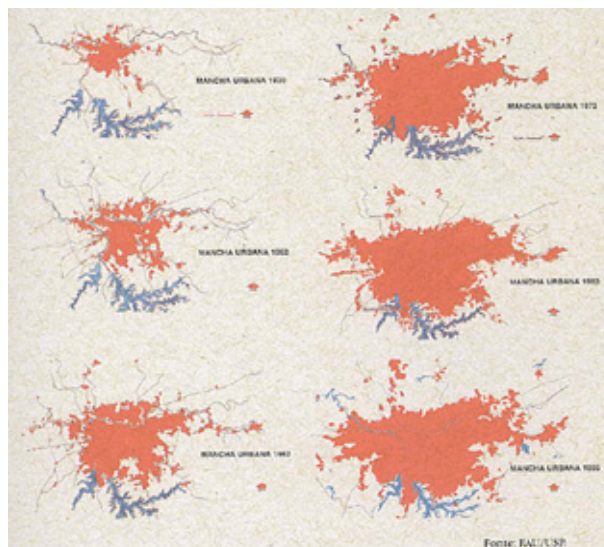
The production of urban infrastructure systems in this period was based primarily on the hygienist precept of sanitary engineering applied to the exploitation of water resources, suggested, among other measures, the protection of supply sources through the preservation of existing vegetation in its surroundings, as well as the remoteness of water sources in large urban settlements (Herling, 2002 apud Silva and Grostein, 2008), which led to the expropriation by the State of lands located in the Serra da Cantareira, which are reasonably distant from the urban center, where the sources which fed the water sources could be adequately protected. Once in the hands of the State, the deforested areas were gradually taken over by the native vegetation, creating a forest of great exuberance that subsists in the present days.

As soon as the Cantareira System began working, it proved itself unable to keep up with the growing pace of the city. Given this situation, state intervention became urgent and, specifically regarding the issue of basic sanitation, resulted in the termination of the contract established between the provincial government and Companhia Cantareira, which occurred in 1892. From then on, services related to water supply and sewer system collection would be administered by the newly created Water and Sewage Department, which was then linked to the Secretariat of Services and Construction of the State Government.

From the end of the 1910 decade, allotments began to appear in all quarters of the city, generating an interrupted and diffuse urban pattern interspersed with urban voids (which were only occupied many decades later), often waiting for valuation. The accelerated growth of the population and the constant movement of immigrants to the city contributed to real estate speculation as a potentially lucrative business (Langenbuch, 1971 apud Silva and Grostein, 2008). During this period, in addition to the neighborhoods of Santana and the existing Freguesia do Ó, new residential settlements were installed throughout the first decades of the twentieth century, but, this occupation to the north of the Tietê River was inhibited by a natural obstacle constituted by own Tietê River and its várzea. The most important element for the advance of the city towards the Cantareira was the implantation of the railroad in the fluvial terraces of the rivers Tietê and Tamanduateí (Tramway of the Cantareira). Throughout the first decades of the twentieth century, several suburban settlements were opened near the Cantareira Tramway, starting a process that, decades later, would represent a threat to the Serra da Cantareira and its resources.

From the 1930s onwards, there was a new moment of population growth and the occupied area of the city that was voraciously spreading to the surrounding territory, swallowing hills and valleys and joining the urbanized region with neighboring municipalities. It was from then on that the existing voids were filled, making the outlying suburbs closer, given the demographic growth and the increase of the housing demand by the low income population. These transformations reached mainly the northern zone, which became more pronounced in the following decades, especially with the changes in the urban transport systems, with the operation of the buses (Rolnik 1999 apud Silva; Grostein, 2008). The growth of the city outskirts and its urbanization was induced by the public power, since the city center became incapable of receiving the increasing flows. It was then vital to make the city stop being monopolar, that is, with a single center, becoming multipolar, being divided into “organic zones”, with their respective “centers” (Frúgoli Junior, 2000). Figure 2 shows the evolution of the urban sprawl expansion process, starting in 1930 and then considering the years 1952, 1962, 1972, 1983 and finally 1995.

**FIGURE 2 - Evolution of the urban sprawl - 1930 to 1995.**



**SOURCE: Secretaria Municipal do Verde e do Meio Ambiente (2008).**

From the 1940s onwards, the population increase and the increase in industrial activities in the city of São Paulo represented a very significant increase in water consumption, making the flows of the systems then available insufficient to meet growing demand (Herling, 2002), a determinant factor for the implementation of what would become the largest water production system for SPMR, the Cantareira Producer System. The Cantareira State Park was created in 1963, this meant an acknowledgment of the environmental importance of the forest associated with the need to contain the urban pressure to which that conservation unit was subjected, demanding the creation of new normative instruments aimed at its conservation. Its Management Plan was prepared in 1974 under the guidance of experts in wilderness management, provided by the Food and Agriculture Organization (FAO) Regional Project for Latin America. Its elaboration happened according to a predominant planning vision at the time, which considered the reality of conservation units only within their limits, ignoring almost completely the contexts in which they were inserted (Mazzeo, 1999 apud Silva and Grostein, 2008).

### **List of some historical and legal landmarks**

During the Colonial Period, the legislation in force in the Metropolis was also in force in Brazil, such as the Manueline Ordinations (1514-1595) prohibiting the hunting of certain animals (partridges, hares and rabbits) with instruments capable of causing them death with pain and suffering and the commercialization of beehives without the preservation of bee life (Milaré, 2001 apud Boccasius-Siqueira, 2002). In 1605, under the Philippine Ordinances, the first law on forest protection in Brazil, entitled “Regiment on the Pau-Brazil”, was enacted and which provided for even the death penalty for those who cut without express royal license (SENÔ, 2009).

In 1934, during the government of President Getúlio Vargas, the 1st Brazilian Conference on Nature Protection was held in Rio de Janeiro, organized by the Society of Friends of Trees, denouncing the devastation of Brazilian forests, probably contributing to the first National Forest Code (Enacted through Decree No. 23,793 of January 23, 1934), which aimed at the protection of forests. The advent of this decree, although not containing the forest devastation, recognizes for the first time the forest as a common interest of all the inhabitants of the country, whether Brazilian or foreign. In 1934, the so-called Water Code was promulgated (Decree 24.643, dated 10/7), whose articles classified water contamination as an illicit act, although it was also authorizing water pollution for the sake of agriculture and industry (Boccasius-Siqueira, 2002, p.5).

The 1960s decade was marked by the publication of Rachel Carlson’s 1967 book *Silent Spring*, and by the emergence of the ecological movement in a worldwide instance, which, although recent, influenced legislators in the formulation of new legal instruments, with more norms aimed at the preservation and control of pollution and environmental degradation. In Brazil, among other documents, it is worth mentioning the reformulation of the Federal Forest Code in 1965, in which the areas to be protected were made explicit, and the definition of the Environmental Protection Areas and the Legal Reserve meant an effort to contain the advances on forests declaring certain spaces as untouchable and transferring responsibility and the burden of their protection to rural landowners (Medeiros, 2006).

In the 1970s there was an intensification of concern about the environment and the finiteness of natural resources. The publication of *Limits to Growth*, the United Nations Conference on the Environment, which happened in Stockholm (1972), the peak of petroleum in the United States, which marked the beginning of the decline in exploitable reserves and the hippie movement were, in their own way, contributors to a better understanding of environmental issues and promulgation of new diplomas.



In the 1980s, the United Nations (UN) created the World Commission on Environment and Development (WCED), which made important contributions such as the concept of “sustainable development” and locally, the new Constitution of the Federative Republic of Brazil (05/10/1988) had an entire chapter dedicated to the environmental issue.

From the 1990s onwards, the intensification of environmental problems in all quarters of the planet led to the creation of important multilateral acts. Despite the results of Rio 92 (United Nations Conference on the Environment, which took place in the city of Rio de Janeiro, in 1992) being below expectations, social movements and new legal instruments meant important advances, such as , the Environmental Crimes Act (1998).

The environmental protection legislation for the metropolitan region of São Paulo is one of the most important instruments of territorial and environmental public policies for the protection of natural resources. The same is materialized in the legal figures of the Environmental Protection Areas (APAS), Water Resources Preservation Areas (APM) and Natural Parks - Municipal or State Parks and Urban Parks (Fundação Florestal, 2009).

The use and occupation of the soil in the area surrounding the Cantareira State Park is currently regulated by the municipal laws of the cities of São Paulo, Caieiras, Mairiporã and Guarulhos, especially in the Master Plans and Land Use and these comply with federal and state laws. The “Complexo dos Cântaros” Program is a project developed jointly by Cantareira State Park and the Green and Environment Secretariat, in which municipal parks (Lineares) are being created to act as a damping and protection system for natural resources present in the Cantareira massif, through the consolidation of buffer zones, being of special interest the Bananal/Canivete buffer zone and the Bispo bufferzone.

## **Vectors of anthropic pressure and socioenvironmental conflicts in the area under study**

### **Section 1**

Section 1 presents sections of forest, reforestation and anthropized fields. Although self-built buildings can be found, residential houses and subdivisions of medium / high standard predominate (Picture 1).

**PICTURE 1 - Section 1 - Image of the region.**



**SOURCE: the authors.**

Most of the problems identified in section 1 are found along the roadsides and roads that intersect the stretch of road, especially along the Santa Inês Road, which is located within the area studied. Allotments emerged along its banks and small roads that rip the forest in several senses. Conflicts occur among the various social actors present (governmental and non-governmental) in face of the construction of often irregular buildings in inappropriate areas, inadequate land movement, erosion, instability of slopes, inadequate waste disposal solid and liquid, of the irregular commercialization of areas among other occurrences. The negative environmental impacts are materialized in the form of elimination of springs with grounding and construction of buildings, pollution of bodies of water that occurs through inadequate exhaust systems or release of pollutants present in inadequately disposed solid and liquid wastes and contamination of groundwater by the percolation of pollutants, soil waterproofing and compaction, dispersal of non-harmonic exotic species, biodiversity compromise and imbalance in the food chain causing the proliferation of animals and insects harmful to humans are also present.

Among the governmental social actors present are the Municipality, the Secretariat of the Environment of the State and supervising institutions. Among the non-governmental social actors present, there are institutions such as the residents' associations and preservation and conservation organizations such as the Cantareira Cooperative Network, which congregates several NGOs and aims to preserve the springs and the Residents' Association and Friends of the Biosphere Reserve of the Green Belt of the City of São Paulo. Among the non-institutional actors, are people acquiring real estate, contractors and service providers, residents, real estate, hunters, collectors of vegetables and goers of all kinds. The greatest conflicts lie in the relationship level of those who trade areas, build (Contractors and workers) and even occupy areas in the region, with enforcement agents.

## Section 2

In section 2, we find a densely forested and contiguous strip belonging to Cantareira State Park, where questions similar to those in section 1 were identified. The commercialization of non-legalized lots, irregular constructions, waste disposal inadequate solids, irregular / illegal exploitation of natural resources, air and noise pollution, capture of animal species and extraction of plants, and heavy traffic, including heavy vehicles. Other problems were also recorded, such as the practice of religious rituals, the trampling of wildlife and forest fires. There is an emphasis on the intensity of the edge effect in the forest that borders the road. Animal and plant species are often accurately adapted to a certain temperature, humidity and light levels, and a change in the composition of species of the community may occur (Primack; Rodrigues, 2007) due to the edge effect caused by the activity on the banks of the Santa Inês Road.

The social actors present are the same as those in section 1, that is, among the governmental actors are the Municipalities, the State Secretariat of Environment and inspection institutions. Non-governmental social actors are institutions such as the residents' associations and environmental preservation and conservation organizations. On the other hand, non-institutional actors are real estate buyers, contractors and service providers, residents, real estate agents, hunters, collectors of vegetables and regulars of all kinds. The biggest conflicts are in the sphere of relationship between users in transit (who carry out religious works, collect plants and deposit waste), local residents and surveillance agents.

For this section, it is also necessary to consider the expectations about the construction of the Mário Covas Rodoanel Norte stretch, a work approved by the State Council for the Environment and which is in the final procedures for its beginning.

### Section 3

Section 3 represents the border region where the urban network expands towards Cantareira. There are densely populated areas presenting conflicts of great relevance (Picture 2). We conducted an observation of the region that extends from the Pedra Branca neighborhood to the border of Cachoeirinha and Brasilândia. In the studied region belonging to the Santana / Tucuruvi Subprefeitura are the districts of the Mandaqui that includes the districts of Vila Aurora, Mandaqui Park, Jardim Paraíso, Jardim Santa Inês, Jardim Vieira de Carvalho, Carlu Garden, Santo Antônio Residential Complex, Jardim Ormendina, Conjunto Residencial Santa Terezinha, Lauzane Paulista, Jardim Maninos, Vila Romero, Jardim Malba, Vila Santo Antônio, Vila Amelia, Pedra Branca, Vila Santos, Jardim Itatinga, Jardim Emilia, Vila Basel, Jardim Pícolo, Chácara do Encosto and Jardim Maria Antonia. The neighborhood of Casa Verde / Cachoeirinha includes the Cachoeirinha district, which includes the districts Vila Dionisia, Sítio Casa Verde, Jardim Peri, Vista Alegre, Vila Roque, Jardim Santa Cruz, Jardim Elisa Maria and Imirim.

**PICTURE 2 - Section 3 - The city advances towards the Serra da Cantareira.**



**SOURCE: the authors.**

The process of spatial occupation of the region under study, already explored throughout this work, shows the overlapping of socio-environmental problems and risks, where social exclusion, the lack of urban equipment, and irregular buildings are present along with misappropriation of public and private services, present criminality and environmental fragility are gathered and intertwined in order to create a scenario of high vulnerability. Irregular low-level subdivisions with self-built houses predominate and also precarious settlements - the slums.

There is also the invasion of areas (public and private), suppression of vegetation, construction of buildings in areas at risk, waterproofing and compaction of the soil, pollution and silting of bodies of water, inadequate exhaust systems with release of percolating pollutants contaminating groundwater and improper soil movement. Not infrequently, landslides, floods, and criminal acts plus distancing from the state make up a chaotic scenario.

Several state and municipal governmental social actors are present in the region, with emphasis on the regional prefectures of Casa Verde / Cachoeirinha, Secretariat of Green and Environment and inspecting agents. The non-governmental social actors present are the neighborhood associations, residents of the subdivisions and welfare organizations. On the other hand, the non-institutional actors are the acquirers of real estate, contractors and service providers, residents, real estate agents and agents practicing crimes of various types.

The State is responsible for urban planning, for the way space is organized, and this planning is often not appropriate to every society, but rather to the interest of the elites, moving away those who have lower incomes, acting as an expression of influence of the dominant classes, which aim to construct a space of their own, making the possibility of democratic and egalitarian planning unviable (Maricato, 2003). With population growth and the lack of city planning, there is the problem of segregation that occurs in several instances, especially in the spatial and social instances, linked and concentrated in the groups with the lowest incomes. In the spatial instance, due to the excessive valuation of real estate that has basic services (such as asphalt, basic sanitation and transportation, and a strategic location that facilitates access to work, commerce and leisure), there are then areas that are not interested in real estate speculation, precisely the areas of environmental fragility (Silva, 2007). For this reason, the degree of development of a city can be assessed from the degree of segregation; the less segregated a city, the more it will be developed. (Meyer, 1979, apud Silva, 2007).

The Secretaria do Verde e do Meio Ambiente (2008, pp. 43-103) produced a socio-environmental analysis of the 96 administrative districts of the city of São Paulo, based on synthetic environmental indicators produced for the city of São Paulo based on the (Pressure, State, Impact and Response) of the United Nations Environment Program (UNEP). This analysis revealed that type 1 districts are those where the city's main environmental service areas are concentrated, with high plant cover values. They present actions to control and conserve biodiversity, but they are under heavy pressure of urban occupation, highly precarious; The group includes 13 districts, which are concentrated in the southern portions of the municipality (Marsilac, Parelheiros, Grajaú and Jardim Angela) and in the northern region, covering areas of Serra da Cantareira and surrounding areas (Tremembé, Casa Verde, Cachoeirinha, Brasilândia, Jaraguá and Anhanguera).

It is known that municipalities located north of the MRSP have been showing high population growth rates in the period 2000-2007, well above the metropolitan region average - Caieiras registered the rate of 4.82%, and Mairiporã 3.76% (Fundação Florestal, 2009). In relation to housing, taking into account the income profile of the inhabitants of the municipalities studied, it was concluded that the income of the heads of households is concentrated in the range of 1 to 5 minimum wages (SM), except for the municipality of São Paulo of 5 MW). However, financial agents provide housing finance for a range equal to or greater than 10 MW and that public programs serve households with incomes of 5-10 SM, leading to the conclusion that social housing is a pent-up demand in the region. The comparison of the available data between the demand and the supply of popular housing by the Public Power demonstrates the low capacity of attendance to the needs of the population (Fundação Florestal, 2009).

This is the context of the border region between the urban grid and the PEC, where the greatest vectors of pressure are found. The process of growth of the outskirts of the city isolates the less favored in regions of low real estate value, precisely the fragile areas, where they interact with squatters selling irregular lots, contractors and various service providers who build and make irregular connections of water and electricity and interact with criminals often present.

## CONCLUSION

In response to the research question, it can be concluded that the socio-environmental conflicts on the region studied are a result of a process of spatial occupation stimulated by the State, where the lower income people started to occupy peripheral zones around the city of São Paulo. On that time these areas were uninteresting to the real estate exploitation and therefore low cost. However, these same areas, rich in natural resources, are of high relevance and often of great environmental fragility.

The State, while presenting itself through its legal framework and enforcement actions, has not been sufficiently active with public policies aimed at managing the territorial space and natural resources with equity. The social-environmental conflicts are intensified by the sale of irregular lots, irregular self-constructed buildings, with the expansion of precarious human settlements in public areas, with the inadequate disposal of solid and liquid waste, irregular/illegal exploitation of natural resources, with the suppression of vegetation, contamination and silting of body of water, capture of animal and vegetable species and the intense cars and heavy vehicles traffic, among other issues. Worthy of mention is the road work of the Rodoanel Mário Covas - Trecho Norte, which is about to begin, and the significant impact that it will generate on the region in the coming years.

The focus of the study object allowed to identify very similar conflicts. One example is the question of human settlements. If, in the middle of the Serra da Cantareira, the high and medium-sized allotments as well as the rural properties signify a negative pressure vector of relief, it is not less important the urban expansion in the south fringe of the Cantareira State Park, where the city meets the forest and irregular and precarious subdivisions multiply.

In this arena of conflicts are present several social actors, as public and governmental, highlighting the City Halls, the State Secretariat of Environment and inspection institutions, or the non-governmental actors represented by entities formed by the organized civil society and non-institutional actors such as residents, contractors, service providers, real estate agents, hunters, collectors of vegetables and different goers.

Regarding public policies, it must be acknowledged that regulatory public policies, based on the “command and control” model, have not been sufficient to stop the processes of occupation and disorderly expansion of human settlements, as well as the predatory actions in progress. This finding leads to the reflection that it is necessary to adopt more structuring and behavioral policies in order to achieve the desired results with greater efficiency, as new models of governance.

It is fundamental to associate regulatory policies with the empowerment of citizens to the place, valuing the sense of belonging and preservation of the set of goods that the Serra represents. Such empowerment must materialize through understanding the value of these natural wealth, associated with conservation, mobilization, denunciation and compliance with legal provisions.

Therefore, the analysis of the impacts related to human densification towards Cantareira foothills shows that there is a long way to go to develop a sustainable culture and process, what must lead to the construction of solutions that guarantee the conservation and the use of the available natural resources in a sustainable way, as well as the recovery of what is compromised. It is up to public and private managers, as well as organized civil society, to articulate themselves and prepare for the confrontation of these socio-environmental conflicts by making use of appropriate tools with a systemic approach to problems and their interconnections in order to build a path to sustainability.

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