

## **The Fiocruz Atlantic Forest Campus and the Growth Acceleration Program (GAP) of Juliano Moreira Colony: the incorporation of sustainability principles into an integrated planning proposal in the buffer zone of a protected area, the Pedra Branca State Park in Rio de Janeiro, Brazil.**

### **Luis Carlos Soares Madeira Domingues**

*Architect and Urbanist, Specialist and Master's Degree in Urban and Regional Planning (Rio de Janeiro Federal University, Institute for Research and Urban and Regional Planning, IPPUR-UFRJ). Coordinator of Territorial Planning and Land Regularization team of the Fiocruz (Oswaldo Cruz Foundation) Atlantic Forest Campus and representative of FIOCRUZ in Manager Council of Growth Acceleration Program (GAP) of the Colony Juliano Moreira. Professor of Urban Planning, Urban Design, Sustainable Urban Design and Popular Housing at the Pontifical Catholic University of Rio de Janeiro (PUC-Rio).*

### **Cecilia Benites**

*Architect and Urbanist. Master's Degree in Architecture and Urban Design (Columbia University USA) Fellowship holder from Faperj – Pro Management Program 2007-2010. Member of the Territorial Planning and Land Regularization of the Fiocruz (Oswaldo Cruz Foundation) Atlantic Forest Campus Implementation Program.*

### **Claudison Rodrigues**

*Economist, master on Information Science, post-graduated on Biodiversity Management, Environmental Engineering and Development Polittcs. Member of the Fiocruz Atlantic Forest Campus development team (Environmental Management System, Master Plan). Environmental Education Director on Environmental Ministry.*

This article aims to contribute with a consistent approach on the challenges of territorial planning and management in the surroundings of an urban protected area.

This critical overview comes from the experience acquired through the development of the Fiocruz Atlantic Forest Campus Master Plan (FAFC-MP) and from an ongoing planning process that has defined a set of urban interventions that are currently being built under the Growth Acceleration Program of the Juliano Moreira Colony (GAP-Colony). This process comprises opportunities and risks normally associated to large scale urban projects, in this case, a venture of approximately 142 million reais programmed until 2012 for the buffer zone of what is considered the largest urban park in Brazil – the Pedra Branca State Park (PBSP).

The Pedra Branca State Park is a full protected area that aims for the preservation of nature where scientific research, environmental education and recreation activities are allowed in specific sites. The park size is approximately 12.500 hectares and its forest belongs to the Atlantic Forest biome which is renowned as one with the greatest biodiversity in the planet and one of the most endangered (hot spot). The Pedra Branca State Park, the Tijuca National Park (TNP) and the Mendanha Municipal Park (MMP) all surrounded by the metropolis urban fabric, have a very important impact in the regional climate and offer a series of environmental services that are vital for 6,5 million dwellers. Meanwhile these parks are targets of the greatest environmental degradation actions in the city.

The old Juliano Moreira Colony is a psychiatric retreat that has long been a national reference in mental health treatment. It was placed in the currently most preserved side of the Pedra Branca State Park. It has an area of 786 hectares (7,86 million square meters) of which 262 are within the limits of the park. Between the 20's and the 80's the colony was the final destination for patients considered irrecoverable. In the 60's it reached 5.000 people. In 1996, the institution's administration was transferred from the Federal Government, which had managed it since its foundation, to the Municipality. This strategy was part of the national health policy that implemented the Universal Health System. The compound was then

renamed Juliano Moreira Municipal Institute for Health Assistance, housing now about 600 patients.

The Fiocruz Atlantic Forest Campus is a fragment of the old Juliano Moreira Colony's land. It is called the Sector 1, one of the six sectors in which the colony was divided. The Sector 1, 500 hectares (million square meters) surrounded by the Pedra Branca State Park, is the biggest and the best preserved from an environmental point of view. An 80% of its area is covered with a reminiscent piece of the Atlantic Forest and for that reason it was named the Environmental Sector of the colony.

An environmental assessment and a flora survey developed recently have highlighted the areas' environmental significance. It considered criteria as biodiversity quality, presence of endemic species or rare species, advance state of flora conservation and presence of freshwater sources. These findings stipulate an environmental preservation oriented territorial planning and management as well as a participatory development of a specific model for territorial governance. The key environmental figures of the area can be identified, through the methodology used in ProForest, 2003 (Guide for High Conservation Value Forests), among other references. Included in this analysis are: river edge vegetation that protects water streams, fragments of endangered ecosystems, endangered species etc. Therefore it is clear that coherent planning and management decisions have to be made in order to maintain and enhance the environmental qualities of the area.

In addition to these natural qualities, the campus and its surroundings have successive traces of history which communicate the peculiar way in which the natural resources were used and different types of territorial occupation expressed in the richness of the architectural heritage. This compound has been listed by landmark commission agencies. The cultural heritage found in the site includes not only a series of buildings but the local culture and a artistic and scientific assets. This cultural diversity that emerges from archaeological and architectural treasures as well as scientific documentation is further enhanced by the natural heritage of the surrounding environment.

Both within the campus and in the adjacent area reside 800 families, most of them composed by former employees of the colony that from 1960 were authorized (formally or informally) to settle. This was a way of offering proximity to the workplace. Other areas of the old colony have been occupied more recently as a result of occupations done in the 90's and without any ties with the activities of the old colony.

Those irregular settlements have approximately 6.000 families that currently occupy 10% of the total area of the old colony and have many common problems with the slums of Rio de Janeiro – precarious homes and insufficient urbanization. The increasing concentration of population in these areas results in the continuous decay of the environmental quality of the settlements and the sprawl deteriorates even more the river banks, flat surfaces and hillsides that are still vegetated.

This reality presents a set of threats and opportunities for the management of this protected area. The threats are mainly related to the possibility of the perpetuation of the environmental vulnerability in the bordering areas of the Pedra Branca State Park and the social vulnerability of the resident population – threat of death and threat of its collective health. The opportunities are related to the possibility of innovation in the process of urban revitalization. This process includes improvements in the urban infrastructure and housing within the old Juliano Moreira Colony. The urban improvements at this scale would positively transform the surroundings and help consolidate a strategy for land use and environmental conservation in the buffer zone of the park.

The Fiocruz Atlantic Forest Campus Master Plan (FAFC-MP) and the planning process consolidated by various institutions involved in the urban revitalization of the old Juliano Moreira Colony aim to balance urban fabric expansion and preservation of the biodiversity for the buffer zone of this protected area and the surrounding urban environment.

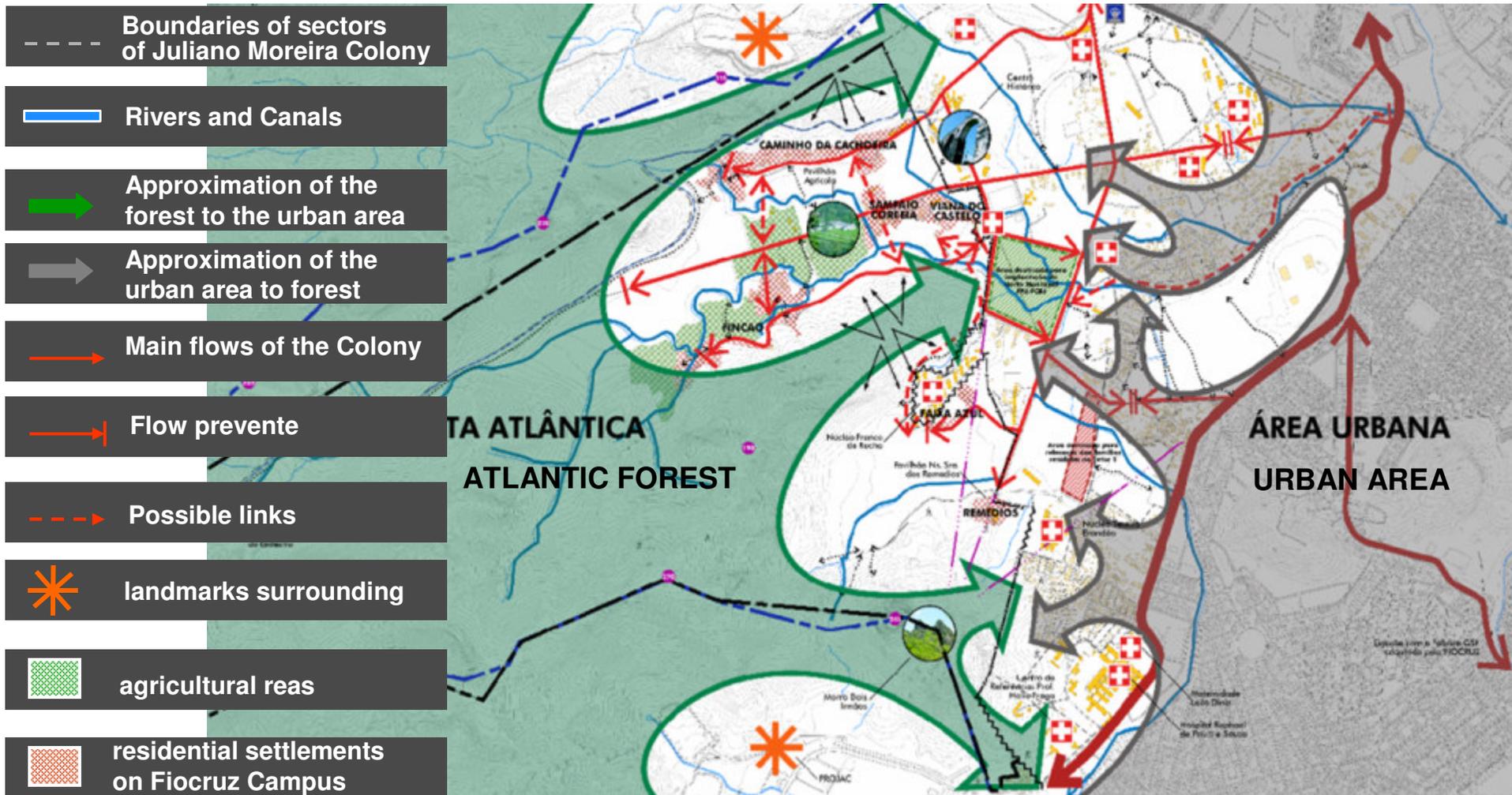
The resulting integrated planning proposal gives priority to the application of sustainability principles for design guidelines, policies and local development. One important outcome of this process will be the land tenure regularization associated to infrastructure improvements and house improvements that will reach 6000 families and other 5000 families that will have formal access to homes or infrastructured land. All these measures are articulated with: training and employment opportunities, the promotion of healthy environments, the restructuring of networks of public health and education services, strategies of environmental conservation and integrated management of the cultural heritage. In most cases democratic management techniques and participatory methodologies are used in the projects.

One of the main challenges/goals of protected areas is to stop the continuous process of environmental degradation in their buffer zones. Therefore they implement sustainable occupation models that promote environmental recovery and minimize the impacts of the surrounding urban areas. The management of protected areas is somehow common to all, but several specificities apply to “urban” protected areas: negative impacts in their buffer zones, transition zones between two communities, different ecosystems or different land use regulations (particularly when it refers to ecological matrix with several interferences and low connectivity). Negative impacts do not only affect the Pedra Branca State Park, endangering its fauna and flora but also create serious public health problems.

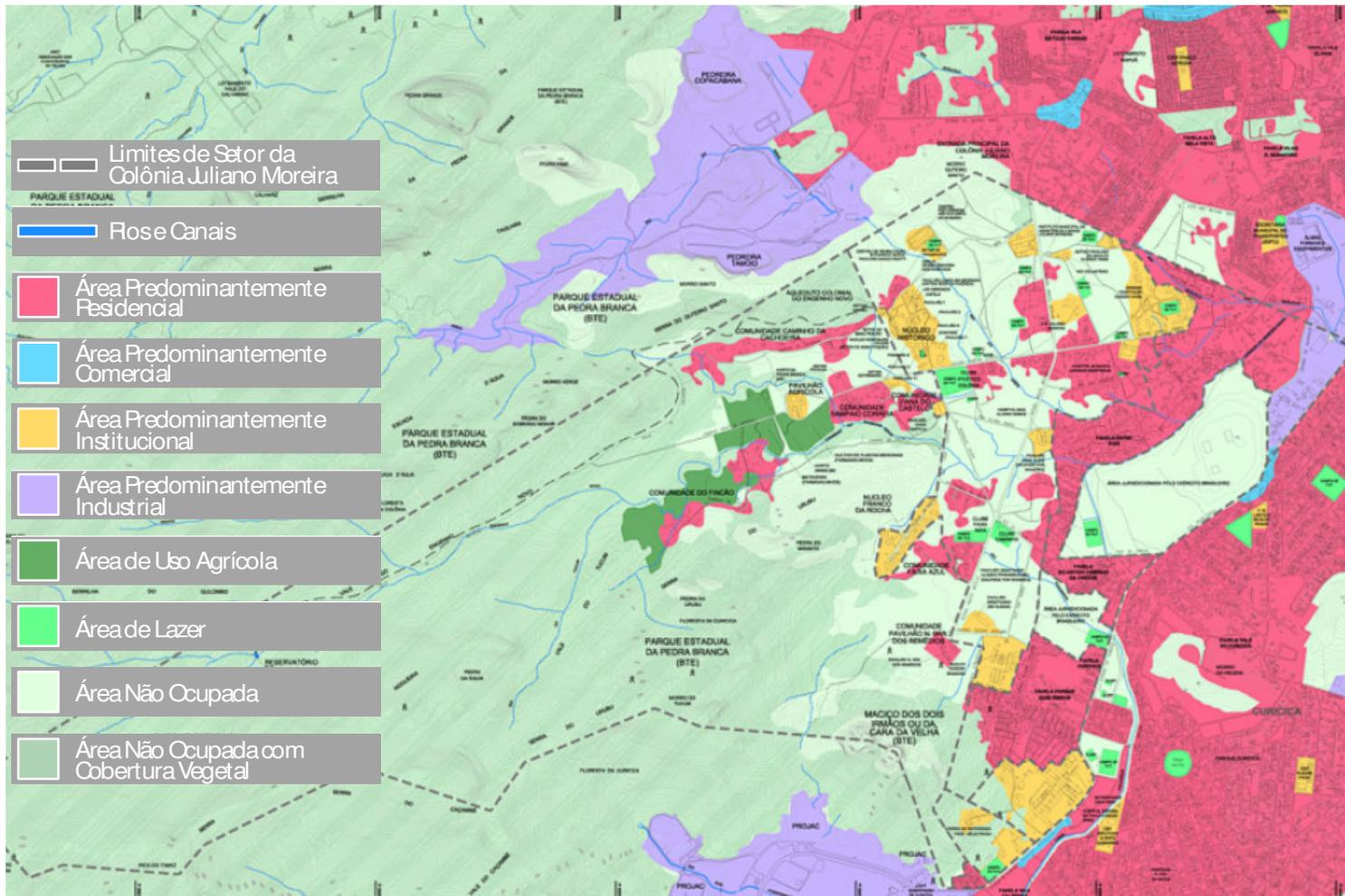
The Fiocruz Atlantic Forest Campus Master Plan and the Growth Acceleration Program of the Juliano Moreira’s Colony actions can incorporate an important role in this socio-ecological context by minimizing negative impacts in the buffer zone and guaranteeing a greater protection to the park in its most preserved portion. The scale and the effectiveness of the proposal here presented can be significantly enhanced if we consider the possibility of an active participation of the adjacent land owners both to the North and the South of the area. Similarly with the participation of the administration of the other sectors of the old colony and institutions involved in the realization of the GAP Colony.

The success of this venue and the subsequent implementation of the established premises depend, among other issues, on the land tenure regularization process, the negotiation with the families involved and the institutional competence for planning and managing this area in an integrated fashion with the various partner institutions.

**Key-words:** Urban Environment Conservation Unit; Sustainable Urban Planning; Sustainable Urban Project; Fiocruz Atlantic Forest Campus; Pedra Branca State Park; Juliano Moreira Colony.



diagnosis map - border zone between the forest and the city



**Use and Occupation Map – Juliano Moreira Colony**