

Barreirinhas Sustainable Development - Urban Planning

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Abstract

The poor and neglected towns located in remote areas near natural attractions good for tourism are usually submitted to feeble development processes and are often vulnerable to capital control and exploitation. The town of Barreirinhas, in Maranhão State, Brazil, is a good example. The construction of a road to access the town and the efforts to promote the local natural attractions boosted tourism and many enterprises. Unfortunately, all this happened without proper planning. As a result, there was disorganized expansion and a dispersion of settlements that impacted the environment and generated real-estate speculation. Therefore, it is necessary to create conditions for implementing and managing a proper development process sensitive to local realities such as local economy, natural resources, the social and urban structures. The purpose of this work is to study the strategies for sustainable development as well as to find the directives for an urban project designed to promote space qualification and to attract adequate investments to the area.

Foreword

Isolated societies dwelling on the outskirts of cities and under a modest and primary stage of development, located in the poor regions of third world countries are “easy preys” for capitalistic interests and control over their economic potentialities. The dominant elite in these places generally act as the main agents mediating such domination, consequently, contributing to the obstruction of a proper sustainable development process.

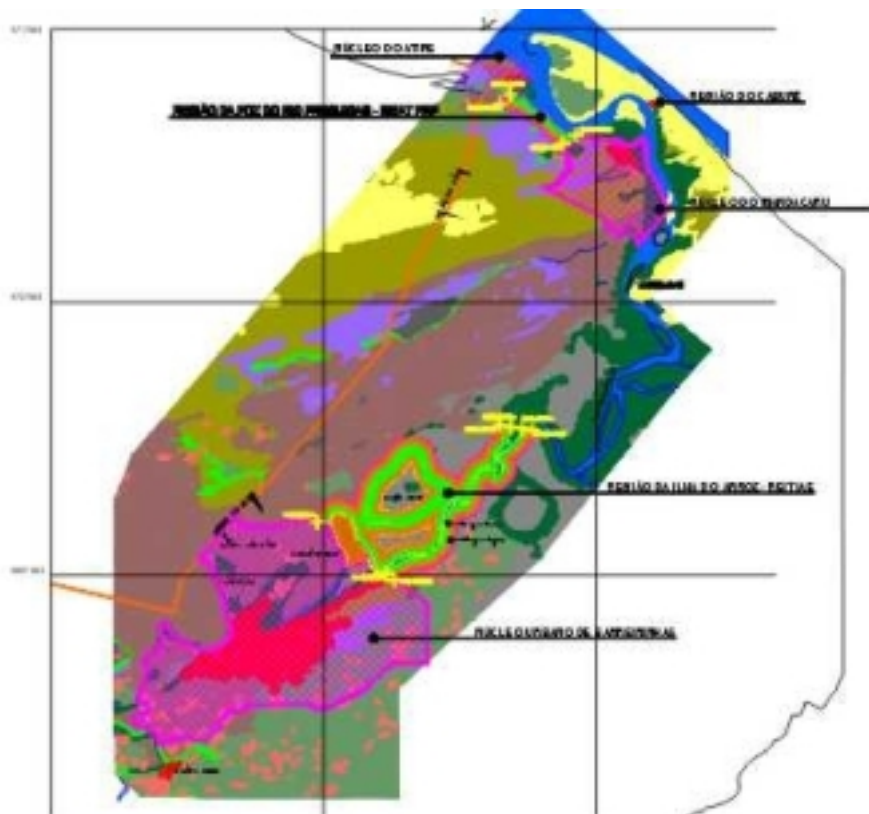
The city of Barreirinhas, in Maranhão State, Brazil, is known for its geographical isolation, by its economical stagnation, social weakness, natural attractions and proximity to the National Park of Lençóis (“Parque Nacional dos Lençóis”). Local tourism was promoted due to a road construction that gave access to the town plus the advertisement of the natural attractions and resources but all without adequate planning and marked by the interests of investors and local elite around objectives to implement several business models. Additionally, the local scenario with the lame infrastructure together with institutional and social fragilities cannot provide the sought for integration and synergy between action and investments of both public and private sectors within the urban space. This is why new investments look for positions far from town, right where the natural attractions are.



Disorganized expansion, environmental impacts, real-estate speculation, lack of prioritization of local needs and resources are the direct results of bad planning as described above. In other words, we see the implementation of a model of urban and economic growth without any compromises to the needs, priorities, local requirements and characteristics.

The present growth is far from being a reference to sustained development or an action to make 'human environment more developed or more organized' (Crowther, 1995, p. 318) or in another more complex point of view, "a multidimensional process involving a complete re-organization and re-orientation of the economic and social systems" (Todaro, 1994, p.98). The local development process is not providing an increment in structures, behavior, institutions, the economy, or reducing income differences and eradicating misery as recommended by Todaro (1994), consequently the human question is not being emphasized in these cases, as stated by Mabogunge (1989).

So it is necessary to create conditions to break this reality and search for means of development. Therefore this work studies some strategies for promoting a small outskirts city in a region rich with natural and tourist resources in a poor State of an underdeveloped country by putting together economic growth, nature preservation and poverty reduction.



Urban Development

As described above, the occupation areas and settlements in the Barreirinhas region are sparse, socially weak, with poor infrastructure and located in the vicinity of natural preservation areas. Furthermore, transportation and integration among the most important settlements and the town seat is made by fluvial waterways. The recent, accelerated and disorganized growth of these towns is a direct consequence of the easier means of access to the municipality, of recent tourism and real state activities in a socially and environmentally poor context. All these factors put together generate uncontrolled soil use and occupation both in rural and urban areas

The tourism activity is slowly becoming the great transformation agent of the socioeconomic, natural and urban landscape environments. Sometimes due to this accelerated activity, the environment itself and the integrity of the locals and of the region are put to risk. But, on the other hand, because of the tourism activity, Barreirinhas is receiving important infrastructure investments such as sanitation developments, water and sewage systems, water treatment plants, and a new airport. However, all these construction operations are paralyzed at the moment.

The municipality must be prepared for the tourism development process, by limiting occupations and developments in the vicinities of natural reserves while expanding at the town seat. However, this is not taken under consideration by locals and visitors due to the poor infrastructure context. The building of an attractive tourist scenario demands complex investment programs in many

areas (Hartshorn, 1992), including improvements in the following main social indicators: delivery of services, transportation, infrastructure, lodging, architecture, landscaping, urbanization, culture, leisure, commerce, marketing, education and training, all to be integrated into one adequate management system.

This complex process requires a careful and well planned gradual policy that respects investment possibilities and the pace of social transformation at both the local and regional levels in order to reduce social and regional differences.

The total area of the urban center is of 358,68 acres (not including the new airport of 260,21 acres) with a population of 13,209 inhabitants. Consequently, the net urban demographic density of 36,83 inh/ac is considered low and must be preserved. The downtown area consists of rare empty spaces and small streets, in addition to the airport region, the Preguiças River, Tiburcio Brooke and Beira Rio, and the bordering areas near the road at the southwestern portion of the city, as illustrated in Figure 5 below. Additionally, the empty spaces of Bananal and Cruzeiro, - these are but a continuation of the downtown area to the north of the urban region - are the existing urban references. It is in these areas that the commercial and institutional activities and the rendering of services occur, therefore these are the areas of greater possibility of attracting new economic activities and real estate development.

These natural and urban characteristics refrain the city from growing not only because of what has been demonstrated above but also because of the airport on the east and the legal boundaries of Parque dos Lençóis on the west. Therefore, the alternatives for urban expansion are reduced and left solely to the southern region, and very limitedly towards the north because of the *peninsulae* neighboring the downtown area and the areas at the other side of the river, such as the Cantinho.

The proposal considers both the existing potentialities and difficulties, such as the natural and urban limitations that need to be addressed. Included in the proposal are ways to avoid intense demographic occupation, uncontrolled growth of urban, economic and environmental risks. That is why the suggested urban structure values the spiral growth in a way to avoid large empty spaces and real estate speculation and emphasizes investments, cost reductions and the maintenance of public services. The concentric form simplifies the zoning system and facilitates circulation even though this form tends to concentrate investment and occupation. This concentration can be avoided by stimulating the development of other areas near the center by integrating them with arterial access ways and adapting the solution to the existing natural conditions as illustrated in the picture below on the right:



This is the urban structure proposed for Barreirinhas to increase environmental preservation, diversified economic development, social and institutional development, organization and geographic integration, accessibility to infrastructure and services to all regions and social segments existing in the city while providing synergy between activities.

The proposal indicates the new areas for growth in the regions bordering the downtown area and the places with the most significant urban and population concentration and tries to converge the multiple local, private and public interests. This is the reason why a continuous and progressive scaled growth has been proposed. Initially, the areas to be occupied must be contiguous and near the center in order to be easily accessible and near the available infrastructure. The population density in these areas must be kept at a low minimum to avoid congestion, failure in infrastructure, real estate speculation and damage to the urban and natural environments. Interaction between the regions will be possible through the road system made up of beltways, structural ways, corridors and areas prepared for further road enlargements as shown in the zoning map below:

Balance between urban, socio-economic and environmental aspects will be complemented by the even distribution of patterns of use and occupation models fit for each of the urban regions. In this way, new constructions and activities will be redirected to central regions like the neighborhoods called Carnaubal and Cruzeiro. This is the focus of the proposal: to achieve low occupational indexes by avoiding overpopulation, optimizing infrastructure and services existing in the central region and helping the full operational role of the administrative center

The expansion centers Cruzeiro and Carnaubal have special characteristics: not only they are located near the downtown area but also the Preguiças river crosses these areas many times, forming thin layers of land with great potential for urban and environmental development. These areas are capable of agglutinating and integrating uses, interests and landscape vocations with economic, social, spatial and transportation activities.

In this way, access to these neighborhoods is made through the ring road, binary from the center and through arterial ways; furthermore, this conception projects for these areas the integration of land and river transportations.

The concept behind the model for these neighborhoods is to add value to the natural landscape more particularly to the riparian vegetation. In the northern portions of the neighborhoods there are areas of untouched vegetation where some preservation areas were created. Along the margins of Preguiças River a wide ring-shaped area for leisure and environmental protection was developed. This area encounters the spit that separates the downtown area and the Cruzeiro. There, facing the river, some wide open spaces were created in three different directions. Some of the wide open spaces were reserved for leisure and some indoor spaces were created for commercial and cultural activities.

The plan stimulates low demographic density and low occupational and soil use indexes, adding value to the surroundings of constructions made for recreation, sports, cultural activities purposes. It induces multiple uses of the space, more specifically to the following: the tourism activity, housing, events, culture, education, commerce, services and dwellings.

Final Observations

The remote poor and neglected towns located near natural attractions are very vulnerable to capital control and exploitation. Social inequalities and social disorder will occur because as transportation develops and marketing strategies attract more people to the region, local tourism grows without any previous and adequate planning. The lack of regulatory proceedings will generate real-estate speculation and grave environmental impacts. In turn, this will bring about many social, cultural, and economical local conflicts.

It is important to establish a director plan and complementary plans, general rulings and proceedings to incorporate various aspects. It is also important to fight against irregular occupation and predatory expansions into the natural environment. Improving and developing education, healthcare and dwelling conditions must also be prioritized. It is fundamental to provide for the maintenance of strong institutions that will always prioritize local needs and interests especially to the most fragile sectors of society.

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