

## **Urbanization of slums in Permanent Preservation Areas in urban areas in the Amazon region as a socio-spatial equity instrument**

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### **Abstract**

This proposal intends to discuss the need to adopt new urban parameters and environmental sanitation in urban projects of slums in Permanent Preservation Areas (PPAs) in the Amazonian context, focusing on the city of Belém (capital of Pará State).

In a city whose historic urbanization process is so closely related to the conditions of the river system in the landscape, it can be inferred that there is conceptual elaboration possibilities of relations between urbanization and water. In the case of the city of Belém and its regional surroundings, the varied territorial forms that accompanied and expressed this process of urbanization exhibit structural components of this historic relationship.

Belém is located at the confluence of the Guamá River with the Bay of Guajará, intersected by several water courses and flooded areas. These geographical features proved to be an important factor in structuring their urban space and ended up representing a hindrance to urban expansion of the city, requiring a constant "struggler" against the wetlands (PENTEADO, 1968; MOREIRA, 1966). On the other hand, the urban conformation of Belém structured "interstices" which, especially during the twentieth century, led the design of the lowland areas, which manifest the first characteristics of housing informality design developed today: physical precariousness of housing, the lack infrastructure, lack of regular subdivision and land irregularity. This process follows a Brazilian tendency with respect to the pattern of occupation of slums, from which the urban poor would be set, usually on public land, devalued, inadequate, fragility/environmental protection (BUENO, 2009). The strategies of occupation of these areas by the poor families include intensive land use, occupying the wetlands through construction adapted to the Amazon floodplain as the "palafita" and "estiva" under high constructive and population density in consolidated urban conditions.

We identified a problem in how to treat such areas of urban and environmental qualification perspective as can be identified from the results of sanitation interventions and roads in different areas of marshland in Bethlehem in recent decades. Studies of interventions in marshland areas in Bethlehem (ARAUJO et al, 2012; RODRIGUES et al, 2012) have revealed playing a great difficulty handling PPAs in consolidated urban areas, so that not existing legislation, federal and local, can steer properly treating such areas nor technical measures put in place by the government have solutions to reconcile the conservation / environmental recovery with the qualification of urban space.

In general, the urbanization and sanitation projects carried out in slums in Belém have been interventions for urban drainage solutions that, in general, have no major innovations, even in places where physical proximity to watercourses could suggest the non-structural adaptation measure drainage, desirably associated with the urbanization project. In these projects there is no evidence on

the use of Permanent Preservation Areas (APP) as spaces for environmental remediation or as a means of wider qualification of urban space and collective ownership.

We intend to demonstrate by analyzing the solutions adopted in development projects in areas with these features already implemented and ongoing, that the accumulation of achievements already made in Belém little progress in the search for technical and design solutions in order to reconcile the urbanization of such settlements and environmental preservation.

The absence or deficiency of incorporating these design positions redounds thus increasing environmental impact of interventions in reducing the local population living maintenance possibilities and consequent potential increase in population to be relocated in this case by one criterion the greatest impact on the urban design of interventions. In this sense, it is necessary for several reasons, a review of design patterns and territorial planning guidelines for interventions in Belém that reveal themselves in need of more consistent technical criteria and mainly articulated urban planning and metropolitan (CARDOSO, 2011), committed to the ideals of urban reform and equitable distribution of the benefits of urbanization. Complementary actions of recovery in margins and riparian vegetation as well as the production of common use areas integrated into rivers are prospects for the production of a new pattern of urbanization more comprehensively with the natural environment and the regional culture.

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