

**Cities back to the river: the neglect of urban PPAs in the Cuiabá River
Valley Metropolitan Region - RMVRC/MT**

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ABSTRACT

This research studied the process of irregular urban occupations that occurred along the Cuiabá River Permanent Preservation Areas (PPAs), as a key to understand its importance for urban sustainability. Its objective was to study the dynamics and socio-environmental impacts resulting from irregular occupations along the banks of the river that cuts through the two largest cities in the Metropolitan Region of the Cuiabá River Valley - RMVRC/MT, the state capital Cuiabá, and Várzea Grande. Considering that this river is responsible for the water supply of both cities, and a Pantanal Mato-Grossense affluent, which have a fundamental relevance for the local and regional ecosystem, it became important to identify the contradictory relationships between socio-environmental issues and the application and surveillance of urban legislation, by mapping the APPs, in order to verify the degradation of the Cuiabá River. The methodology was based on bibliographic, documental and empirical research. The results showed the importance of its continuity in new research, and may also subsidize decision-making processes, formulation of urban and environmental legislation, public policies aimed at socio-environmental protection of vulnerable areas, relevant to improving the quality of life and the environment.

KEYWORDS: Permanent Preservation Areas. Socio-environmental impacts. Irregular occupations.

INTRODUCTION

This research was dedicated to study the irregular urban occupations that occurred along the Cuiabá River Permanent Preservation Areas (PPAs), as a key to understanding their importance towards the sustainability of cities.

Starting from a systemic and holistic view, the research had the objective of study the dynamics and socio-environmental impacts resulting from irregular occupations on the banks of the river that cuts the cities of Cuiaba and Varzea Grande/MT.

For this, its relevance was considered not only for the "enormousness of the benefits concerning environmental factors, but, above all, for its geophysical specificities associated with watercourses, in view of being located in sensitive areas of the landscape". (ROSIN, 2016). p. 64).

The cities of Cuiabá and Várzea Grande/MT are inserted in the Metropolitan Region of the Cuiabá River Valley - RMVRC/MT, composed by the municipal areas of Acorizal, Chapada dos Guimarães, Cuiabá, Nossa Senhora do Livramento, Santo Antônio de Leverger and Várzea Grande (PDDI, 2018). These cities, except for Chapada dos Guimarães, are watered by the Cuiabá River waters belonging to the Paraguay River Basin, whose source is in Rosário Oeste/MT.

To Spósito (2008, p. 11), "understanding the city today, to apprehend which processes shape the complexity of its organization and explain the extension of urbanization in this century, requires a return to its origins", as well as "to reconstruct, even if synthetically, its trajectory".

From this context comes the discussion about the process of environmental degradation of the Cuiabá River banks, whose urban growth process has not valued the potential of its landscapes - consolidating them as cities with their backs to the river.

Besides denying the historical importance of this natural component in their urban formation, the Cuiabá and Várzea Grande sanitation plans contradictorily recognize its relevance to the public drinking water supply, as well as to the local and regional ecosystem.

When considering the spatial clipping adopted by this research, despite numerous deficiencies, it is rare to find scientific research "in the urbanism and planning field" focusing on this region of diverse peculiarities (SILVA ANDROMERO, 2015, p. 212-213).

Among the various particularities, the region suffers with difficult dissipation climatic conditions, which aggravates the climate that has high temperatures intensified by the heat

islands effect. However, it is a great environmental relevance region, because it is in a rich hydric resources area, and it also has the biodiversity of the Pantanal and Cerrado biomes, besides the great proximity to the Amazon (SILVA E ROMERO, 2015, p. 212-213).

However, like many Brazilian cities built along riverbanks - particularly in this region, irregular occupations are one of the factors that put at risk and impact biodiversity by promoting disperse urbanization along the Cuiabá River PPAs.

The irregular occupations of this nature, as discussed by several authors, including Grostein (2001, p.16), continuously degrade the PPAs, cause siltation and erosion, and especially expose residents to the constant risk of flooding, besides causing numerous diseases resulting from contact with the pollution of streams, the odor caused by water contamination, and the garbage discarded on site, which intensify social vulnerability.

These areas, due to their environmental fragility, are legally called permanent preservation areas (PPA), whose space must be preserved, since they are fundamental for the maintenance, the ecosystems balance, and for socio-environmental quality" (ROSIN, 2016, p.36).

Departing from this premise, a series of thematic maps were elaborated, approaching emblematic irregular occupations cases in the PPA strips on the both, right and left Cuiabá Riverbanks, showing the inappropriate use and the socio-environmental situation of the region.

The irregular occupations in environmentally fragile territories in the study area were characterized by commercial, institutional and residential, and are characterized by the presence of several deficiencies and inadequacies where there is an absence of infrastructure, public transportation system and urban equipment, part of the population that inhabits these areas have precariously built houses contributing to the formation of risk areas, consequently unsafe for housing.

STUDY SITE

The Cuiabá and Várzea Grande cities, due to their proximity and common urban formation characteristics, have always performed behaviors of interrelation and dependence on each other, being initially considered an urban agglomerate.

These territorial dynamics were explained by Borges (2019, p. 104) as a "territorial continuity and the close relationship of flows between the cities", specifically those that "contributed in order that, in the 1993, the Urban Agglomerate was established in an administrative political way, through State Complementary Law 28/1993", which was in effect until May 2009, when it was revoked and replaced by State Complementary Law 359/2009, establishing the Metropolitan Region of the Cuiabá River Valley (RMVRC).

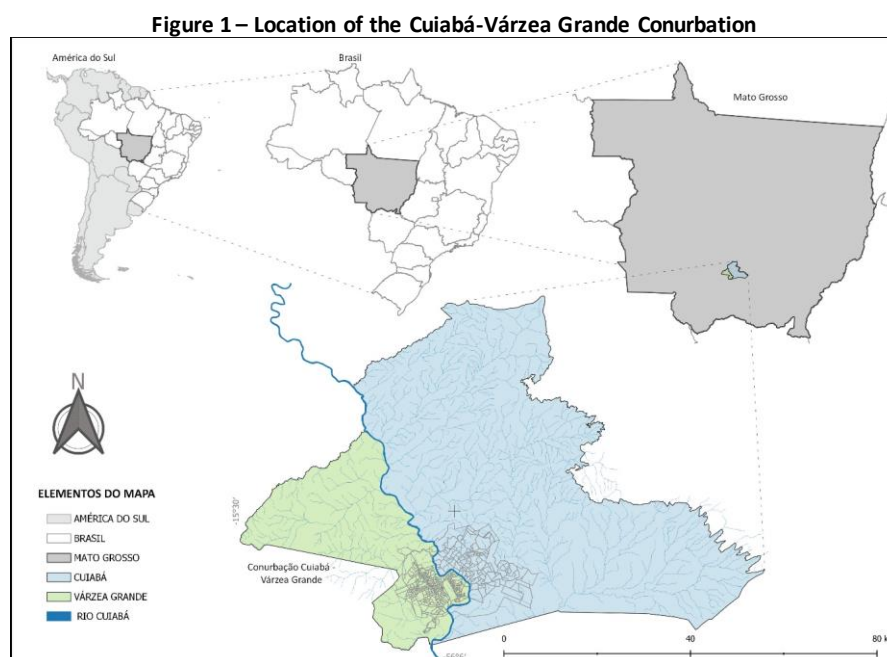
When dealing with conurbation between cities, this phenomenon basically expresses "the autonomy and complementarity of functions between the cities that form the grouping and denotes the urban area coalescence that interact and promote a fusion of the grouped cities", unlike the context in which the urban agglomeration is established (SANTOS, 2016, p. 18).

For Villaça (2001, p. 51), "the conurbation process occurs when a city starts to absorb urban centers located around it, whether they belong or not to other cities", as the cities of Cuiabá and Várzea Grande. Additionally, Cuiabá and Várzea Grande presents what Villaça describes as "socioeconomic linkage", in other words, it happens when "one city absorbs

another when it starts to develop with the other city an intense socioeconomic linkage. This process involves a series of transformations in both the absorbed and the absorbing urban nucleus" (VILLAÇA, 2001, p. 51).

This author also characterizes the intra-urban nature links, highlighting the cargo and people displacements, be they "daily or almost daily, such as those between residence and workplace or between residence and school." The context described by the author marks the socio-spatial relations of this conurbation, where most of the Várzea Grande population works, and/or studies in the capital Cuiabá during the day, among other activities, such as commerce, leisure, etc.

Considering such aspects, for this study it was relevant to adopt the conurbation (figure 1) as a spatial cutout, i.e., the two largest cities in the RMVRC, Cuiabá on the left bank and Várzea Grande on the right one.



Source: ADAPTED FROM IBGE, 2020.

In this territory, Cuiabá occupies an area of 3,266,538 km² (IBGE, 2019) and Várzea Grande 942,568 km² (IBGE, 2019), together, they have 4,209,106 km².

These two cities also share the irregular occupations occurrence and a lack of care with the PPAs on the Cuiabá River banks, negatively impacting this important river for the region, for the Pantanal biome, and for the urban sustainability of the region.

This happens, among other factors, by the economic and cultural aspects that marked the urban formation process. According to the Census data (IBGE, 2010), the Brazilian urban population corresponds to 84.3% of the total country population, also with high rates, the Brazilian Midwest region follows the same trend, with Cuiabá, aggregating 98.1% of the population in the urban areas.

Historical data reveal that the beginning of the urbanization process on the Cuiabá Riverbanks occurred in the eighteenth and nineteenth centuries, and the first delimitation of the urban perimeter was legally recognized by Act No. 176 of 07/25/1938. Initially there were

occupations on the banks of the streams Gambá, Quarta-Feira, Barbado, Fundo, São Gonçalo, and the Coxipó River (CUIABÁ, 2008).

From this period, the population living along the Cuiabá Riverbanks continued to grow and occupied the banks of urban streams (in Cuiabá and Várzea Grande), configuring the process of urbanization in watersheds (TUCCI, 2005).

These factors, associated with the Cuiabá's urban area expansion, have contributed to the development of communities along the Cuiabá River banks, especially by occupying its protective strips, as well as its affluents, such as the occupations that have occurred since the beginning of urbanization along the Prainha stream.

In the current context, this stream has its riverbed almost 100% canalized serving as a sewage collector from the city, in a continuous state of degradation of its banks and consequently the quality of water (CUIABÁ, 2009).

In addition to the irregular occupations, the urban perimeter expansion in the 1970s until nowadays has favored soil sealing, generating pressures on the infrastructure services, including urban drainage and all its impacts on the surface flowing (CUIABÁ, 2009).

Várzea Grande and Cuiabá have the same urban development, both in terms of urbanization rates, and the form of occupation, whose first urban agglomerations began on the Cuiabá River banks and over the years advancing to the interior of the county.

This socio-spatial configuration resulted in a hierarchy, where Cuiabá is the main city, but Várzea Grande does not express dependence for it, once there is a dynamic between its limits and its spatial interactions demonstrating that each city maintains its autonomy. However, a continuity between the conurbated cities is verified, concomitantly to their particularities, conferring autonomy to each one.

From 1942, the connection between Cuiabá - Várzea, is consolidated with the creation of road bridges over the Cuiabá River "boosting the urban occupation between the cities, starting the conurbation" (VÁRZEA GRANDE, 2019, p. 30). Thus, all displacements, whether for work, study, leisure and even health purposes are performed through these locations.

In the Brazilian cities' context, many were formed and developed along riverbanks, establishing an important relationship between river and city. However, due to the historical process and the socioeconomic dynamics of each region, this relationship has been dismantling, revealing a growing denial of the water bodies importance in their urban layout and spatial configuration.

Cuiabá and Várzea Grande are cities that exemplify the context described above, to the extent that its landscapes do not present elements that enhance the scenic and environmental potentialities of their river. In a very contradictory situation, their landscapes exhibit a series of buildings - residential, commercial and institutional - with their backs to the river, constituting a physical barrier that limits the visual and physical access to its banks.

With this concern in mind, this article presents the relations and emblematic cases of irregular occupations that contrast with the importance of this watercourse for the cities that are cut by it, as well as for the watershed and the Pantanal biome.

The Cuiabá River

The Cuiabá River is located in a strategic point, having a great environmental importance, then its and its affluents preservation is a paramount of the biome's conservation, and the maintenance of the water quality for human consumption and other vital functions to the balance of the regional and local ecosystem. It is one of the main rivers that composes the Pantanal, constituting one of the eight sub-basins that form the Pantanal plain (FILHO. et. al. 2017, p. 164).

With 650 km length, it is subdivided into the Upper and Middle Cuiabá. Its sources are on the Serra Azul slopes, at Rosário Oeste city, at the junction between Cuiabá da Larga and Cuiabá Bonito rivers, and it flows into the Paraguay River (IBGE, 2021).

It belongs to the Upper Cuiabá River Basin, sub-basin of the Paraguay River with an area of 22,851.10 km², located entirely in the state of Mato Grosso, more specifically in the central southern portion (CHIARANDA et al., 2016).

Historical data reports that the state of Mato Grosso was formed from the land's occupation along the rivers, the first urban agglomerations developed considering the river as a communication, transport, and trade routes.

Until the end of the 18th century, this river (Cuiabá) was a great important navigable channel for the colonial period, being a mean of communication with the major political and economic coast centers, and of development of local urban centers (IBGE, 2016).

However, in the current scenario, the space configuration along the Cuiabá Riverbanks is completely changed. The river that gave life to the cities and made them prosper, suffers from several kinds of pollution. In this scenario, it is not surprising that the cities of Cuiabá and Várzea Grande have literally turned their backs on it.

The current situation shows the devaluation of its environmental potential, considering that there are many untreated sewage and garbage dumps in the Cuiabá River, in addition to the scarcity of water, since periods of drought have been more severe in recent decades. These aspects serve as a warning about the serious alterations that have been occurring on its waters in recent years, even considering its great availability of water, its riverbed has been presenting a reduction in the quantity and quality of water, because it has become a large receiving body of pollutant loads of domestic and industrial origin, representing potential risks to human health and its most noble use - human consumption.

Added to this context is the region's climatic dynamics, where floods and droughts occur naturally around its banks, provoking calamitous situations that have left hundreds of people homeless with the recurrence of events over the decades.

In general terms, these brief notes allow us to recognize that the Cuiabá River performs an important role to the state of Mato Grosso, carrying life wherever it passes. Its waters supply cities, its fish feed mainly the riverside population, and in flood periods its waters flood fields and lagoons, sustaining the biodiversity of the Pantanal plain.

METHODS OF STUDY

The research, that studied the Urban Permanent Preservation Areas in the Cuiabá-MT metropolitan region, was based on bibliographic, documental, and empirical research, the maps elaboration, photographic surveys, and on the urban environmental legislation reading, which were fundamental to the superposition and analysis of the data and information found.

When considering the studied universe, it was decided to mapping the irregular occupations, classifying the current conditions of the PPAs, giving the research a qualitative or mixed focus, according to Creswell (2007), as it involves the quantity and quality of these interferences, where it is understood that the occupied PPAs in the region are a small part of an emblematic and recurrent problem of the cities, especially those that grew in a disorderly way around rivers.

Therefore, it was appropriate for the development of the research to adopt a holistic approach, understanding that irregular occupations do not occur separately, they are not isolated cases, but occur in an integrated way to the whole (CAPRA, 1996, p. 16).

Thus, for this study, two territorial clippings were determined - Cuiabá and Várzea Grande, when considering the study of multiple cases, for enabling comparisons, analysis under a dialectical-critical perspective, whose investigation of the phenomena sought to identify influences between the population, their social relations, and the space they occupy.

Therefore, it was necessary to organize it in three phases: the first, exploratory, had the purpose of conducting an expanded investigation on the theme, approaching the main concepts involved in the research from a bibliographic and documentary survey in specialized websites, greater national and international academic relevance journals, as well as in recent research, in order to build a theoretical foundation for a subsequent study of case.

At the exploratory analyses was sought theoretical support from environmental aspects and the theme exploration focused on permanent preservation areas, definitions and evolution over the time, as well as their environmental functions through a systemic approach, in order to better understand their interfaces. Specifically, the urban and environmental aspects in areas of irregular urban occupation.

From the first phase, i.e., the various concepts already built about irregular occupations, risk areas, segregations, among others, and the legal understanding established by the Forest Code about the PPAs, it was possible to structure the second phase of the research, the empirical phase. In this phase, the case study and data collection of the RMVRC was carried out, based on a holistic view, i.e., a spatial cut in which the occupations occurring in the PPAs were analyzed, observing jointly to the various factors that interfere on its context

At this phase, the investigations were carried out based on information available by official agencies, satellite images analysis, thematic maps elaboration of the studied areas (multiple cases), and on-site visits that generated photographic records, which were used to analyze the socio-environmental impacts resulting from irregular occupations, mapped by satellite images using Google Earth and QGIS (GIS) software.

Next, a quantitative survey was carried out, when cartographic bases of the Geographic Information System - GIS were used, available at Shapefile format, extracted from IBGE and treated by the QGIS 3.16 software, allowing the edition and elaboration of the thematic maps required to develop the study.

For the qualitative survey, data were collected in loco, verifying the housing conditions of the population living in risk areas - for inaccessible places, satellite images were collected using Google Earth Pro, the data were collected and treated by the QGIS 3.16 software, composing the thematic study maps.

The third phase of the research consisted in the analysis and interpretation of the data observed in the spatial cutout, that is, the theoretical and empirical issues were analyzed and

discussed, taking into consideration the main characteristics of the occupations mapped in the PPAs under study.

Considering the length of the adopted spatial clipping - 27 kilometers (km), it was necessary to divide it into 18 (eighteen) sections, making it possible to use a comprehensible scale to better demonstrate the anthropic actions occurring in the PPAs.

In order to differentiate the types of occupation, several colors, textures, polygons, lines and points were used on the maps to demarcate all the information collected. Such procedures allowed us to identify, besides the different types of occupation, the land tenure situation of the PPA areas, with the real estate registration (green points), and land without real estate registration (red points).

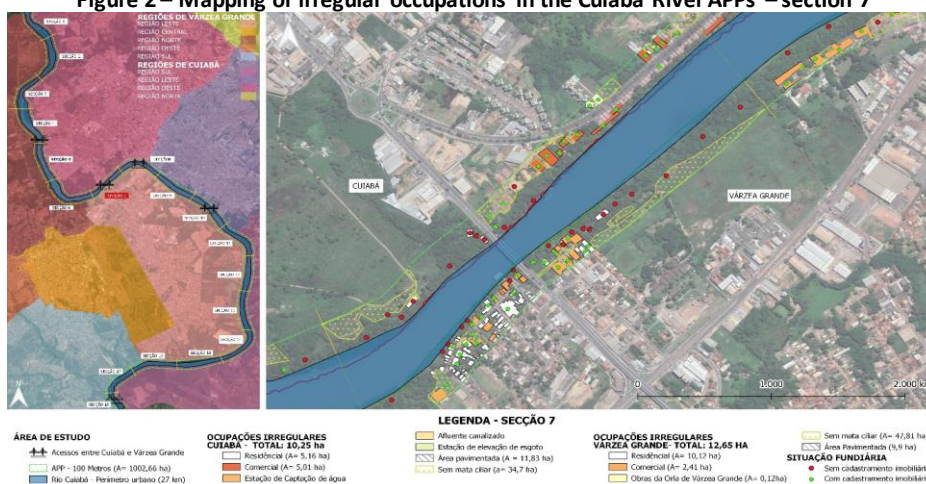
On the maps, the white polygons demarcate residential occupations, orange polygons - commercial occupations, yellow dotted textures - the areas without riparian forest, gray diagonal lines - the paved areas within the Cuiabá River PPAs.

In all 18 maps made - for each section - a matrix map was inserted on the left side, making it possible to observe the entire route studied, and at the right side the enlarged scale section. For a better understanding of the study performed, four from eighteen mapped sections were chosen to demonstrate the pattern of the most emblematic occupations identified in loco, which are showed in the sequence.

Study of the case

For the investigation, the first section chosen was section 7 (figure 2), where a most expressive occupation was observed, mainly by commercial enterprises, it was also one of the most paved section areas, especially on the margin that covers the Várzea Grande city. Despite this concentration of commercial occupations, the most property at this part does not have real estate registration.

Figure 2 – Mapping of irregular occupations in the Cuiabá River APPs – section 7



Source: ADAPTED FROM GOOGLE EARTH, 2021 AND IBGE, 2020.

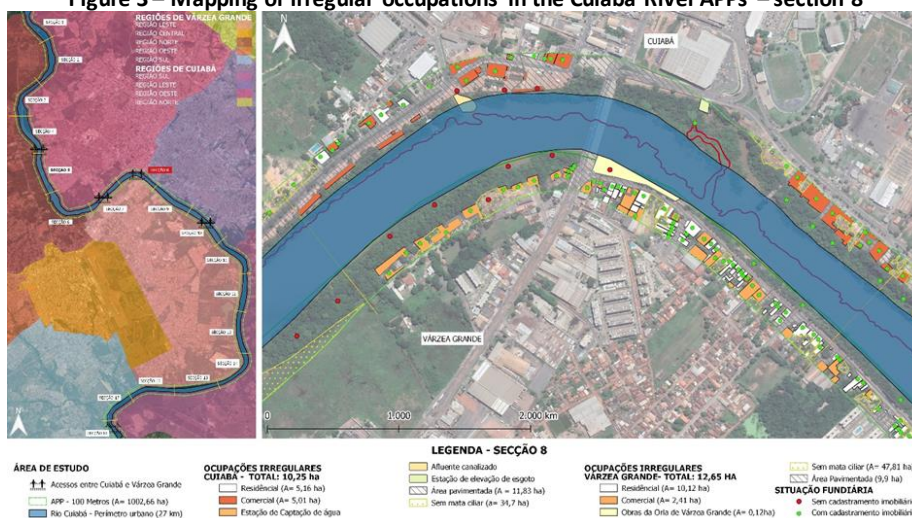
The section 8 (figure 3) covers the protection strip located in the West and East Cuiabá Regions and in the East Region of Várzea Grande, where is located the largest occupation, the

commercial occupations being the most expressive. In both cities the properties are private and inserted in the Environmental Interest Zone.

On this part are included the Cuiabá and Várzea Grande River edge and another access point between the cities, the Júlio Muller bridge, originally built in 1942 and duplicated in 1985. In 2014, in order of the World Cup, it was "tripled" to include the VLT tracks, although this third lane is not being used.

At this part is located a sewage pumping station (marked on the map - near the bridge), where the Prainha stream flows into the Cuiabá River, the Prainha's PPAs are completely urbanized, and its riverbed serves as a channel for the sewage destined to the Cuiabá River.

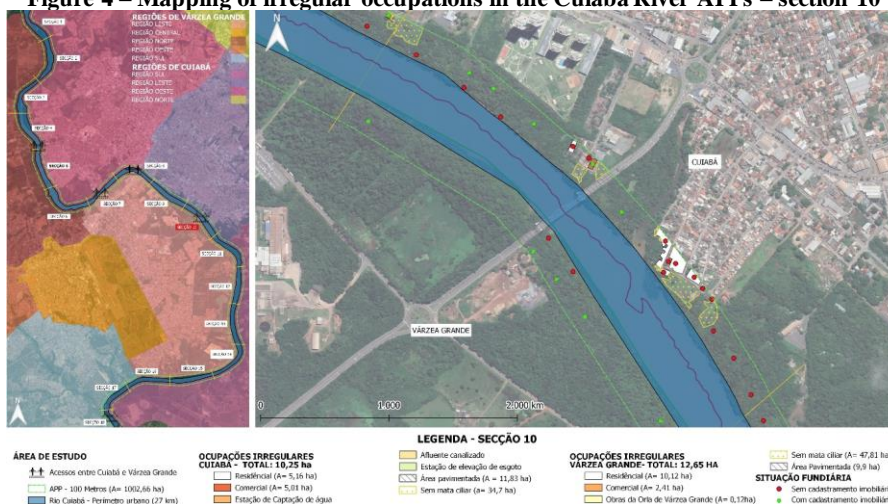
Figure 3 – Mapping of irregular occupations in the Cuiabá River APPs – section 8



Source: ADAPTED FROM GOOGLE EARTH, 2021 AND IBGE, 2020.

The section 10 (figure 4) covers the protection strip also located in the Eastern Regions of the cities, a decrease in occupations is observed, except part of the Praeirinho neighborhood, where there is a low-income population densification, the population portion located in PPA constantly suffers from flooding and erosion, even after the construction of the Manso hydroelectric dam which had contributed to minimize these events. Therefore, this section constitutes environments denominated as risk or unhealthy areas.

Figure 4 – Mapping of irregular occupations in the Cuiabá River APPs – section 10



Source: ADAPTED FROM GOOGLE EARTH, 2021 AND IBGE, 2020.

It was observed in this neighborhood, as well as in all the houses found in the irregular occupations of the study area, the inexistence of infrastructure, basic sanitation, public equipment and mobility/public transportation, these characteristics make this, one of the most critical segments due to the settlement of many families in this area.

Also was observed the occurrence of self-construction housing, exemplifying the words of Maricato (2009, p. 14), when referring to self-construction and the portion of the population that is forced to live in unsafe areas.

The Cuiabá River importance since the emergence of the first cities around it has always permeated between transportation, survival (fishing) and culture. Today, with the growing degradation of its banks and the contamination of its waters by sewage from large urban centers, the reality has changed. It is not safe to feed on its fish, nor have contact with its waters, generating a vision of non-valuation and non-recognition of the river in its diverse potentialities.

DISCUSSION OF THE RESULTS

On the Cuiabá River banks - urban perimeter, the total population of the surrounding neighborhoods are 142,950 inhabitants, whereby 53,580 in Cuiabá and 89,370 in Várzea Grande.

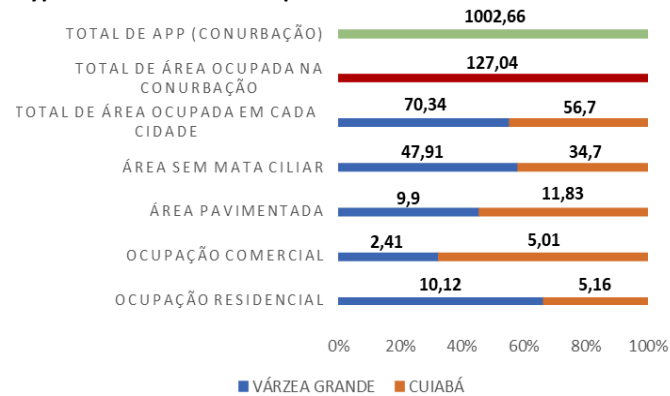
It is worth emphasizing that most of the water collecting points for treatment and distribution to the population are within the most urbanized with the largest incidence of irregular occupations in the PPAs of both cities. Therefore, these are considered potentially polluting and degrading areas of this watercourse.

In the Cuiabá River investigated course, on the left bank downstream of the river, where is the Cuiabá city, the total area of irregular occupations mapped in PPAs was 56.7 hectares, of which 5.16 hectares are residential occupations, 5.01 hectares are commercial occupations, 11.83 hectares are paved areas, and about 37.7 hectares have no riparian forest, thus leaving the soil exposed.

In the PPAs on the right bank of the Cuiabá River, which belongs to Várzea Grande city, the total irregular occupations in the PPAs mapped and diagnosed as inadequate for an PPA, were 70.34 hectares, of which 10.12 hectares are residential and 2.41 hectares are commercial enterprises, 9.9 hectares of paved area and 47.91 hectares without riparian forest, the result of improper occupations that continually degrade the riverbanks in several ways, either by removing the riparian forest, producing garbage and sediments that end up in its riverbed as a result of rainfall or by sealing the soil (Graph 1).

From the results found, the appropriation by housing occupations in the PPAs in larger quantities identified along the river banks where Várzea Grande is located may be associated, among other factors, with a lower income class when compared to the rates presented for the Cuiabá city.

Graph 1 – Types of land use and occupation in the Cuiabá River APPs – data in hectares



Source: ORG. BY THE AUTHOR, 2021.

In short, the irregular occupations observed along the Cuiabá River (urban perimeter) PPAs, in a great proportion, are by classes that do not have access to the formal property market. However, there was also an incidence of occupations by middle-class families, as well as commercial and institutional developments, demonstrating an inharmonious relationship between the population and the environment.

Considering the criteria established in the urbanistic and environmental norms of these two cities, this difference can be attributed - among other factors, specifically, to the lack of public housing policies for the low-income population, which are forced to withdraw from central areas, above all, due to the harmful action of the real estate market. This situation, even if it is pointed out in a smaller proportion, is more critical in the Várzea Grande protection strip - PPA, and can be seen in the maps, as the mapping moves away from the "old port" the occupations are decreasing, which may be related to issues of distance between work and housing, as well as the offer of public services, considering its location. Under this aspect, it is necessary to consider that the population depends on the central area to meet their basic needs: such as employment, education, leisure, i.e., to have access to the minimum necessary equipment that can be traveled on foot or by modal, such as bicycles.

Them, the results found demonstrate that in fact along the APPs the greatest population densification is justified by the proximity of the activities developed by this population, because most of them work in the commerce and services and have no own means of transport a context that is aggravated by the low quality of public transportation offered in the region.

Due to these aspects, the population, mainly low-income, occupies areas in situations of different risks, motivated by the proximity and practicality of living close to the central area, even if they need to take constant risks to do so.

In the conurbation, whose occupations are basically made up of precarious housing and without infrastructure, a large part of the population living in these locations is low-income, according to the data found and spatialized on the maps. However, there are areas where the highest incidence is by commercial businesses, as observed at Avenida Beira Rio, in the capital Cuiabá.

However, unlike the commercial developments, it is notorious the needing for "housing" by the poor population, so, the irregular occupations on the PPAs strips observed along the Cuiabá River occur mainly by the population excluded from the formal housing market, but it is not exclusive.

In this scenario, it was also identified that the PPAs of the Cuiabá Riverbanks are in an advanced process of environmental degradation, consolidating them as cities with their backs to the river. This shows that the urban environmental conflicts verified by the research have been intensifying over the years, highlighting the urgency of state actions for its confrontation.

Therefore, in the perimeter analyzed, it was possible to realize, near the Cuiabá River, that the vegetation and the protection strips are in a degradation process, with a serious incidence of exposed soil, predominating areas of urban influence, dominant anthropic areas with ecological tension, and livestock farming, in places where there should be native riparian forest.

This is a recurring condition in the conurbation, because, in face of the local climatic situation, the repeated events of water shortage and high temperatures can be referred to as effects resulting from the non-valuation and recognition of water bodies in the landscape. Although there is a normative apparatus, constituted by urban and environmental norms, aimed at this issue, the local urban management system is inefficient in its application, because there is no concern or search for improvements in relation to this situation.

From the scenarios presented on this research, where it was possible to verify the various forms of irregular occupation (residential and commercial), there emerges a great concern with the socio-environmental conditions resulting from these occupations, especially when considering the consequences resulting from the various companies installed along the river, especially the damage they cause as they remove the riparian forest, waterproof the soil, dispose garbage and debris improperly on its riverbed. In addition to the serious impacts caused, they create a visual barrier - difficult to reverse, which blocks the natural landscape view of the river making it difficult in a larger context, its valorization and urbanity.

In the general terms, this scenario is the result of several alterations at the Cuiabá River landscape over the years, resulting in numerous problems that, together with urban growth and the irresponsible use of the waterways in its sub-basin, compromise the quality of the water, and in the drought periods, cause its scarcity and a serious problem of city supply availability, besides compromising all the aquatic fauna in its basin.

CONCLUSION

This research verified, on the mapping and field surveys, the occurrence of irregular occupations - by several kind of uses (residential and commercial) on both right and left Cuiabá Riverbanks, demonstrating that the Cuiabá River Basin has experienced over the years several impacts caused by anthropic actions.

Cuiabá and Várzea Grande are cities that exemplify the picture described above, as their landscapes do not present elements that value the scenic and environmental potentialities of their river. In a very contradictory situation, their landscapes exhibit a series of buildings - residential, commercial and institutional - implanted with their backs to the river, constituting a physical barrier that limits the visual and physical access to its banks.

These aspects serve as an alert to the serious changes that have been occurring in recent years, even considering its great water availability, bearing in mind that the Cuiabá River has been presenting a reduction in the quantity and quality of its waters over the years, as it has

become a large receiving body of pollutant loads of domestic and industrial origin, representing potential risks to human health.

This is a recurring condition at the conurbation, in face of the local climatic situation, the repeated scenarios of water scarcity and high temperatures, can be referred to as effects resulting from the non-valuation and recognition of water bodies in the landscape. Even considering the normative apparatus, constituted by urban and environmental norms, aimed at this issue, the local urban management system shows itself inefficient on its application, specifically because there is no concern or search for improvements in relation to this scenario.

From the scenarios presented in this research, where it was possible to verify the different forms of occupations (residential and commercial), a great concern emerges with the socio-environmental conditions resulting from these occupations, mainly when considering the consequences arising from the various companies installed on the banks of the river, above all, for the damage they cause as they remove the riparian forest, waterproof the soil, discard garbage, and unduly debris in its riverbed. In addition to the serious impacts caused, they create a visual barrier - difficult to reverse, which prevents the view of the river's natural landscape, making it difficult to appreciate and urbanity.

From the scenarios presented in the research, where it was possible to verify the various forms of occupation (residential and commercial) emerges a great concern with the socio-environmental conditions resulting from these occupations, especially when considering the consequences resulting from the several companies installed along the river, especially the damage they cause as they remove the riparian forest, waterproof the soil, dispose of garbage and debris improperly on its riverbed. In addition to the serious impacts caused, they create a visual barrier - difficult to reverse, which impedes the view of the natural river landscape, hindering its valorization and urbanity.

Based on these findings, it was confirmed that the legislation alone does not have the power to guarantee the quality, preservation and maintenance of PPAs. They only will be effective if there are public policies aimed to meeting essential rights of the urban life quality, specifically, those aimed to guarantee decent housing and the provision of basic environmental sanitation services for the entire population.

Not least, in order to minimize environmental impacts, in addition to the effectiveness of legislation, it is necessary to invest in the recovery the cities green areas, to promote environmental education in schools and universities and when all this is accomplished, it will be a step towards to the urban sustainability so dreamed.

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