BEYOND RHETORIC: CHALLENGES AND OPPORTUNITIES FOR THE DEVELOPMENT OF THE AMAZON

https://doi.org/10.56238/sevened2024.029-026

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ABSTRACT

The Amazon region is environmentally and socially diverse from other Brazilian regions, but it has been the target of inconsistencies in the implementation of public policies that negatively interfere with the development of the state, with harmful effects mainly for the capital Manaus. The great importance of the Amazon rainforest for the sustainability of the planet and the frequent attacks on natural wealth, motivate this work that seeks to alert to problems such as rural exodus, overpopulation of urban centers and the consequent negative effects on the quality of life of the population, problems connected to desertification and degradation of the Amazon environment. These themes have been addressed by renowned scientists and many national and international publications denounce the economic interests involved in public policies that masquerade as "developmentalist". This article talks to these experts, concluding about the extreme difficulty of overcoming the populist policies that have culturally marked the history of the region. It also reflects on the modernization and development policies of the State of Amazonas, highlighting the contradictions and reflecting on the consequences of this development model, which conflicts with the preservation of the region's natural resources.

Keywords: Development. Public Policies. Urban Centers. Regional Diversities. Migration. Forest. Natural resources.

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INTRODUCTION

Throughout the twentieth century and even at the beginning of the twenty-first century, we have witnessed numerous harmful effects on the environment, caused by the incessant search for growth and development, but disconnected from regional and socio-environmental issues. The exploitation of populations, the destruction of historical heritage, the concentration of wealth, the excessive production of all kinds of garbage, the increase in the frequency of environmental disasters, the unregulated use of pesticides, the destruction of forests and the pollution of ecosystems are legacies of harmful policies that have resulted in the loss of individual and planetary quality of life. (Araújo, 2003)

The concept of development as synonymous with progress led to the predominant developmentalist ideology in the world and still contaminates underdeveloped and developing countries to the point of believing that their progress is conditioned by the devastation of natural resources (Araújo, 2003). Not even the increasingly frequent studies that reflect the emergence of a new environmental awareness, both at the national and international levels, can be effective in curbing exploitative interests. There is technology to monitor and control the damage so as not to compromise life on the planet. However, as Mozeto (2001) states, no monitoring program will achieve these objectives without valuing environmental science and without demanding and specialized demands from society.

In view of the above and turning our attention to the Brazilian reality, we must emphasize the diversity between regions and the consequent need for equally differentiated environmental policies. However, environmental public policies require the use of large budgetary resources and, in developing regions, actions that encourage degradation are prioritized. This generates many contradictions, whose solutions do not result only from efforts to produce laws, decrees and other normative acts. In Amazonas, for example, in addition to institutional and budgetary weaknesses, economic forces resist compliance with existing environmental standards, favoring progress associated with unbridled urban growth.

These are complex issues that justify addressing the two issues that are very well interconnected in the state of Amazonas and whose connections are addressed in this article: the forest and the city, because to the extent that one reduces its wealth, the other expands its borders under the force of the interests of capital. Manaus, inserted in the middle of the Amazon forest, is experiencing this very intense process of urban expansion that results in environmental and socio-spatial exclusion.

It is also intended to share the importance of making the fulfillment of the Sustainable Development Goals (SDGs) a reality, where "Protecting, restoring and promoting the

sustainable use of terrestrial ecosystems, sustainably managing forests, combating desertification, halting and reversing land degradation and biodiversity loss" (SDG Goal 15), is certainly focused on the reality of the Amazon region. (UN, 2024)

With this in mind, it is intended to discuss ways to develop the state of Amazonas with inclusive policies, which try to stop the advance of the city over the forest, which do not degrade the forest, water resources and, at the same time, bring development and employment to the population of the entire region. This means exploiting natural resources, generating income for the forest dweller without destroying the wealth of the biome. It is a necessary challenge for new and future generations.

This research sought data in theses, dissertations and articles published in specialized journals, as well as in official publications published on several websites, including the IBGE database, the Project for Monitoring Deforestation in the Legal Amazon by Satellite (PRODES), FAS (Sustainable Amazon Foundation), IDESAM (Institute for Conservation and Sustainable Development of Amazonas) among others. Some authors of books with environmental themes and specific to the Amazon region were also consulted and cited.

SOCIO-SPATIAL DIVERSITY

With most of its territory located in Brazil, although it extends over eight other countries (Peru, Ecuador, Colombia, Venezuela, Bolivia, Guyana, Suriname, and French Guiana), the Amazon rainforest is the largest rainforest in the world and plays an important role in maintaining the planet's climate. Contributing to this function is the fact that the hydrographic network of the region is composed of the largest hydrographic basin in the world, corresponding to 45% of the Brazilian territory.

It seems natural, therefore, that the river influenced the process of occupation of the Amazon and that the process of development of this northern part of the country was associated with river navigation, stimulated by the extraction of wealth from the forest. In fact, initially, at the time of the first navigations, the demand for fuel (charcoal and firewood) led to the creation of communities and cities called "wood ports". These communities served to supply the fuel, thus favoring the establishment of some farms on the banks of the rivers. Subsequently, when rubber became the raw material increasingly sought after by industries around the world, the latex trade gained momentum, producing major transformations in the city of Manaus, the largest in the state of Amazonas (Alkmin, 2000; Valois Coelho, 2012).

It is known that the extraction and production of rubber are not intensive activities in terms of change in land use, however, the flow of migrants and the formation of urban centers were largely responsible for the transformations that occurred in Amazonian cities, especially in the state capital. During this period, the city of Manaus was granted the status of metropolis, and its expansion was carried out under the incentive to the deforestation of the surrounding forest. In addition, the rubber barons, as the latex exploiters in the Amazon were called, also exploited the cheap labor of the rubber tappers who, attracted to the Amazon by the desire for progress, were maintained through an inhumane system of debt slavery (Hall, 1991; Valois Coelho, 2012).

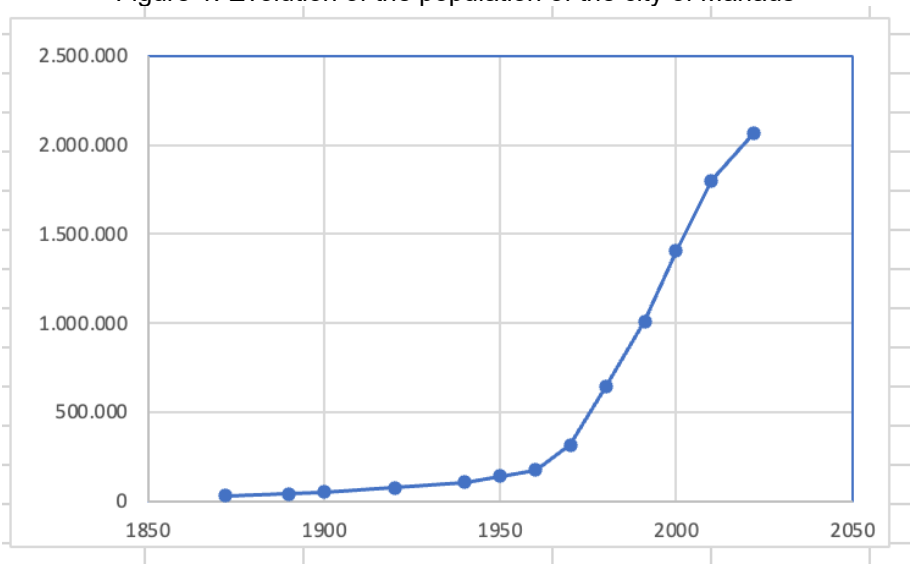
After the golden period of rubber, the exploitation of nature and the Amazonian man continued throughout the policies of acceleration of development that followed, accentuating the contrast between rural and urban life in the region. These contrasts have been much more serious in the city of Manaus than in other municipalities in the state, because although the city is in the heart of the Amazon rainforest, deforestation, asphalt paving and modern buildings increasingly contribute to altering the movement of air masses, variations in temperature and rainfall and the very physiognomy of the city. "Much of the pollution of the streams and the loss of biodiversity was/is caused by the dynamics of the city's urban expansion." (Nogueira et. al., 2007, p. 5430)

This problem can be observed in several cities around the world, where developmental policies have aggravated the phenomenon of migration, population concentration in unsuitable areas, precarious infrastructure and accentuated urban poverty. In Manaus, several policies aimed at the development and occupation of the region have intensified this phenomenon.

The Manaus Free Trade Zone, in particular, was a specific policy for the development of Amazonas that had a great impact on the growth of the city. There was an increase in income and employment, in population growth, but it also represented the beginning of an enormous urban concentration and wealth. In particular, it helped accelerate the process of innerland/capital migration, changing the pattern of regional settlement and intensifying the pace of urbanization. Throughout this process, Manaus grew over the surrounding forest and lost vegetation cover with evident damage to infrastructure, the emergence of diseases, social exclusion and environmental degradation.

The result of the disorderly population growth of the city of Manaus has been adverse, as can be deduced from the latest IBGE Censuses (Figure 1).

Figure 1: Evolution of the population of the city of Manaus



Source: Data obtained from the IBGE CENSUS and adapted by the authors.

It is noteworthy, when observing figure 1, that Manaus began the accelerated growth process in the 1960s and 1970s, exactly the period in which the Manaus Free Trade Zone was created (1967), progressing from then on, with a greater inland-capital migratory flow, attracted by the industries installed in the capital. It is understandable that cities offer the possibility of a better life, but the benefits are not universal. Many of those who migrate from rural to urban areas find unfavorable living conditions, adding to the contingent of slum dwellers and homeless people who, living in subhuman situations, have no other option but to exhaust the resources of the environment. Specifically in Manaus, the migration problems were probably the result of public policies that did not favor the settlement of people in the interior. On the contrary, they promoted the overpopulation of urban centres, with the consequent negative effects on the quality of life in both urban and rural areas. (Valois Coelho, 2012)

The result has been doubly damaging to the development of the State: on the one hand, an underdeveloped rural area, lacking in services, cries out for actions that capitalize on the potential of nature in favor of a better life for its inhabitants; on the other hand, the populations of urban centers, especially those of the state capital, live with invasions, inadequate housing, unemployment, violence, malnutrition and environmental degradation, among other evils. In conclusion, the city of Manaus presents contradictions that reveal the continuous process of human action capable of modifying the city's natural landscape, apparently dissociated from the green. (Valois Coelho, 2012)

It is said that the impacts are not only visual, they interfere with the climate, intensify regional and socio-environmental inequalities and make the lives of Amazonians full of obstacles and tribulations. Unequivocally, there is the physical impossibility of constant

growth, resulting in the need to impose limitations on development and the urgency of seeking a possible balance. Especially if we consider that this growth is aggravated by the increase in poverty resulting from socioeconomic imbalance and the constant and unsustainable reduction of forest resources.

The hot and humid climate of Amazonas also differs from other regions of the country in that it has high humidity and temperatures almost all year round. Abundant rains occur with seasonal frequency, episodes of floods that flood and fertilize the land and episodes of drought that complicate the daily life of the Amazonian caboclo who feeds on fishing and communicates through the numerous waterways. These characteristics are due to the geographical position of the region (close to the equator) and the presence of large rivers and humid tropical forest, which is very important for the carbon cycle. Another extraordinary climatic difference, in relation to the other Brazilian regions, is the speed of the wind, which, in this equatorial corner of the planet, does not move as in other places of temperate climate, hinders the dilution of pollutants and, consequently, agglomerates higher concentrations in the atmosphere. (Valois Coelho, 2012)

With respect to public policies directed at the Amazon region, these differences need to be taken into account. These are differences that make Brazil a continental country with different landscapes, climates, population distribution and wealth, consequently, the different regions cannot be the target, equally, of uniform policies, such as a package distributed equally to the entire national territory. Policies must take into account the unequal regions of the country and, in this regard, the Amazon region must also be seen in its cultural and environmental diversity, considering its geographical position and the historical exploitation of its apparently inexhaustible riches.

Ultimately, the development of the state cannot copy the same devastating process that destroyed the world's forests. Here, the numerous attempts to promote "economic growth" were based on the riches of the Amazon and its potential for the implementation of rhetorical, fanciful and deceptive projects driven by greed and the desire to amass fortunes.

Instead, the development of the Amazon should aim at a balance between the preservation of natural resources and the real needs of the people of the region, avoiding the cauldron of social and environmental problems that removes real opportunities for development from municipalities in the interior of the Amazon, leaving them equally vulnerable to environmental and human degradation. The integration of the Amazon with the rest of the country has repeatedly proved to be a geopolitically incorrect and misleading attempt, as it disregards the regional specificity and the unique ethnic and cultural diversity of its people. (Fraxe, 2009)

On the other hand, Amazonians are required to understand the environmental value of this diversity and the ecological importance of its preservation. The same man who is responsible, to a greater or lesser extent, for the problems that the city faces, urgently needs to become aware of the reality that affects him with the same intensity with which he is affected.

HOUSING POLICIES AND THE DESTRUCTION OF STREAMS

Manaus was fortunate for nature with the numerous watercourses that crisscross the city and make up one of the densest and most complex urban watersheds in the world. However, a look at the history of Amazonas leads to the conclusion that the heyday experienced during the period of rubber exploitation dressed the city of Manaus with the false cloak of the "belle époque" and the natural beauties gifted by nature represented, and still represent, an obstacle to development.

The planning of the city of Manaus, at the end of the nineteenth century, disregarded the landscapes that nature offered, favoring urban projects copied from European countries. Neighborhoods were created by opening paths in the middle of the forest that, like the streams, came to represent an obstacle to progress so admired by colonizers and colonized. In addition, the Amazon rainforest is astonishingly large to justify the idea of the infinity of natural resources contributing culturally, to the mistaken thought that these "gifts of nature" would be inexhaustible. Because there was an abundance of resources and exaggerated dimensions, the conscious concern with saving nature was not justified. (Valois Coelho and Cartaxo, 2004)

The history of Manaus, which is told through the ages by several historians, demonstrates a strong hostility to nature, culminating in actions harmful to fauna, flora and other natural riches and negatively impacting the quality of life of Amazonians, especially the most vulnerable. Especially after the installation of the Manaus Free Trade Zone (1967), the urban population continued to grow at very high rates, attracting the population from the interior of the state and also from the south of the country and abroad. The domains of asphalt and concrete were expanded; allotments and housing complexes were inserted in "urban voids", as highlighted by Silva and Deus. (Silva and Deus, 1993; Azevedo, 2006)

Without real estate interest, the igarapés did not correspond to the image that the market had of the city and, under these conditions, they were gradually filled in, or polluted (those that remained) and their banks transformed into large favelas. Over time, the indiscriminate use of water, the absence of basic sanitation (the main cause of river

contamination) and the increase in the excluded population that settled there, ended up producing large pockets of poverty embedded in the central area of the city. (Azevedo, 2006)

In the case of these populations that settled on the banks of the streams, in addition to environmental, urban and landscape degradation, one must consider the unsatisfactory living conditions they experience, as they are naturally impacted by the ebb and flow during the periods of flood and ebb of the river, and also suffer the effects of the lack of basic sanitation, sanitary conditions, etc. (Silva and Deus, 1993)

Responsible for the drainage of the urban area of Manaus, the streams in the center of the city that have not been filled are all polluted, serving only as a means for the proliferation of diseases (Silva and Deus, 1993). Such a process of degradation was not insensitive to the public power, which eventually intervened in reality, with the objective of controlling nature, conditioning it to the purposes of economic power. In this context, nature and man alternated as objects of those interests, and the rhetoric of political discourse had the function of convincing the population and justifying social projects that were not committed to the effectively vulnerable population itself. Projects totally unrelated to the reality of the tropics that, as a result, ended up causing environmental degradation, depredation of ecosystems, water pollution, in addition to various public health problems.

For all this and for what was exposed in the first topic of this work, it can be stated that the pollution of the igarapés is mainly the result of the process of urban evolution and the rapid growth of the city of Manaus, which caused environmental changes, affecting the water courses and causing progressive degradation. But it is also the result of a notorious hostility between the City and Nature, a hostility that is evident when we walk through the city center and peripheries, and that has roots in cultural, economic, political and historical issues. As an example, in addition to the rapid and disorderly process of city growth, one can add the choices for urban infrastructure to the detriment of green areas. These choices point to the association of the forest and watercourses as obstacles to economic development and to the idea that environmental and preservationist legislation hinder the use of natural resources for the prosperity of the city. Thus, as the city "remodels" itself, the natural elements disappear and give way to the (de)built environment that creates an artificial space, far from the Amazonian and tropical roots. This historical practice also suggests an attitude of contempt for nature, embodied in public policies that encourage attacks on Amazonian biodiversity and encourage the degradation of this unique space on the planet. (Rocha, 2020)

Allied to these issues, the absence of basic sanitation aggravates the problem of pollution of the streams. "Sewage is rich in organic matter and nutrients" that feed microorganisms. When sewage is discharged untreated into the stream, or river or lake, ecosystems become unbalanced, increasing the population of microorganisms and increasing the consumption of dissolved oxygen in the waters. In this way, "microorganisms that do not need oxygen to survive and that release smelly gases develop." If treated properly, sewage can be discharged into water bodies without causing environmental damage. However, on the banks irregularly occupied by stilt houses (houses on stilts) where the construction of cesspools is impossible, it is common for fecal waste to be thrown directly into the streams. In these circumstances, given that the supply of organic matter is very large, contaminated sewage facilitates the transmission of waterborne diseases. (Silva and Deus, 1993, p. 39)

It is true that social problems resulting from these practices are also huge. If it is impossible to ignore that population growth without planning put pressure on the city environmentally and altered its physical space, since a large part of the pollution of the streams and loss of biodiversity was/is caused by the dynamics of the city's urban expansion, it is also possible to note, due to the reality described here, an enormous social diversity. Valued areas that boast a high concentration of income contrast with areas where the lack of opportunities and healthy living conditions reflect the exclusion and social segregation that prevail in the capital of Amazonas. (Walnut *et. al*., 2007)

A model proposed by the government to solve the problems generated by urban densification in the city of Manaus and, mainly, on the banks of the streams that cross the city, was the Social and Environmental Program of the Igarapés of Manaus – PROSAMIM. Sold as a "new" proposal, to improve the living conditions of that population that inhabits the vicinity, bank and bed of the streams, it also conveyed the idea of "revitalization" which means promoting sanitation, desilting and rational use of the land in that space. (Azevedo, 2006)

Positive repercussions on the city's appearance under pressure from the government lobby led the media not to value the failures, among them the "garbage dump, the grounding of streams and the felling of native trees". Little vegetation, a lot of asphalt and a lot of concrete reinforce one of our most serious problems, which is the drainage of rainwater. Another argument that brings content to the discussion is the issue of the revitalization of the streams, an item that is part of the program, but which ultimately meant exclusively the removal of people who lived on floating boats or in houses on the banks of

the streams, to other places. It is clear, once again, that for the market, these people are the ones who personify environmental degradation. (Nogueira et. al. 2024, p. 115)

PROSAMIN did not invest in the environmental quality of the streams and decided to channel streams, fill areas for the construction of roads and waterproof the soil, models already considered outdated by environmental science. It is important to raise these issues and seek a dialogue about the importance of the Amazon's environmental resources for the sustainability of the planet, but also for the population that inhabits the region. This avoids contributing to the atmosphere of hostility towards environmental preservation.

DEFORESTATION AND ECONOMIC INCLUSION OF TRADITIONAL POPULATIONS

It is undeniable that the Amazon has a more than symbolic importance on the world stage and in this sense, thinking about the relationship between traditional populations and the environment meets this importance in a very positive way, as it promotes the inclusion of these peoples in the economic dynamics of the country, reconciling environmental conservation with social inclusion, food security and income generation for these populations. In addition, it contributes to the reforestation of degraded areas, is part of the Sustainable Development Goals, rescues and conserves biodiversity, and also contributes to removing CO2 from the atmosphere, bringing solutions to current climate change (De Lima et. al., 2022)

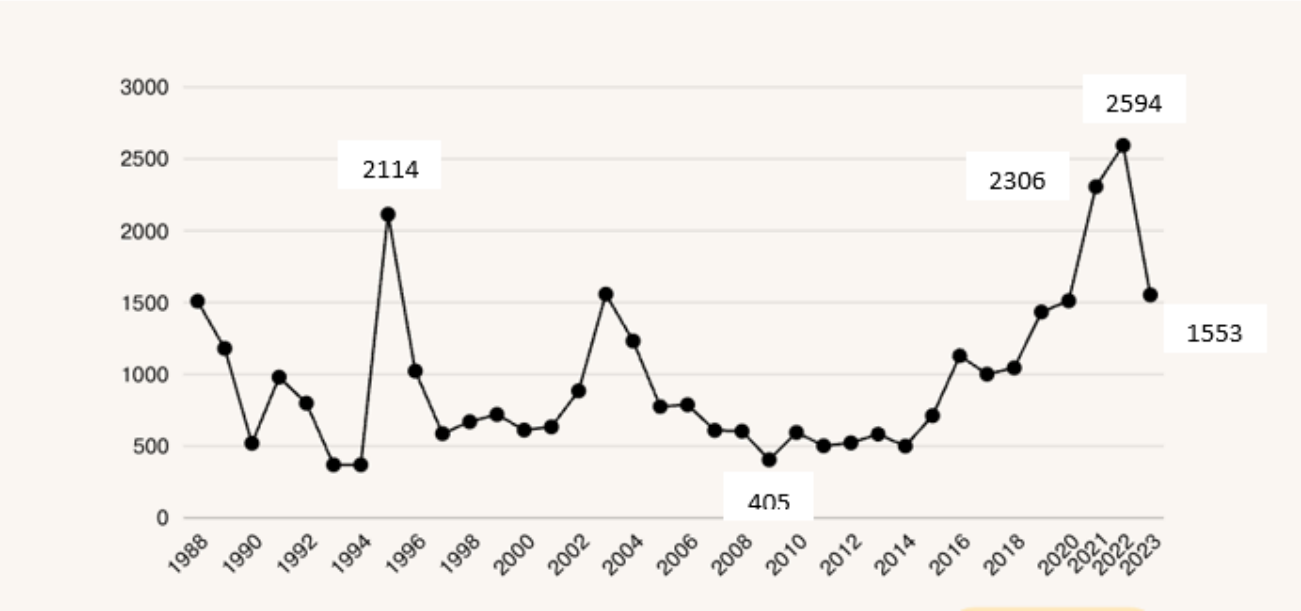
The fulfillment of goal 15 of the SDGs (Sustainable Development Goals), "Protect, recover and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and biodiversity loss" is closely related to the preservation of the Amazon environment. This environment was and still is disturbed by disorderly occupation and the increase in deforestation rates and changes in land use, causing fragmentation of forests. Fragmented forests (fragments of deforestation) are more susceptible to fire and, under these conditions, the fires spread for long kilometers because the less humid, less dense and more flammable forests do not offer resistance to the spread of fire. (Copertino et. al., 2019)

The Monitoring of the Brazilian Amazon Forest by Satellite (PRODES) is one of the monitoring systems used by the National Institute for Space Research (INPE). PRODES makes use of images sent by the Landsat satellite and produces estimates of deforestation rates for the Legal Amazon (Acre, Amapá, Amazonas, Goias, Mato Grosso, Pará, Rondônia, Roraima and Tocantins) in order to support inspection and control agencies.

Based on data released by PRODES, figure 2 below highlights the historical evolution of deforestation in Amazonas, where it is possible to observe that in 2023 there

was the first significant reduction in deforestation since 2018, but even so, the rates are much higher than those of 2009.

Figure 2 – Historical evolution of deforestation rates in the state of Amazonas



Source – Graph prepared with the help of Canva. Data were obtained from the PRODES/INPE Project, 2024 (http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes).

For this reason, it is essential to reduce deforestation in the Amazon rainforest, but it is also necessary to recover already degraded areas, as scientific data show that the region has been exposed to rising temperatures, extreme droughts, and criminal deforestation, the rates of which may be accelerating the process of "savannization" of the rainforest. This process may become irreversible, that is, the Amazon may be very close to a tipping point (point of no return), resulting in new CO2 emissions into the atmosphere and significantly altering rainfall patterns, food production, and water and energy security. (WRI Brasil, 2022 (a,b); Valois and Cartaxo, 2022; Flores, 2024).

When we talk about the recovery of degraded areas, we are also dealing with economic development, as the Amazon has wealth that can be transformed into an export product, generating more jobs and more income for rural populations. Indigenous people, riverside dwellers, extractivists and small rural producers, many of whom have no access to credit, no training and no chance to participate in the market, need to be included in an effective effort to create a sustainable economy. (Biderman, 2024)

Restoring degraded areas means new opportunities for the inclusion of new agroforestry products in the market, such as native or exotic tree species. It is also possible to rescue traditions of consumption of several species that have disappeared from the market, such as some native fruits, of enormous cultural value. Finally, it can also open up

opportunities for new markets such as bioeconomy, circular economy, carbon market or environmental services in general. These cropping systems are better resistant to climate change and take advantage of resources with lower costs and reduced use of inputs. By putting into practice environmentally correct projects for some products such as flour, pirarucu, guarana, nuts, bananas or some fruits that are already practically extinct, the bioeconomy can guarantee support to the communities that live on the banks of streams and rivers. (De Lima et. al., 2022; FAS, 2022)

An example that worked with the sustainable use of the Amazon's resources was controlled fishing that took the pirarucu out of the threat of extinction. The sustainable management of this resource has allowed prirarucu, an Amazonian delicacy, to become a source of income for 217 families living in 11 communities of the Mamirauá Sustainable Development Reserve (RDS), with a gross revenue of more than R$ 423 thousand in 2021 alone. (FAS, 2022)

Finally, the priority given to the construction of roads, buildings and other structures has led to the reduction of spaces for green areas and afforestation. To reverse this situation, it is understood that effective public policies aimed at increasing urban afforestation, such as tree planting programs in public and private spaces, can contribute to the recovery of the city's wooded areas. It is essential that measures are adopted that promote sustainable urban planning, the dissemination of information about the importance of green areas for the quality of life of the population and the implementation of policies for afforestation and preservation of green in the city.

THE CONTROVERSIAL PAVING OF BR 319 AND THE AMAZON RAINFOREST

Another unsustainable activity that fostered the degradation of forest areas in the Amazon was the construction of highways. In this regard, some mistakes of the past have been perpetuated in the present. The Environmental Impact Study and Environmental Impact Report (EIA/RIMA) required for these projects does not reflect the main impacts of these projects, such as the environmental cost of deforestation that goes far beyond highway routes, and the migration that inevitably occurs when access is facilitated. (Fearnside, 2006)

In the past, at the time of the construction of the BR-010 highway known as Belém-Brasília, the EIA-RIMA was not yet required, a document created only in 1981 through Law No. 6,938/81 (Brasil, 1981). [4] Defended as the solution for the integration of the Amazon

[4] This law, based on items VI and VII of article 23 and article 235 of the Constitution, establishes the National Environmental Policy, its purposes and mechanisms for formulation and application, constitutes the National Environmental System (Sisnama) and establishes the Environmental Defense Registry. (Brazil, 1981)

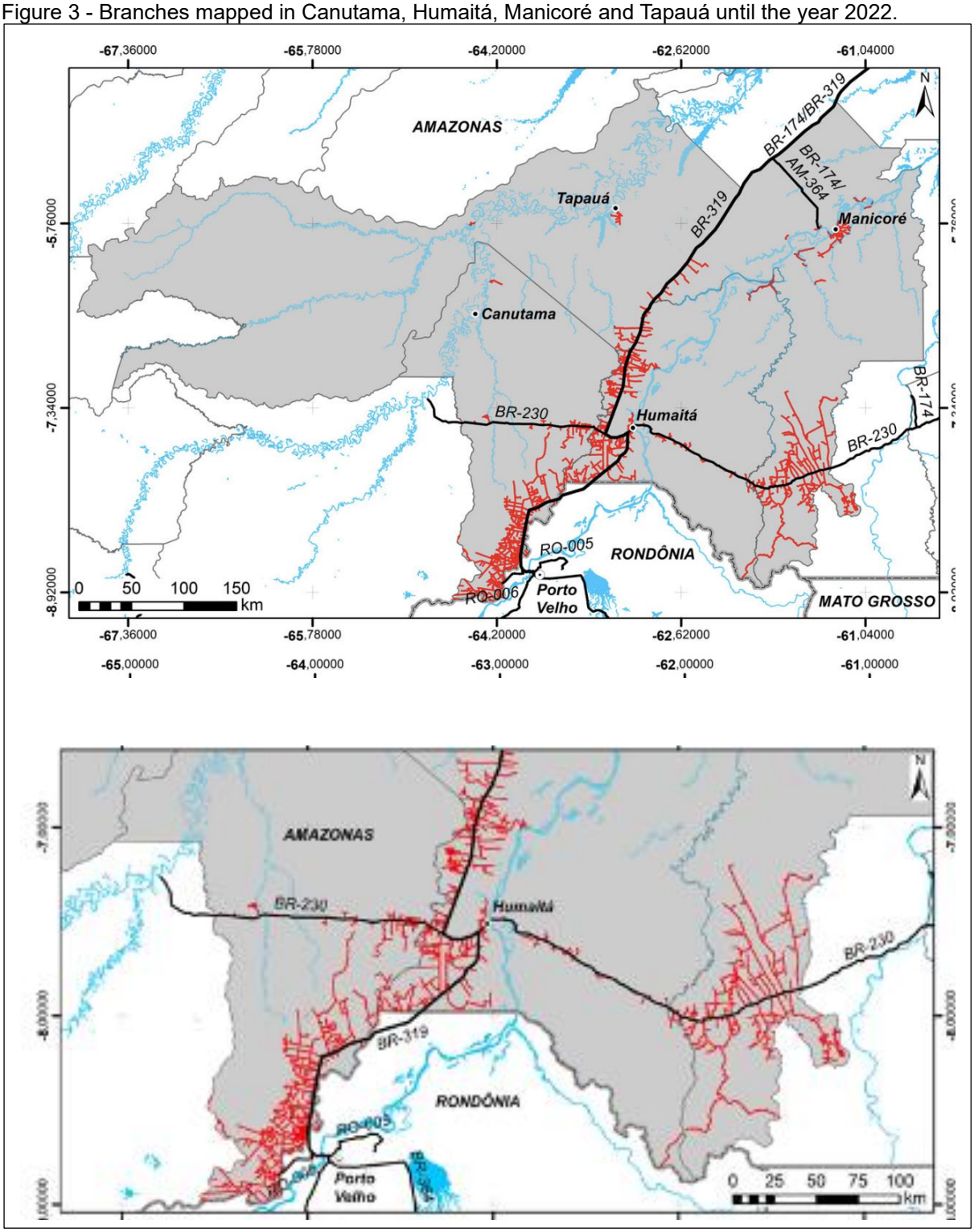
region with the rest of the country, the construction of the Belém-Brasília highway (BR-010) and the consequent migratory flow that the road attracted to the region, clearly showed the phenomenon of transformation of land into merchandise. Inspired by the interests of the automobile industry and not by the desire to colonize the interior *per se*, the road was mainly responsible for the acceleration of the occupation process that occurred from then on. It is estimated that it attracted 174,000 migrants in the period 1960-1970 in an unplanned and disorganized way. (Hall, 1991; Valois Coelho, 2007)

In the state of Amazonas, the BR-319 inaugurated in 1976, was also inspired by the interests of the market, also stimulated as a solution for the integration of the state of Amazonas and the connection of the city of Manaus with the other regions of Brazil by land[5]. There is, in this logic, a destructive process of the forest that opens the way for deforestation, land grabbing, inadequate use of the region's soil for pasture, monoculture, etc. The population is divided between those who want the paving of the road, currently in precarious traffic conditions, and those who are against the paving work. What is proposed by the "developmentalists" is the reconstruction of the highway that today is partially taken over by the forest. (Lima and Araújo, 2023)

On the other hand, environmental science counters arguments against deforestation that could reach 150 km from the sides of the road and hurt a region that is still preserved, threatening the forest that needs to be kept standing to generate environmental services. Deforestation reduces the availability of forest resources that could serve as a source of income for traditional communities, as long as investments are directed in this direction. Also of concern is the opening of branches within the indigenous territory. The branches known as "fish bones" are always opened with the arrival of farmers, ranchers, hunters, etc., when roads are paved in the Amazon. All this means an increase in predatory occupation, as the impacts of a highway like BR-319 go far beyond the area that is close to the road. The branches, almost always illegal, cut through the forest from the main highway and form a design that resembles that of a fishbone. (Lima and Araújo, 2023; Fearnside, 2022; Albuquerque, 2023)

[5] The BR-319 highway connects the capital of Amazonas, Manaus, to the capital of Rondônia, Porto Velho. Its route is just over 870 km long and runs through a large portion of the Purus-Madeira interfluve region. (Observatory, BR-319)

Figure 3 - Branches mapped in Canutama, Humaitá, Manicoré and Tapauá until the year 2022.



Source – https://observatoriobr319.org.br/

The study prepared by the BR-319 Observatory pointed to an increase in the network of branches of 5.8 times greater than the length of the BR-319 itself. The study detected that the network grew from 4,752 in 2021 to 5,092 in 2022, mainly in the municipalities of Canutama, Humaitá, Manicoré and Tapauá, in the state of Amazonas. The main vectors of this growth are: land grabbing, deforestation and forest degradation. (IDESAM, 2023)

With the help of the branches, about 21,600 hectares of forests were deforested in the BR-319 region during 2020, and this number has increased progressively in subsequent years. In 2021, according to the BR-319 Observatory, deforestation grew more than double, reaching 45,300 hectares and in 2022 alone, 48,000 hectares of deforestation were recorded. (Observatory BR-319, 2023)

What is missing to improve the communication problem of the state of Amazonas is not highways, what is missing is logistical planning that leads to considering waterway transport as an important alternative that meets the very vocation of the Amazon region where the river commands life. The highway, if paved, in addition to the environmental impacts that will affect the forest, streams, lakes and populations, will not solve the problem of communication with the large developed centers, because the distances will remain large, as continental as the state of Amazonas. One must also consider the forest's capacity to absorb carbon and its task of curbing climate change, very precious factors that justify the fight against deforestation in a region of continuous forest that the BR-319 highway crosses. (Fearnside, 2020)

Controlling deforestation is essential to avoid the impacts of forest loss, a task that depends on human decisions. Today this task is in the hands of the current generation that needs to get involved with passion, because it is definitely a collective commitment to the future that can no longer be postponed.

CONCLUSION

The idea that nature is infinitely capable of regenerating itself and providing unlimited resources is a myth that has been perpetuated over time, without taking into account the limits and fragility of ecosystems. Short-term economic interests that lead to the intensive exploitation of natural resources disregard the long-term consequences of environmental degradation and the depletion of these resources. "Sustainability" is spoken of as a remedy for environmental ills, but sustainability is not only linked to the environment. It also involves economic activities whose impact on the environment can be dramatic, all the more so because the Brazilian economy has always been marked by a very high degree of concentration of income and wealth and has left strong wounds in society characterized by high levels of inequality and unsustainability. (Valois Coelho and Cartaxo, 2004)

There is, apparently, a conflict between environmental preservation and progress, but it needs to be faced quickly and urgently because in regions like Amazonas, nature plays a relevant role in the climate and in the local ecosystem. In fact, in places with a hot climate such as the capital of the state of Amazonas, the presence of green areas, such as

parks and tree-lined streets, is crucial to mitigate the hardships of the heat, to improve air quality, protect biodiversity, and provide spaces for coexistence and leisure for the population.

Throughout the Amazon region, the close relationship between cities, streams, forest, and indigenous communities is a complex and multifaceted relationship, generally poorly understood by urban authorities and planners, whose vision of progress prioritizes economic development over environmental quality and disregards the importance of natural resources and the traditional ways of life of local communities. It is possible to verify the difficulty in understanding environmental concepts, the interconnections between them and the limitations of ecosystems in the population itself.

To change this reality, it is essential to promote an intense campaign on the finiteness and importance of natural resources, as well as on the need for sustainable practices for their use. Environmental education, the strengthening of conservation policies and the rational use of resources, and the appreciation of biodiversity are fundamental to combat mistaken and disconnected ideas, while promoting environmental preservation.

In this article we address the mutual relationship between city and forest that urgently needs to be faced beyond the immediatist vision of the market, establishing the regional differences that should be determinants of the way of life and production in the region. There is no way to escape this reality that is imposed by nature itself: the river is the way.

The importance of the balance between socioeconomic progress and environmental preservation for the sustainable development of the region is emphasized, through initiatives that promote the conscious use of natural resources, the appreciation of indigenous culture, and integrated urban and environmental planning in order to contribute to inclusive progress. It is necessary to create new paths of development; Society, local authorities, companies and organizations must act collaboratively and responsibly to find innovative and sustainable solutions that reconcile development with quality environmental and human life, respecting the cultural diversity and natural wealth of the Amazon region. Awareness, environmental education, and engagement of the population are key to promoting positive change and building a more resilient and sustainable future for Manaus and the Amazon region as a whole.

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