

# THE PROPOSED CONSERVATION OF BIODIVERSITY: INTERFACE OF THE CREATIVE ECONOMY WITH ENVIRONMENTAL QUALITY IN THE CONTEXT OF THE GRADUATE DEVELOPMENT PROGRAM - PDPG LEGAL AMAZÔNIA<sup>1</sup>

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## ABSTRACT

*This research presents the proposal presented by UFMA called Conservation of biodiversity: the interface of the creative economy with environmental quality, linked to thematic area II - Biodiversity, conservation and environmental recovery. The proposal is intended to address the issue of biodiversity conservation in an interdisciplinary way, together with sociocultural aspects, to expand academic links between them and promote dialogue between their research groups, to enhance academic production of high scientific impact, considering the Eastern Amazon of Maranhão, particularly the Baixada Maranhense and Reentrâncias Maranhenses regions. The research aims to qualify professionals and students coming from different areas to work in teaching, research and extension, as well as in the management of public policies that prioritize themes and objects of studies focused on the Legal Amazon in Maranhão, with a focus on the Eastern Amazon, in the regions of Baixada Maranhense and Reentrâncias Maranhenses. In the pursuit of the objectives, field research was used (conducted in the place where people live and socialize; Multifactorial Survey (use of two or more data collection techniques); Inductive Method (descriptive accumulation in detail); Holistic Vision (as complete picture as possible of the study group, considering the vision of the researcher and the researched).*

**Key-words:** Legal Amazon, Biodiversity, Conservation, Environmental Recovery.

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## **1 Introduction**

This article presents the main lines that underlie the Graduate Program for Development - PDPG Amazônia – Legal - Public Notice CAPES nº 13/2020 (Process nº 23038.006914/2020-12). This is an Institutional Program of the Coordination for the Improvement of Higher Education Personnel, which aims to promote the development of Graduate Studies in the Legal Amazon Region through actions aimed at training highly qualified human resources, intending to reduce regional asymmetries, strengthening and expansion of Postgraduate studies and research in the States of the Federation belonging to the Legal Amazon in the Legal Amazon region (CAPES, 2020).

In the case in question, we will present the structure of one of UFMA's proposals included in the aforementioned public notice, called Conservation of biodiversity: interface between the creative economy and environmental quality, linked to thematic area II - Biodiversity, conservation and environmental recovery. It began in October 2020 and is expected to be completed in September 2024, totalling 48 months of activities related to the topic, based on a series of short, medium and long-term actions.

This proposal is formed by four UFMA Graduate Programs, namely: Biodiversity and Conservation - PPGBC, Health and Environment -PPGSA, Culture and Society-PPGCULT and Social Sciences - PPGCSOC, which together aim to address the issue of conservation in an interdisciplinary manner of biodiversity, allied to sociocultural aspects, intending to expand academic ties among themselves and promoting dialogue between their research groups, to enhance academic production of high scientific impact, considering the Eastern Amazon of Maranhão, particularly the regions of Baixada Maranhense and Reentrâncias Maranhenses.

In this context, one of the goals of the proposal linked to the Legal Amazon PDPG is to act to promote the conservation of biodiversity in the Eastern Amazon of Maranhão through an action based on the UN Sustainable Development Goals, such as contributing to the communities of the Eastern Amazon by providing a revaluation of the region's natural, historical and cultural products, with an emphasis on valuing traditional knowledge and strengthening production chains and the creative economy.

## **2 The proposal Conservation of biodiversity: interface between the creative economy and environmental quality within the scope of the Postgraduate Development Program**

### **- PDPG Legal Amazônia**

The Postgraduate Development Program - PDPG Amazônia - Legal - was formalized by the call made by the CAPES Notice nº 13/2020 (Process nº 23038.006914/2020-12), headed by the Institutional Program of the Coordination for the Improvement of Higher Education Personnel - CAPES with a focus on Higher Education Institutions located in the Brazilian Legal Amazon region.

This is a coordinated action with other actions of the aforementioned Organ, whose objectives bring together actions and short-, medium- and long-term goals aimed at promoting proposals for Stricto

Sensu Graduate Program Development Plans in strategic areas that promote development scientific and technological, through actions induced in strategic areas of CAPES; expand the training of high-level human resources in the Legal Amazon; to contribute to the regional balance of Brazilian postgraduate studies through the establishment of high-level researchers in the HEIs involved and to expand scientific and technological production in the Legal Amazon, intensifying its regional impact.

One of the main challenges for participating in the aforementioned call was posed right at the beginning of the proposal writing process, in the various technical meetings held between the four affiliated UFMA graduate programs: Biodiversity and Conservation - PPGBC, Health and Environment - PPGSA, Culture and Society-PPGCULT and Social Sciences – PPGCSOC.

Therefore, one of the first steps was to reflect on the strategic areas listed by CAPES and the nature of graduate programs that work in different areas, such as biodiversity and environment, health, society and culture and their different interfaces. In this context, thinking of an interdisciplinary approach and crosscutting synergies that would make sense of the different lines of existing research would be a first step towards outlining the proposal.

A second step was to think, among the strategic areas provided by CAPES, such as Biotechnology; Biodiversity, conservation and environmental recovery; Public health, tropical diseases and technologies for health work; Combat and prevention aimed at fighting epidemics; Engineering, Information and Communication Technology; Climate, Energy and Water Resources; Sustainable animal and plant production and Socio-Cultural Diversity, sustainability and socioeconomic activities, which could aggregate the different themes that could be worked on.

The third moment consisted of thinking about the interrelationship of the lines of action, areas of concentration, interdisciplinary and transversal synergies and serving the strategic areas and outlining the proposal to be presented.

The result of these articulations resulted in the drafting of the proposal Conservation of biodiversity: an interface between the creative economy and environmental quality, with lines of action centered on interdisciplinary research involving the areas of biodiversity, biotechnology, applied social and social sciences.

The proposal is structured to qualify professionals and students from different areas to work in teaching, research and extension, as well as in the management of public policies that prioritize themes and objects of studies focused on the Legal Amazon in Maranhão, with a focus on the Eastern Amazon, in the regions of Baixada Maranhense and Reentrâncias Maranhenses.

In addition, some structuring axes are inserted in the demands of the World Agenda for sustainable development and poverty eradication framed in the 17 Sustainable Development Goals (SDGs) focused on human beings, the environment, prosperity in harmony with nature, the pacification of peoples and in universal partnerships (GALLO et al., 2014).

Therefore, in the 48 months of the Proposal, the focus is to create programs, projects and actions focused on the traditional and community territories of the Legal Amazon in Maranhão, especially in the Baixada Maranhense and Reentrâncias Maranhenses regions), intending to enhance the productive arrangements of these regions, by through encouraging entrepreneurship and developing technologies that improve the sector's profitability, generate employment and income, diversify productive activities

with the formation of local productive arrangements, as well as guarantee the quality of life of local actors in the perspective of local and integrated development, associated with the conservation of biodiversity.

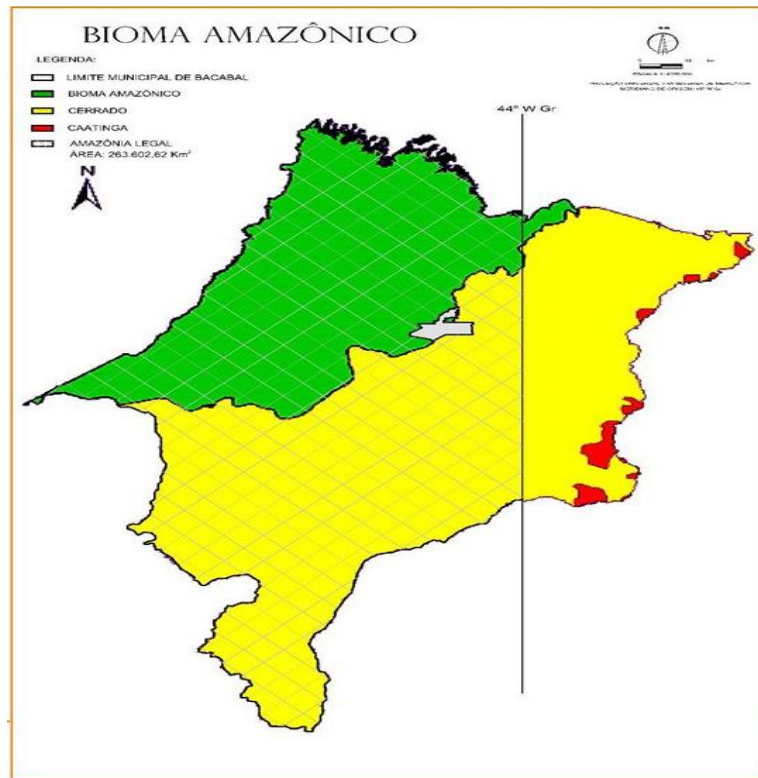
### **3 The territorial and thematic characterization of the study area**

Federal Law No. 1.806, of January 6, 1953, totalling around 5,015,068.18 km<sup>2</sup>, that is, around 58.9%, established the concept of Legal Amazon. The aforementioned law was created to formalize its territorial limits as a result of the need to plan the economic development of the region and, therefore, it is not limited to the humid forest ecosystem, which occupies 49% of the national territory and also extends through the territory of eight neighbouring countries, bringing together other biomes such as the Cerrito and the coastal forest region (IBGE, 2021).

The Brazilian Legal Amazon is a political-administrative region formed by nine Brazilian states: Acre, Amapá, Amazonas, Maranhão, Mato Grosso, Pará, Rondônia, Roraima and Tocantins. It covers the entire northern macro-region of the country, as well as parts of the Midwest and Northeast, including a large portion of the state of Maranhão. Together, it corresponds to 59% of the Brazilian territory.

From this legal provision, the Brazilian and Maranhense Amazonia came to be called the Legal Amazon, the result of a political concept and not a geographical imperative. In 1966, by Law 5,173 of October 27, 1966, the Superintendence for the Development of the Amazon – SUDAM was created and based on article 45 of Complementary Law No. 31, of October 11, 1977, the Legal Amazon had its limits even further extended agglutinating a large part of the Brazilian cerrado biome (SUDAM, 2021).

In the case of Maranhão, the Legal Amazon of that State was also established by Federal Law No. 1,806, of January 6, 1953, whose area is limited to the west of the 44th meridian, occupying 79.3% of the state area or 261,350.785 km<sup>2</sup> (FAMEM, 2021). The boundaries of the Legal Amazon of Maranhão cover 181 out of 217 municipalities, with 109 cities located in the Amazon Biome and 100 located in the Cerrado Biome. The figure below illustrates the Legal Amazon in Maranhense, with the dividing line delimiting that territory, from the west of the 44<sup>o</sup> meridian and the biomes corresponding to the Amazon and Cerrado.



Fonte Embrapa - 2007

Figure 01: Map of the Biomes of the Maranhense Amazon: Amazon and Cerrado. Source: EMBRAPA, 2007

When considering only the Amazon Biome of the Legal Amazon in Maranhão, this territory comprises 109 of the current 217 municipalities in Maranhão (50.23%); considering the Legal Amazon, it totals 181 cities, corresponding to 27% of the state territory and comprising 59.39% of the state's population and accounting for 53.84% of the state's Gross Domestic Product, concentrated in two institutionalized metropolitan regions.

In legal terms, the area comprises 13 conservation units, two Ramsar sites, eight indigenous lands, 682 settlement projects and 106 certified quilombola communities and 44 in the process of certification. Among the conservation units, the table below prepared by the Ministry of the Environment and UEMA indicates the protected areas.

Unidades de Proteção Integral
Estação Ecológica do Sítio Rangedor
Parque Estadual do Bacanga
Parque Nacional dos Lençóis Maranhenses
Reserva Biológica do Grurupi
Unidades de Uso Sustentável
RESEX de Cururupu
RESEX do Ciriaco
RESEX Quilombo Frechal
APA da Lagoa da Jansen
APA da Baixada Maranhense
APA da Região do Maracanã
APA das Reentrâncias Maranhenses
APA de Upaon Açú/ Miritiba / Alto Preguiças
APA do Itapiracó

Fonte: Ministério do Meio Ambiente (MMA), UEMA (2018).

## Translation:

Integral Conservation Unit
Site Ecologic Station of Rangedor
Bacanga State Park
Lençois Maranhenses National Park
Biological Reserve of Gurupi
Sustainable Use Unit
Extractive Reserve of Cururupu
Extractive Reserve of Ciriaco
Extractive Reserve of Frechal Quilombo
Environment Protection Area of Jansen's Lagoon
Environment Protection Area of Baixada Maranhense
Environment Protection Area of Maracanã Region
Environment Protection Area of Reentrâncias Maranhenses
Environment Protection Area of Upaon Açú / High Preguiças
Environment Protection Area of Itapiracó

Fonte: Environment Ministry (MMA), UEMA (2018)

Concerning Indigenous Lands, the Ministry of Environment indicates the following areas for the Amazon Biome in Maranhão.

Terras Indígenas	
Nome	Municípios
Araribóia	Amarante do Maranhão, Arame, Bom Jesus das Selvas, Buriticupu, Grajaú e Santa Luzia
Geralda Toco Preto	Arame e Itaipava do Grajaú
Urucu/Jucu	Itaipava do Grajaú
Awá	Centro Novo do Maranhão, Governador Newton Bello, São João do Carú e Zé Doca
Caru	Bom Jardim
Alto Turiaçu	Araguaína, Centro do Guilherme, Centro Novo do Maranhão, Maranhãozinho, Santa Luzia do Paruá e Zé Doca
Rio Pindaré	Bom Jardim
Governador	Amarante do Maranhão

Fonte: MMA, 2017.

Indigenous Lands	
Name	Towns
Araribóia	Amarante do Maranhão, Arame, Bom Jesus das Selvas, Buriticupu, Grajaú e Santa Luzia
Geralda Toco Preto	Arame e Itaipava do Grajaú
Urucu/Jucu	Itaipava do Grajaú
Awá	Centro Novo do Maranhão, Governador Newton Bello, São João do Carú e Zé Doca
Caru	Bom Jardim
Alto Turiaçu	Araguaína, Centro do Guilherme, Centro Novo do Maranhão, Maranhãozinho, Santa Luzia do Paruá e Zé Doca
Rio Pindaré	Bom Jardim
Governator	Amarante do Maranhão

In cultural terms, this region brings together a series of protected assets at the federal and state levels, as listed below:

- A World Heritage Historic Center - UNESCO: São Luís;
- Three properties recognized by UNESCO as world intangible heritage: Bumba meu Boi do Maranhão, Roda de Capoeira and Masters de Capoeira;
- Two urban complexes with federal registration: Alcântara and São Luís;
- Four cities with isolated federal landmarks: Alcântara, São Luís, Rosário and Pindaré-Mirim;
- Four Goods recognized as intangible heritage of Brazil: Tambor de Crioula; Bumba meu Boi do Maranhão, Roda de Capoeira and Masters de Capoeira;
- A protected asset on the naval heritage list: Canoe Costeira – DILAMAR;
- 20 municipalities with catalogued archaeological sites: Açailândia, Alcântara, Alto Alegre do Maranhão, Anajatuba, Arari, Apicum-Açú, Bom Jesus das Selvas, Buriticupu, Igarapé do Meio, Empress, Paço do Lumiar, Penalva, Rosario, Santa Inês, Santa Luzia São José de Ribamar, São Luís, São Pedro da Água Branca, Vila Nova dos Martírios, Vitória do Mearim;
- Recognized Railway Heritage;
- Goods under the seal and care of the State Government.

As this is a territory that brings together the vast majority of municipalities in Maranhão and corresponds to more than half of the territory, it was decided to concentrate the efforts of the proposal



in two specific regions of the Legal Amazon in Maranhense, within the Amazon Biome: the Baixada Maranhense and the Maranhenses Recesses.

### 3.1 The area of operation of the proposal

As discussed above, the territorial delimitation of the proposal Conservation of biodiversity: an interface between the creative economy and environmental quality was essential for the concentration of efforts, especially due to the possibility of focusing on synergistic actions with research and extension projects already developed by professors and students associated with the PDPG Legal Amazon.

The two chosen regions, Baixada Maranhense and Reentrâncias Maranhenses, are illustrated in Figure 2 below.

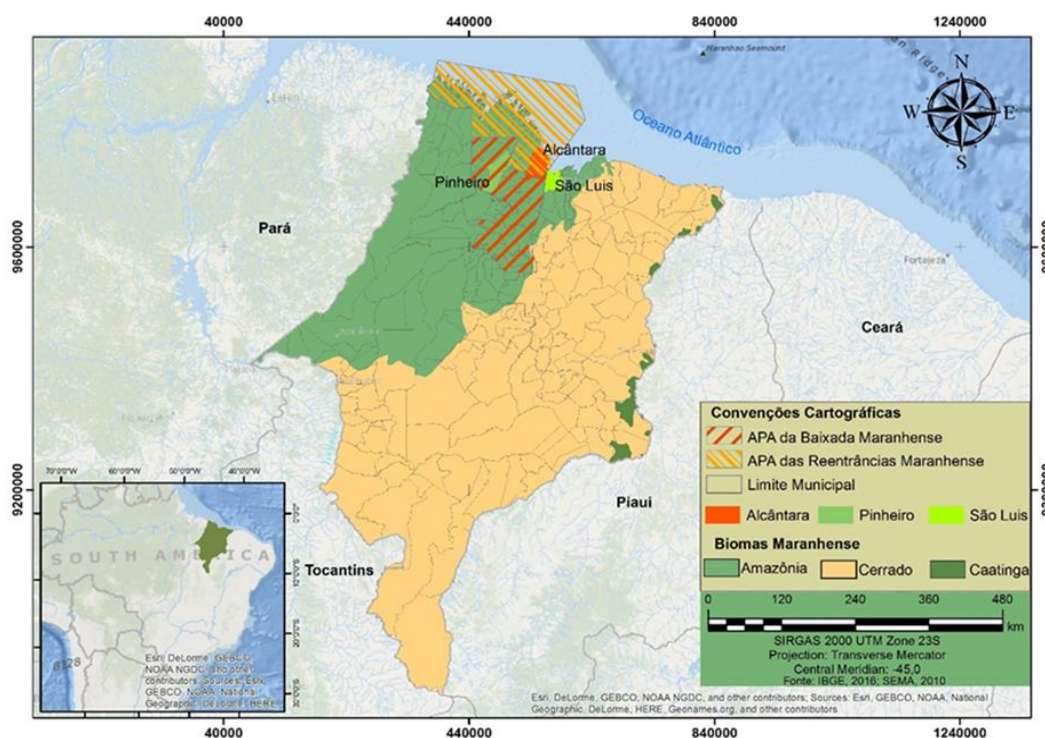


Figure 02: Map indicating the Amazon Biome and the regions of Baixada Maranhense and Reentrâncias Maranhenses.

The Baixada Maranhense is a geographic micro-region composed of 21 municipalities (IBGE, 1990), occupying the surroundings to the south of the Golfão Maranhense. It is characterized by the domain of lithology with unconsolidated superficial sedimentary formations, configuring a lowered relief, flat to smooth wavy, which suffers flooding of large areas due to the high rainfall, calling it “Pantanal Maranhense”.

The diversity and richness of Baixada Maranhense configure a region with great potential for development and interest in environmental conservation, which motivated the creation of the APA of Baixada Maranhense and the RAMSAR Convention, in addition to the archaeological heritage and seasonally differentiated cultural practices. With the new regional division of Brazil (IBGE, 2017), the



municipalities of Baixada Maranhense are now part of the Intermediate Region of São Luís and the immediate regions of Pinheiro and Viana.

The Reentrâncias Maranhenses correspond to the micro-region of the Western Coast of Maranhense (IBGE, 1990), comprising 13 municipalities. Characterized by an extensive river and marine plain cut into the land-sea interface, the recesses enable the modelling of a unique landscape with high potential for economic development based on fishing productivity, tourist potential of its beaches, archaeological heritage, cultural manifestations and the richness of the vegetal compositions (ALMEIDA JR., et al. 2018). With the new regional division of Brazil (IBGE, 2017), the municipalities in the Reentrâncias Maranhenses region became part of the Intermediate Region of São Luís, the region of Cururupu.

The Baixada Maranhense and the Reentrâncias Maranhenses constitute a continuous territory that extends into the western portion of Maranhão, bringing together different ecosystems, such as humid, riverside, lacustrine and fluvial-estuarine environments. Regarding biodiversity, these regions are a unique environment in Brazil that brings together endemic, typical animal and plant species and transitional ecotones between the coast, the lake region and the tropical forest. This importance was confirmed by the creation of an Environmental Protection Area and by being considered as a Ramsar Site of worldwide protection.

Allied to the environmental importance, there is a socio-diversity, adapted to different ways of life in the region, with the existence of indigenous peoples (especially those of the Gamela ethnic group), quilombola territories, coconut breakers, fishermen, family farmers and traditional groups. This environmental and sociocultural wealth contrasts with the extremely low indicators, little inclusion of public policies and extreme poverty, as it is a region whose population lives in rural areas.

While in cities, the population lives with the absence of basic sanitation, low social indicators, urban violence and weak public participation. Another worrying aspect is that the average Municipal Human Development Index (IDHM) for the regions, which also assesses the environmental quality of cities, is considered from medium to low.

According to the Gini Index, it points out that most municipalities are situated in the middle to low, with the worst indicators in the State, and, consequently, in Brazil. This scenario corresponds to a reality where the region's economy is based on subsistence and the main economic activities are babassu plant extraction, artisanal fishing and family farming. It is identified that the economy of the aforementioned regions whose main support is activities related to the countryside and fishing.

It is identified that the economy of the aforementioned regions, whose main support is activities related to the countryside and fishing, rely on these economic processes with minimal application of technologies and have low productivity rates, greatly contributing to the low HDI index of Maranhão .

However, it is worth highlighting some local productive arrangements that are already delineated among the remaining quilombo communities, demonstrating the potential of activities. Despite the existence of these sustainable APLs, it comes up against the absence of safe indicators and the inexistence of public policies that encourage and empower the communities.

Therefore, it is extremely important to promote actions and projects that enable the sustainable use of the natural, social, cultural and economic potential of this part of Maranhão. In this sense, the

aforementioned proposal meets a regional demand that requires greater insertion of the University through projects and actions that encourage the region's vocation for family production, added to community production networks, as a means of improving the quality of life and income generation that can be applied in the region itself.

The mosaics below show the environmental and socio-cultural diversity of the two regions covered by the Proposal, in which coastal, lake, lagoon, estuarine and dry land environments are observed, as well as cultural expressions such as celebrations, festivities, ways of doing, trades, crafts and typical cuisine.



Figure 03 - Mosaic of the natural aspects of the Baixada Maranhense and Reentrâncias Maranhenses Source: Arkley Bandeira, 2020.

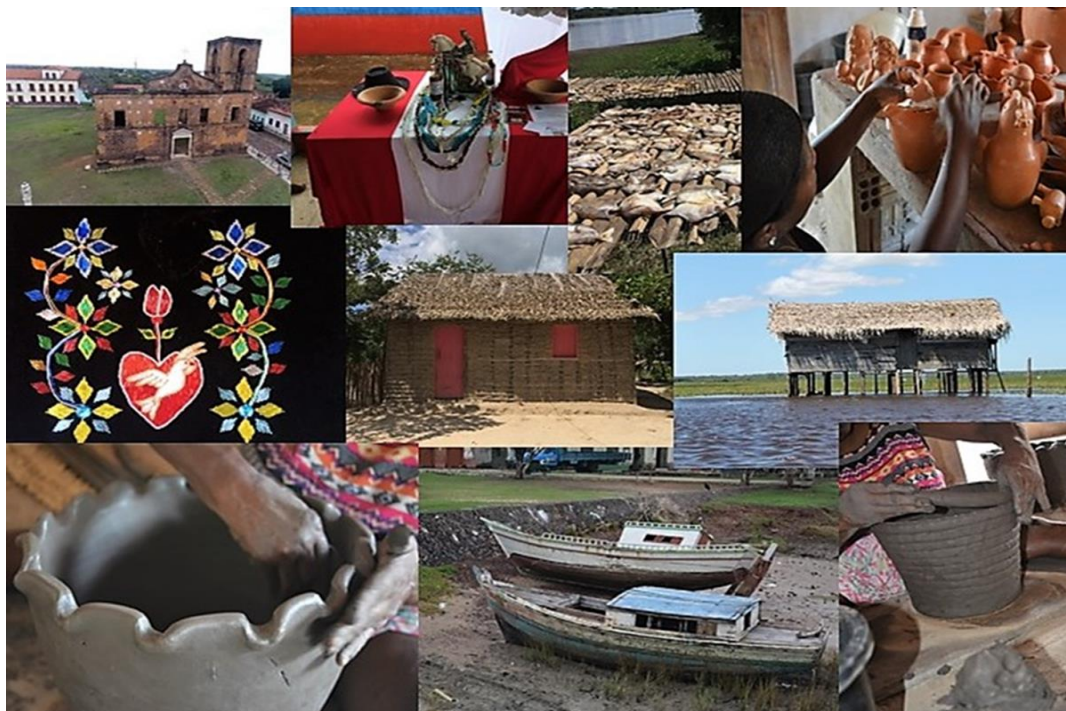


Figure 4 - Mosaic of cultural aspects of the Baixada Maranhense and Reentrâncias Maranhenses. Source: Arkley Bandeira, 2020.

### **3.2 The first field recon mission**

The first institutional mission took place between October 6th and 9th, 2021, a commission of the Graduate Program in Culture and Society (PGCULT) formed by 4 professors and 2 students, aimed to make a first approximation of those involved in the scope of the PGGP Amazonia Nice with the research area. Although many researchers already have contact and research in the region, the idea was to present the proposal to social actors, identify institutional partners, encourage community participation and structure the themes to be worked on during the Proposal.

The aspects that were considered to identify potential themes took into account the expanded notion, centrality and transversality of culture, Cultural diversity, transcultural dialogues, the dynamics of culture, cultural citizenship and the creative economy, solidarity economy and local productive arrangements.

These generating themes unfolded into structuring actions, as listed below:

- Potential for the economy of culture, creative economy, solidarity economy and production chains;
- Inventories in different fields of knowledge;
- Identification of Local Productive Arrangements - APLs
- Mapping of circuits and networks of community interests;
- Construction of public policy indicators in health, environment and culture.
- Traditional knowledge;
- Territory and Territorialities;
- Occupation, use and land cover;
- Diversification of Current Uses;
- Conflicts of use in the Amazon Biome;
- Regional history: Afro-indigenous, peasant, orality.
- In this scope, some categories were previously listed, such as handicrafts and the manufacture of traditional products, cuisine and regional food production, and cultural and community-based tourism.

In this context, the reconnaissance mission followed paths of regions with a relevant potential to these objectives, resulting in observations on the main conflicts and needs, alluded to by the eyes of the communities inserted in these regions, thus creating theoretical and empirical bases for the perspectives of actions which should be put into practice shortly.

On the first day of the mission, on October 6th, we visited the community of Itamatatua (Alcântara), to learn about the production of potters installed in this region, composed by 15 women artisans, who showed their work and illustrated to the group of researchers their main problems, which,



according to them, run basically in their advanced ages and the lack of interest of the new generations in learning the craft.

Another issue raised was a large number of young mothers and housewives, who despite wanting to work in the production of ceramics, have nowhere to leave their children during the working day, which, according to them, was easily resolved through the construction of an on-site day-care.

Basic and preventive health is another factor latently observed in this community, the absence of this one, leads to large losses of women capable of production in more common cases such as diabetes, hypertension and cataracts.

Despite being well developed in the matter of community organization of ceramic production, we can see that these still face major barriers, with regard to the promotion of a business plan and especially the flow of production to other regions and online sales.

On the second day of the mission, we moved to the municipality of Guimarães where we had our first round of conversation in the community of Macajubal, there we were welcomed at the basic health care post by Jocileide Alves Nascimento, a current community leader in the region. Simone Cunha (Coordinator of Social Equality of the municipality), Antônio Marcos (Secretary of Culture and Tourism of Guimarães) were present at the meeting.

All them are characterized as family farms (flour, corn, rice), they survive in addition to social programs of the federal government, fishing, planting and handicraft, in addition to participating in municipal programs for the sale of their agricultural products aimed at basic food baskets and school snacks in these cities.

Within the context of the visit to Macajubal, we took the opportunity to make a short stop in São José dos Pretos, quilombola territory of land for gain, the territory is a medium-sized space, with only 11 houses, inserted in family farming, fishing and flour production; in addition to having a rich collection in the memory museum of São José dos Pretos, entitled the Historical Museum of the São José dos Cardosos community, named after the former founder of the community and which tells in objects and photos a little of its history and family.



Figures 05 e 06 – Historic Museum from São José dos Cardosos, Macajubal, Guimarães/MA

Photo: Bandeira, 2021

Still in Guimarães, Damásio was our 3rd stop, the north coast of the state of Maranhão is an area of great environmental and human potential for the development and initiative of actions to unravel the region; the community today has 224 individuals, these distributed in 108 families.

Nowadays, the community of Damásio has its own ways of living together, and its main sources of subsistence are fishing and family agriculture - through the planting of manioc and the production of manioc flour - and, more recently, some social programs as reparatory public policies.

The community is well articulated in community criteria, having in the young population, the bases of its leaderships. Besides its organization in agriculture, flour production, and handicrafts, it is already observed an increment in the idea of tourism aiming at experiences, already with initiatives from SEBRAE for courses in family hostels, tourist driving, and creative handicrafts with the leaves and materials most commonly found in the region.

There is already a great mobilization on the part of the community aiming at this foment in sustainable development, which already guarantees a good support for these initiatives brought by third parties, be it of an academic nature or of a marketing nature. Another strong point observed is the diversified and regional gastronomy of the region, which also already has a good organization bias for commercialization purposes.

On October 08, 2021, we visited the secretary of environment, technology and tourism of the city of Cururupu, being received by Mr. Marcelo Oliveira (coordinator of tourism of the city), on the opportunity, he could tell us about the initiatives involving tourism and entrepreneurship in the region, with emphasis on the key car, which, according to him, will be based on a community-based tourism, involving mainly the quilombola areas of Aliança and the Ilha de Manguça, where there is already created a minimal infrastructure for this purpose.



Figures n. 07 e 08 – Reunion in Environment, Technology and Tourism Secretary from Town of Cururupu.

Fonte of Photos: Bandeira, 2021

The group is already well organized in terms of marketing and is assisted by Marcelo Medeiros, SEBRAE-MA's representative in the region, who is based in the branch located in São Luís. The group there, formed by 10 artisans are all qualified in the area and already have an organization focused on innovation in the use of fibers (such as, the use of dyed fiber and the mixture between palm fiber and embroidery oxhide style), they also have a much larger infrastructure with regard to online sales and also distribution of the pieces to various parts of the national territory.

Still on October 8th, we left for Mirinzal, where we met in the village of Porto dos Nascimentos to get to know the 'Anas das Louças', whose founding trait is that all of them are family

members and all of them are called "Ana", and come together to produce utilitarian ceramics, and this knowledge has been passed on for many generations.

In the community that has more than 165 families and approximately 500 people, the Anas complain that their knowledge of producing ancestral ceramics is almost instinct in the region, due to the advanced age of all of them, the incapacitating diseases that insist on appearing and also and mainly the lack of interest of the young people in learning the craft.

Another point emphasized in their speeches and very much linked to their more fragile physical state is the difficulty in the logistics of obtaining the necessary raw material for production, since it is increasingly difficult to find and transport all this material to their homes, lacking more and more young arms to help them in this matter.



Figures 09, 10 e 11 – House of “Anas das Louças” – Village of Porto dos Nascimentos – Mirinzal/MA

On 09 October, we were in the village of Santo Antônio dos Carvalhos in the municipality of Pinheiro, with Mr Elizabeto Ramanho Ribeiro known for producing the best handmade flour in the region, in his speech, puts his main demands that are mainly around the price of land lines for planting (not only cassava , (not only of manioc, but of several cultures, since he survives on family farming) and the outdated planting techniques that increasingly decrease the production and make them unbeatable with the large plantations for a more specialized production and with large machines that involve the production of industrialized flour.

#### **4 Conclusion**

The concept of the Brazilian Legal Amazon was instituted by Federal Law nº 1.806, of January 6th, 1953, it is a political-administrative region formed by nine Brazilian States: Acre, Amapá, Amazonas, Maranhão, Mato Grosso, Pará, Rondônia, Roraima and Tocantins. The boundaries of the Legal Amazon in



Maranhão encompass 181, of the 217 municipalities, of which 109 cities are located in the Amazon Biome and 100 are located in the Cerrado Biome. In legal terms, the area gathers 13 conservation units, two Ramsar sites, eight indigenous lands, 682 settlement projects and 106 certified quilombola communities and 44 in the process of certification. In cultural terms, the region agglutinates a series of assets protected at the federal and state levels.

In order to seek the strengthening and expansion of graduate studies and research in the states of the Federation belonging to the Legal Amazon, UFMA's proposal emerged, entitled: Biodiversity conservation: interface of the creative economy with environmental quality, linked to the thematic area II - Biodiversity, conservation and environmental recovery.

The proposal aims at the qualification of professionals and students graduated from different areas to act in teaching, research and extension, as well as in the management of public policies that prioritize themes and objects of studies focused on the Maranhão's Legal Amazon, with a focus on the Oriental Amazon, in the regions of Maranhão's Baixada and Reentrâncias maranhenses.

It should be emphasized that in the region there is, besides environmental diversity, socio-diversity, adapted to different ways of life, with the existence of indigenous peoples (especially the Gamela ethnic group), quilombola territories, coconut breakers, fishermen, family farmers and traditional groups. Environmental and sociocultural richness that contrasts with the extremely low indicators, little insertion of public policies, and extreme poverty, since it is a region whose population lives in the rural zone.

Moreover, in the cities, the population lives with the absence of basic sanitation, low social indicators, urban violence, and weak public power participation. Another worrisome aspect is that the average Municipal Human Development Index (IDHM) for the regions, which also assesses the environmental quality of the cities, is considered medium to low.

It is worth pointing out that the above-mentioned regions are mainly sustained by activities related to farming and fishing. These economic processes rely on the minimum application of technology and have low productivity rates, contributing greatly to the low HDI index of Maranhão.

The proposal presented by UFMA, aims at the conservation of biodiversity in the Maranhão's Oriental Amazon, based on the UN's sustainable development goals, as well as to contribute to the existing communities in the region with the revaluation of the region's natural, historical and cultural products with emphasis on the valorization of traditional knowledge and the strengthening of productive chains and the creative economy.

Therefore, in order for this proposal to be effective, as well as other actions in favor of the studied region, it is of utmost importance to promote actions and projects that enable the sustainable use of the natural, social, cultural, and economic potentials of this part of Maranhão. In this sense, this proposal meets a regional demand that requires a greater insertion of the University through projects and actions that stimulate the region's vocation for family production, aggregated to community production networks, as a means of improving the quality of life and income generation that can be applied in the region itself.

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