

## Reflections of the New Brazilian Forest Code: Amazon in Focus

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**Abstract**— Law 12.651, of May 25, 2012, establishes norms for the protection of native vegetation in areas of permanent preservation, legal reserve, restricted use, forest exploitation and related matters. The objective of this research is to make a critical reflection on the impacts of the New Brazilian Forest Code for the biomes in the Brazilian territory, with special attention to the Amazon. In this direction, we seek to analyze and discuss some critical points, conceptualizing the main aspects that negatively impact soil, hydrography, fauna and flora and water resources. The methodology adopted for this research is based on a documentary bibliographic reference, of the descriptive-analytical type, anchored in a qualitative-quantitative approach, as well as an evaluation of in-situ work in the West of Pará. [...] The results presented are based on official data from the National Institute for Space Research (INPE), collected through the system (PRODES and DETER) of the Institute of Man and Environment of the Amazon (IMAZON) and field research. The numbers show that the presence of private capital has been promoting a growing deforestation in the Amazon. And this is generated by the advancement of a multitude of real estate projects, agricultural (soybean and corn planting), extensive livestock and mining services. However, what drew the most attention was the deforestation data for the last three years. In other words, they are high projects (2019-2021) and do not represent improvements in the rate of progress in the Brazilian Amazon. Notwithstanding this, we still live with degrading problems of social and public health indices. In this dire juncture, it is understood that development does not mean transformation of the natural landscape of forests, water courses, pollution of rivers, creeks and streams, as well as extinction of fauna in biomes in general. We need to take better care of the Amazon and this involves changes in the Brazilian Forest Code. Institutional support is needed for inspection, applicability of laws and, if necessary, punishment for violators.

## I. INTRODUCTION

Brazil is a continental country composed by six biomes with distinct characteristics: Amazon, Caatinga, Cerrado, Atlantic Forest, Pampa and Pantanal. Each of these environments shelters different types of vegetation and fauna, as well as presents grandiose hydrographic basins and different relief characteristics (BRASIL, MMA, s/d).[...] As vegetation is one of the most important components of the biota, its state of conservation and continuity define the existence or not of habitats for the species, the maintenance of environmental services and the provision of essential goods for the survival of human populations. (Idem).

Therefore, for the perpetuation of life in biomes, it is necessary to establish public environmental policies, the identification of opportunities for the conservation, sustainable use and sharing of benefits from biodiversity. In this sense, the study in question has like its keystone to bring to light a critical reflection on the Brazilian Forest Code approved by approved by the New Law N°. 12.651, of May 25, 2012 (BRASIL, 2012), which establishes norms for the protection of native vegetation in areas of permanent preservation, legal reserve, restricted use, forest exploitation and related matters, insofar as, the “development” needs to be rethought.

In this context, we list several concepts foreseen in its text and, we critically analyze how the changes reflect negatively on the environment. In other words, it seeks to promote information and reflections with the purpose of bringing citizens closer to the debate in the search to strengthen the socio-political means of confrontation and resistance to the dismantling of what has been achieved in recent decades, such as the reduction of pollutants, plant protection and many other achievements arising from international conferences marked mainly from Rio 92 and Agenda 21, as well as those promoted by the World Forums on the climate.

In this political conjuncture and global in scope, the Brazilian Forest Code, popularly known as a set of laws that imposes the rules on how to manage Brazilian native vegetation, also refers to the number of areas that must be preserved, in addition to the regions authorized to receive the different productive arrangements for the rural environment. For these reasons, it is one of the most important instruments for the effective control of advances in environmental degradation in various sectors of the economy. However, what has been seen lately is a flexibilization of this policy by the Brazilian government, supported by the decisions of the National Congress, it is mentioned, as an example, the recent approval of Bill 2510 of April 24, 2019 - PL 2510/2019 (BRASIL, 2019), which

amends laws 12.651 of May 25, 2012 (BRASIL, 2012), which provides for the protection of vegetation, 11.952, of June 25, 2009 (BRAZIL, 2009), which provides for land tenure regularization in union lands, and 6.766, of December 19, 1979 (BRASIL, 1979), which provides for the subdivision of urban land, to resolve about permanent protection areas in the urban perimeter and in metropolitan regions, which is observed with great concern by the scientific community and independent national and international organizations.

The first Brazilian Forest Code created in 1934 (BRASIL, 1934a) was an extremely important document in Brazilian history, because its creation was due to the need of preservation of forests for economic purposes, since the coffee production that occurred at the time harmed the vegetation, mainly in the southeastern region of the country. As the forests held all the materials that the industry needed, then, a way was created to alleviate the excessive wear and tear of its natural resources and make their use more rationally.

In a second moment, more precisely in 1965, in an attempt to improve and advance this Code, a new debate arises that would lead to the proposal for the creation of a new law that would protect the environment from predatory actions in past times, thus justifying new changes. In this direction, the Forest Code arising from Law 4.771/65 (BRASIL, 1965), was revoked by the Law 12.651 of May 25, 2012 (BRASIL, 2012). This new update brings with itself two important elements such as Legal Reserves (RL) and Permanent Preservation Areas (APPs) destined for rural properties.

From these temporal and legal insertions, we elaborate some questions that guide this research: Does the New Brazilian Forest Code promote advances or setbacks for Brazilian environmental policy? Has the Amazon biome been protected by the new law? Do the investments provided by the Brazilian government have the desired effects? What do international and national organizations and the scientific community say about the changes and their effects?

## II. METHOD

The present study is based on documentary bibliographic research. According to Gil (2008), the objectives of a descriptive research focus on identifying characteristics of a particular population or object of study. Descriptive-analytical provides a study with more in-depth evaluation aspects of the information available in the perspective of explaining the context of a phenomenon, through a qualitative approach, because it involves intensive and long-term observation in a natural

environment, the accurate and detailed recording of what happens in the environment, the interpretation and analysis of data using descriptions and narratives (THOMAS; NELSON, 1996) and quantitative that primes by collecting information and/or data that can be translated into numbers for further analysis. As well as the *in situ* work in the field of research object. We use primary and secondary sources. As primary sources, unstructured interviews were conducted with Health Secretaries, Secretaries of Administration, Department Directors of City Halls, Social Workers and Councilors of the Guardianship Councils of the visited municipalities Itaituba, Novo Progresso, Trairão, Rurópolis and Santarém.

### III. RESULTS

#### The insertion of the Tapajós Integration Region (RI) in the territorial dynamics of the Amazon Biome

According to data from The Brazilian Institute of Geography and Statistics (IBGE), the Brazilian Amazon shelters an approximate population of 28 million people, of which 75% live in urban areas (IBGE, 2017a). "The Amazon cities have peculiar attributes, characterized by the existence of small and medium urban centers, along the main highways and rivers of the region." (SATHLER et al., 2009<sup>1</sup> apud FERREIRA; VIEIRA, 2018, p. 764, our translation). In these small and medium urban centers, changes made in the natural landscape, in the social, economic and environmental dynamics of the region are common, in an accelerated way, year after year. This transformative dynamic, encouraged from the 1970s onwards, with the National Integration Program (GOMES et al., 2017). Thereby, it is understood the need for more effective actions by the federal government with public policies for the protection of natural resources.

Thus, the creation of integral protection areas, extractive reserves or conservation areas in the Amazon are thought out and encompasses a series of events that involve respect for forest peoples, their culture and ancestry; protection of wild animals and all forms of life present in Amazonian *ecosystems*. It is also possible to think about the representation of an economic solution,

which is ecologically adequate. In this aim, it was created through the Law 9.985 of July 18, 2000, the National System of Nature Conservation Units - SNUC, the Conservation Units are divided into two groups: those of Integral Protection and those of Sustainable Use (ICMBio, 2006), whose text deals with the Sustainable Development Reserve (RDS) "according to the National System of Conservation Units (SNUC, Lei 9.985/2000) these units are created with the basic objective of making nature conservation compatible with the sustainable use of part of their natural resources by the extractive populations that traditionally inhabit these areas" (Idem). They are traditional peoples and communities, in accordance with item I, article. 3º Decree 6.040 / 2007,

culturally differentiated groups and that recognize themselves as such, that have their own forms of social organization, that occupy and use territories and natural resources as a condition for their cultural, social, religious, ancestral and economic reproduction, using knowledge, innovations and practices generated and transmitted by tradition (ICMBio, 2006).

The creation of these areas of reserves begin to give new meaning to the political propositions for the preservation and conservation of biodiversity in the country, which opposes the advances of capital. However, it verifies that real estate capital has promoted changes in the landscape in urban areas of cities, as a result of investments in expanding peripheral areas, transforming rural into urban dynamics. Ferreira e Vieira (2018, p. 764) corroborate, evidencing that "land control, state-induced migration policy and incentives for large enterprises ensured the "development of the urban frontier". According to Porto-Gonçalves (2017, p.31, our translation) "until the 1960s, all modern-colonial capitalist incursions into the Amazon were discontinuous in space and time, configuring localized expansion/invasion fronts".

Therefore, it is possible to understand that the transformations that have taken place in the territory are encouraged by public policies at the service of big capital, such as the construction of roads, Manaus Free Trade Zone, hydroelectric plants and mining companies in the different corners and inhospitable places that make up the dynamics of the Amazon of yesteryear. Despite this, the power of capital mobilizes other economic and ideological apparatuses that advance devastating the forest, polluting

<sup>1</sup>SATHLER, Douglas, Roberto L. Monte-Mor and José Alberto Magno de Carvalho (2009), "The networks beyond the rivers: urbanization and imbalances in the Brazilian Amazon", New Economy, 19 (1), Faculty of Economic Sciences-University of Minas Gerais, Belo Horizonte, Brazil, p. 11-39. In: FERREIRA, Amanda Estefânia de Melo; VIEIRA, Ima Célia Guimarães. Urban sustainability in the metropolitan region of Santarém, Pará, Brazil in the 2000s and 2010s. *Economía, Sociedad y Territorio*, vol. XVIII, no. 58, 2018, 763-795. DOI: <http://dx.doi.org/10.22136/est20181238>. Available at: <http://www.scielo.org.mx/pdf/est/v18n58/2448-6183-est-18-58-763.pdf>. Accessed on: December 26, 2021.

lakes, rivers and streams (PORTO-GONÇALVES, 2017). The field data, provided by the municipal governments, through the Guardianship Councils, show the degrading situation that the populations of towns and cities live along the roads, which impact the social, health, education and public security; in addition, the increase in inequality promotes the prostitution, mainly, of young people and adolescents.

In this sense, the data collected makes it possible, clearly, visualize the problematic. For example, data provided by the Novo Progresso City Hall (PMN, 2018), Trairão City Hall (PMN, 2018) and Itaituba City Hall (PMI, 2018), reveal substantial problems in several directions, such as: social situations of a family nature that involves appearances, intra and extra family custody, physical and psychological aggression, sexual exploitation, pornography, intra and extra family sexual abuse, family neglect, drug use and trade, early pregnancy, high rate of school dropout and problems that require institutional care, in addition other no less important records are announced! Because, the lack of basic sanitation and quality water are part of the problems of most cities in Pará. "The North Region, cradle of the Amazon, is the region of the country that has the least basic sanitation" (INSTITUTO TRATA BRASIL, 2021).

In the West region, it is evident that only Novo Progresso and Santarém have a drinking water service system above 90%, however, in Santarém several neighborhoods live with constant problems in residential supply, which sometimes takes up to days to have water on taps in certain neighborhoods. Itaituba, only 15% of its urban population is served with quality water from the Sanitation Company of Pará (COSANPA) and most households are served by water from private, individual and collective artesian wells. (SOUZA, 2017).

The planned residential units are serviced by the Itaituba Water and Sanitation Company (CASITA)<sup>2</sup> which still does not offer a quality service. In the municipalities of Trairão and Rurópolis, most of the service is provided by the municipality through artesian wells. We did not obtain data on the quality of this water that reaches the population. Only Novo Progresso has a private service. We only had access to the facilities and the system, but not to the analysis of the distribution water. Therefore, it is thought that the majority of households in western Pará receive water of dubious quality. For example, in Itaituba we obtained some data from the Municipal Health

Department, which allows us to analyze the quality and its impacts on the health of the population (PMI, 2018). Which allowed us to draw some conclusions. Tables 1, 2 and 3 show the evidence of this problem.

In Brazil from the 1988 Constitution and the approval of Law 11.445/2007<sup>3</sup>, marks a turning point in the history of sanitation in the country, as they add possibilities for a more effective policy, capable of minimizing urban impacts and enhancing citizenship, with a view to access to quality water and a sewage treatment system. However, what is found, mainly, in the North region of the country, are low levels of basic sanitation in the cities, which promotes the appearance of diseases such as Dengue, in addition to other important diseases such as yellow fever, leptospirosis, typhoid fever and hepatitis, as shown in table 2, in addition to diseases caused by the consumption of water of dubious quality, such as acute diarrhea in people of different age groups, as shown in table 3, as well as the high rates of cholera, seen in table 4. These are negative aspects that afflict the majority of Brazilians.

According to Souza (2017), the water supplied to the population in other times was not subjected to any type of treatment, something that still occurs in several cities in the region. This aspect can become even more serious due to mercury pollution and fish consumption. Information collected from annual printed reports and interviews with members of the Guardianship Councils for the Rights of Children and Adolescents of Novo Progresso (PMN, 2018) and Trairão (PMT, 2018), established by Federal Law nº 8069/90 (BRASIL, 1990), it was possible to perceive that there are several social problems in the region that can be highlighted, including the most serious aspects are related to physical and psychological aggression, intra and extra-family sexual abuse, early pregnancy, family neglect, intra and extra-family custody, drug use and trafficking, institutional care, indiscipline, school dropout and disappearance of people. Something very serious! Table 4 brings this data.

<sup>2</sup>CASITA is an autarchy created by the municipality of Itaituba, through Law 3.141/2018, which has a Decree of norms that regulates the water and sewage system of the municipality of Itaituba (PMI, 2020). Available at: <https://www.itaituba.pa.gov.br/noticia/408/casita-companhia-de-agua-e-saneamento-de-itaituba/>. Accessed on: December 26, 2021.

<sup>3</sup>It establishes national guidelines for basic sanitation; amends Laws 6.766, of December 19, 1979, 8.036, of May 11, 1990, 8.666, of June 21, 1993, 8.987, of February 13, 1995; repeals Law No. 6.528, of May 11, 1978; and takes other measures.

Table 1: Main Diseases present in the municipality of Itaituba due to lack of Basic Sanitation. From 2007 to June 2018.

DISEASES/ YEAR	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
HEPATITIS "A"	8	9	13	0	6	2	18	11	16	4	2	0	89
HEPATITIS "B/C"	9	23	20	15	12	15	82	81	56	20	24	13	370
Leptospirosis	0	1	0	0	1	2	1	0	0	0	2	0	7
Typhoid Fever	0	0	0	0	0	0	0	0	0	1	0	0	1
Yellow fever	0	0	0	0	0	0	0	0	0	0	1	0	0
Dengue	195	352	16	479	359	42	243	29	61	336	9	0	2.118
Acute Diarrhea	0	1.492	1.855	2.105	2.020	1.777	2.649	2.964	3.847	3.709	1.874	992	22.635

Reference: PMI-SIVEP/MDDA – Municipal Health Department, Itaituba-PA/2018.

Table2: Cases of Acute Diarrheal Disease by Epidemiological Year According to Age Group, Municipality of Itaituba.

YEAR	< 1	1 a 4	5 a 9	10 +	IGN	Total
2008	374	504	274	311	29	1.492
2009	415	644	345	432	28	1.855
2010	395	768	371	524	47	2.105
2011	382	787	256	549	46	2.020
2012	303	618	228	626	2	1.777
2013	268	677	329	1.375	0	2.649
2014	303	820	422	1.413	6	2.964
2015	405	1.079	461	1.902	0	3.847
2016	313	1.008	544	1.823	21	3.709
2017	275	510	390	688	11	1.874
2018	115	246	131	491	9	992

Reference: PMI-SIVEP/MDDA – Municipal Health Department, Itaituba-PA/2018.

Table 3: Dengue Notification/Investigation.

YEAR OF NOTIFICATION	DENGUE CLASSIC	DENGUE/COMPLICATIONS	DISCARTEO	TOTAL
2007	195	0	164	359
2008	352	1	355	708
2009	16	0	73	89
2010	479	5	165	649
2011	359	0	141	500
2012	42	0	38	80



<b>2013</b>	243	0	124	367
<b>2014</b>	29	0	28	57
<b>2015</b>	61	0	68	129
<b>2016</b>	336	0	575	911
<b>TOTAL</b>	2.112	6	1.731	3.849

**Reference:** PMI-SIVEP/MDDA – Municipal Health Department, Itaituba-PA/2018.

*Table 4: Data for the municipality of Novo Progresso*

<b>City/Municipality – base year</b>	<b>2017</b>	<b>2018</b>
Novo Progresso		
Physical and psychological aggression	63	26
Intra and extra-familial sexual abuse	43	15
Early pregnancy	13	6
Family neglect	66	17
Intra and extra-family guard	30	39
Drug use and trafficking	29	13
Institutional reception	10	6
Indiscipline	93	23
School dropout	84	16
Disappearance	15	11
Other cases	198	60

**Reference:** Guardianship Council/Novo Progresso – Pará (2018).

It verifies that the data presented in the table reaffirm the possibility of this general analysis since there was a considerable reduction of these problems from one year to the next, only intra and extra-family custody, in the year of 2018, increased compared to the previous year. However, there is a concern regarding the subsequent years, as it was not the object of this study. But it is important to realize that the problems were already dangerously manifest, and may or may not have worsened with the Pandemic, the economic crisis, lack of employment and other aggravations that are manifested daily. Another major problem is the lack of basic sanitation in the cities and the lack of service with drinking water for the population as seen above.

It is evident that along the highways and areas under their influence, the problems get worse and in this direction we also draw attention to the municipality of Santarém, specifically, the district area of Alter do Chão,

which historically brings in its territorial and cultural matrix a strong ancestral legacy of traditional populations. However, over the years, tourism emerges as a strong economic link that transforms the dynamics of the village into an urban model. Santarém, located in the western portion of the State of Pará, belonging to the Lower Amazon mesoregion, has a strategic position at the confluence of the Tapajós and the Amazon rivers. The city has been operating since colonial times, as an important trading post for Tapajós, Amazonas (Manaus) and Pará (Belém) (PARÁ, 2018).

The natural beauties and all forms of life in the Amazon space are sublime and deserve to be preserved for use and contemplation by future generations, and Alter do Chão, in the Amazon, nicknamed the “Brazilian Caribbean” and its surroundings such as Pindobal, Cajuturá, Aramanaí, etc. are natural spaces to contemplate! According as Souza; Marques (2015), to reach these places

the routes can be by land, through the PA-457, in a route of approximately 30 minutes, or by river, taking approximately 3 hours of navigation, both departing from the city of Santarém.

For example, Alter do Chão was elected by the British newspaper *The Guardian* (2009) as the best beach in Brazil, and Santos et al (1999) Santos (2018) indicate that the location is a paradise setting and perfectly suited to enjoying pleasure of leisure and recreation. The landscape is composed of the junction of the river with the natural forest, in which an unparalleled and constantly changing view is drawn. That is the question! The presence of real estate capital comes every year modifying the natural landscape of several places that should be untouchable. The subdivisions designed by the private sector with financial incentives from the various lines of credit give rise to new businesses overnight that transform the rural space into agglomerations with the *status* of urban life. This is very worrying!

According as Sousa and Marques (2015), the village of Alter do Chão is bathed by the Tapajós River and can be visited in two different periods throughout the year, from December to June, during the Amazon rains, and from July to November, when there is ebb of the river. Besides that, with the reappearance of the beaches, there is a greater frequency of tourists, also taking place the biggest cultural event of the place, which is the Sairé party, which attracts many visitors during the period of a week, coming from different regions of the country. and from abroad, prevailing, however, those coming from the Amazon region itself. Sairé is a folk and religious event

that takes place in September, starting with the religious ritual and continuing through the festivities, highlighting the importance of preserving the region's intangible heritage.

In this perspective, in 2016, Santarém was chosen by the Ministry of Tourism as a reference destination in Ecotourism and won a project to adapt to the standards of inducing destinations. It is possible to see here another element of the State contributing to the advances of the economic, migratory and social process to promote means that strengthen cultural valorization, and, on the other hand, promote the incentive to the presence of capital, which presupposes more capitalist expansion and impact. in the ecosystem of the Tapajós and adjacencies.

The tourist activity is an alternative for the economy of localities that offer tourist services, affirms that both international and domestic tourism are excellent producers of the economy, both in countries and in regions receiving visitors within the same country, through the introduction of the capital that is spent, thus circulating in the places of destination. (THEOBALD, 2002).

During the Amazon summer, sun and beach tourism causes the arrival of thousands of tourists in the village of Alter do Chão, having received more than 139 thousand visitors in the month of September 2015 alone. This is the period when the Sairé festival takes place, which coincides with the peak of the formation of the local beaches. This number of visitors corresponds to 12,9 times the number of the population of the village (Table 5) (SEMTUR SANTARÉM, 2019).

Table 5: Alter do Chão: evolution of population and tourists in the month of September 2007-2015.

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	4.441	4.746	4.856	8.078	9.730	10.023	10.389	10.631	10.849
Increment(%)	10,53	6,87	2,32	66,35	20,45	3,01	3,65	2,33	2,04
Tourists	97.845	104.584	105.045	109.857	108.128	115.879	127.250	134.257	139.874
Increment(%)	5,89	6,89	0,44	4,58	-1,57	7,17	9,81	5,51	4,18

Reference: SEMTUR SANTARÉM (2019).

In order to demonstrate how tourism produces an economic impact in Alter do Chão, the Municipal Tourism Department (SEMTUR) estimated the values introduced in the local economy, added to the prevailing prices of 18 items of commerce and services, which include: hospitality, food, beverages, handicrafts, fuel,

communication, purchase of sweets, ice creams and jams; entertainments, pyrotechnic shows, vehicle rental, transport and other services. The analysis was carried out during the month of September of the years 2013 to 2015 (Table 6).

Table 6: Amounts injected by the tourism economy in Alter do Chão, in the month of September of the years 2013-2015

N	Consume	2013	2014	%	2015	%
1	Outsourced accommodation	598.700,00	733.158,44	22,46	817.169,53	11,46
2	Food at home	1.310.400,00	1.510.215,03	15,25	1.805.141,61	19,53
3	Food in cafeterias	489.584,25	561.008,47	14,59	637.018,95	13,55
4	Food in restaurants	1.843.424,85	2.338.701,15	26,87	2.787.610,34	19,19
5	Drinks and similar	1.687.500,00	1.911.176,27	13,25	2.189.976,75	14,59
6	Fuels (land fleet)	4.261.414,35	5.377.959,01	26,20	6.858.723,10	27,53
7	Handicraft purchase	362.273,75	397.989,23	9,86	441.206,48	10,86
8	Communication	1.024.053,45	1.122.205,90	9,58	1.240.696,26	10,56
9	Candy, ice creams, jams etc.	368.849,00	415.134,75	12,55	460.342,47	10,89
10	Entertainment	1.004.321,24	1.097.309,31	9,26	1.059.887,78	-3,41
11	Pyrotechnic shows	85.968,67	93.670,41	8,96	96.091,79	2,58
12	Hospitality with food	3.378.840,75	4.148.891,66	22,79	4.852.229,95	16,95
13	Miscellaneous equipment rental	423.045,56	464.752,35	9,86	486.082,16	4,59
14	Vehicle rental	234.584,00	268.830,21	14,60	302.564,64	12,55
15	Various services	306.785,00	303.342,87	-1,12	326.050,82	7,49
16	Public transport	412.600,00	412.017,00	-0,14	485.602,41	17,86
17	Tourist transport	194.596,00	205.977,34	5,85	219.549,18	6,59
18	Others	338.475,33	354.989,20	4,88	379.092,26	6,79
<b>CONSUMO TOTAL</b>		<b>18.325.416,20</b>	<b>21.719.342,63</b>	<b>18,52</b>	<b>25.447.051,48</b>	<b>17,16</b>

Reference: SEMTUR SANTARÉM (2019).

During the period of the Sairé party in September 2016 was verified a tourist revenue of approximately R\$ 5,395,000.00 (five million, three hundred and ninety-five thousand reais) and in the year of 2017 was R\$ 7,500,000.00 (seven million, five hundred thousand reais).

average individual spending during the Çairé party period in 2018 was almost R\$800.00, distributed in transport (bus, boat, own car, rented car or taxi); accommodation (hammocks, inn, hostel, hotel, rented property or camping), food, crafts and tours (TABLE 7).

In 2018, according to SEMTUR Santarém (2019), the

Table 7: Average individual expenditure, carried out during 05 days of the Çairé party in 2018.

Average individual expenditure, carried out during 05 days of the Sairé party in 2018	
Food	R\$ 147,74
Transport	R\$ 106,43
Accommodation	R\$ 371,49
Crafts/Souvenirs	R\$ 57,06
Attractions and Tours	R\$ 115,61
<b>Total</b>	<b>R\$ 798,33</b>

Reference: SEMTUR SANTARÉM (2019).

New businesses were also created with the increase in the flow of visitors in Alter do Chão, expanding the tourist offer of the village (TABLE 8).



Table 8: Evolution of tourist facilities in Alter do Chão from of 2006 to 2018.

EQUIPMENT IN ALTER DO FLOOR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Hotels	2	3	3	3	3	3	3	4	4	4	4	4	4
Beds/Hotels	72	142	152	152	178	203	206	419	419	419	419	419	419
Inns	15	19	19	19	21	23	24	26	32	35	36	38	38
Beds / Inns	152	220	220	233	296	364	425	517	611	1007	1065	1340	1340
Gastronomy	85	79	80	82	84	86	93	108	113	120	130	136	136

Reference: SEMTUR SANTARÉM (2019).

In the year of 2018, despite the reduction in tourist flow in Santarém in 2016 and 2017, the municipality received more than 237 thousand tourists, generating revenue of more than 176 million reais, a reflection of the investment and public policies implemented by the government in municipal and state spheres (SEMTUR SANTARÉM, 2019) and the positive exposure given by tourism critics, such as in the article published by the newspaper “O Estado de São Paulo”, in 2018, which elected Alter do Chão as one of the ten best tourist destinations, among international ones, to be visited.

In 2019, SEMTUR projected more than 292 thousand tourists visiting Santarém, with the majority expected for the second half of the year. This would represent a 23% growth compared to 2018. As for revenue was predicted that tourism would introduce more than BRL 216 million (BRL 216,852,317.25) into the local economy. (PORTAL G1, 2019).

Given the above, it is observed that tourism was responsible through its multiplier effect, for injecting large revenues and boosting the creation of new investments in tourist facilities, which positively affected the economy of the municipality as a whole and the spatial dynamics of Alter do Chão. Public policies and private investments have produced and produce in the region a panorama that helps to visualize the principles of recreation, leisure and the culture of nature in the Amazon. All this demonstrates that the village is very important for the regional economy, but we cannot lose the sight of the impacts of this progress on vegetation, soil, rivers, creeks and streams, flora, fauna and many other natural resources of the Amazon, patrimony of humanity. For, the financial resources generated by tourism contribute to regional development in a macro context, in the face of the challenges of the socio-political and economic scenario. However, we must think about the consequences of these incentives for the environment.

#### IV. DEBATE

##### The Brazilian Forest Code and its reflexes in the Amazon

Conceiving a critical and reflective analysis of the Brazilian Forest Code poses a very big challenge, because it deals with a theme that is very present in the political and environmental history of the country. The Amazon seen as a heritage of humanity for its importance to the planet emerges as a territorial space that needs special attention. Therefore, for this debate, it is necessary to resume a qualitative and concise approach to Brazilian environmental policy, which initially permeates by Decree 23,793, of January 23, 1934, which legislated on “forests like other forms of vegetation, the lands they cover being recognized as useful” (BRASIL, 1934).

Medeiros (2006) considers that the interest of the Brazilian government in promoting legal means of protecting nature was a reflection of the developmental policy still thought of in the Government of Getúlio Vargas. It also adds that it was during this scenario that the main legislation was created with the aim of protecting the first areas of forests, highlighting the following legal instruments, namely: Decree 23793/1934 (Forest Code); Decree No. 24643/1934 (Water Code); Decree 23672/1934 (Hunting and Fishing Code); Decree No. 24645/1934 (Animal Protection Decree). According to the author: “Decree nº 23793/1934 (Forest Code) had a greater relevance, as it objectively established the legal parameters for the territorial preservation of Brazilian *ecosystems*”, thus legitimizing the implementation of forest services in the country (emphasis ours).

In this direction, it is imperative to highlight the Brazilian Forest Code started in 1934, because this law is specific, and its purpose was to bring together legislation that provided for the environmental issue. [...] It established, through an essentially preservationist vision, the use of the property from of the category of existing forest. And it classified them, according to its (Article 3), into four typologies, namely: “a) protective; b) remainders;

c) model; d) income” (BRASIL, 1934a). In view of this classification framework and the conditions and specificities set out in the Code, on the groups of typologies, it was verified that the income typology was the most impacted. In this regard, Carvalho (2016) states that the vast majority of Brazilian forests were classified as income, which reveals the predatory use of natural resources at the time.

Even if details of some articles referring to the 1934 Code are not exposed, it is pertinent to highlight some aspects that refer to reflections and analyzes for other moments in our political, economic and environmental history, such as: (Art 4) that define the which are protective areas for water, soil, dunes, border areas, public health, sites and rare species of indigenous fauna; o (Article 5) that define the remaining forests and (Article 6) which defines the 143 concept of model forests as artificial areas. However, it is worth highlighting the relevance of Art. 8, which establishes that the conservation of protective and remaining forests is considered as perennial and inalienable. The legislator considered as the only safeguard the situation of the acquirer to oblige itself “by itself, its heirs and successors, to keep them under the current legal regime” (BRASIL, 1934). According to Carvalho (2016), even though the Brazilian Forest Code of 1934 had a preservationist vision, it reproduced a productivist model of exploitation of natural resources. This aspect allows for a reflective analysis of the problems that will justify subsequent changes in the law.

### **The Brazilian Forest Code of 1965**

Studies indicate that the Brazilian Forest Code of 1965 was born from the need to reformulate the 1934 Code. The main reasons listed are the impacts of the “green revolution” in the country, arising from the process of modernization of work in the field, especially those related to agricultural mechanization for the implementation of monoculture and extensive livestock activity, which could pose serious problems to the environment and promote irreparable damage, if not regulated (SILVA JUNIOR et al., 2017). In this context, an analytical study is carried out in order that there is an appropriation of data that provide the necessary mechanisms for a concise reading, which makes it possible to reflect on the current Brazilian Forest Code, approved by Law 12.651 of May 25, 2012, and to trace its critical judgment about the changes, perceiving advances or setbacks in the environmental protection of the Brazilian territory, with special attention to the Legal Amazon region.

According to Silva Junior; Santos (2017), claim that the reformulation of the 1965 Forest Code took three years

of debate among dozens of specialists [...]. Only on September 15, 1965, the then President Humberto de Allencar Castelo Branco, sanctioned Federal Law 4.771/1965. The new, modernizing Forest Code, although it improved some of the instruments of the old law, maintained its assumptions and objectives: to avoid occupation in fragile areas, to force the conservation of a portion of the native flora to guarantee a minimum of ecosystem balance and to stimulate the planting and the rational use of the forests (Idem).

Studies by Valle (2011) point out that the Brazilian forest code presented some advances, such as the prohibition of the occupation of steep slopes and the determination for rural owners to maintain a part of the native vegetation of their farm (legal forest reserve), so that everywhere, part of the existing vegetation was preserved.

Established in 1965, the Brazilian Forest Code was and continues to be an instrument of unique importance for Brazilian society. However, it is perceived that this illustrious document, as well as hundreds and perhaps thousands of other laws are not accessed and/or known by the population. This issue weakens its analysis and interpretation, as well as the guarantee of rights to a healthier and more sustainable environment, because without information, the citizen will hardly understand the nature/man relationship in a balanced way (VALLE, 2011).

In this aspect, the Code shows a clear objective, that of preserving the different Biomes, which was called the “fourth part of rural properties, destined to the creation of Legal Reserves”. From then on, “the 1965 forest code and other legal instruments established the amount of exploitation of land use as much as vegetation” (BRASIL, 2012). For example, in 1986, Law 7.511/86, effected a very significant alteration, where the forest reserve regime was modified, which until then allowed the deforestation of 100% of the native forest, being necessary to plant native species in the place, including exotic. About three years after the old code, a new law was created, 7.803/89, which, unlike the previous one, determined that legal reserves should be made primarily with native species, emphasizing reforestation in areas where it was necessary (VALLE, 2011).

Also, according to the author, from 1996 onwards, the forest code began to be modified by several Provisional Measures, the last one in 2001, MP 2166-67 in the year of 2001. It is verified clearly from the studies carried out on the question, that since the 1990s there has been a strong discussion on the part of rural representatives, analyzing the forest code as a threat to

the development of their activities in the countryside.

What supports more and more grievances, which is very negative, mainly because of the political representation that is established in the National Congress, through the ruralist bench. This fact has become the great socio-environmental and political challenge since its implementation, as well as its development, thus making its true role impossible (IBID).

According as Pasqualetto (2011) both the 1965 Code, as well as the 1934 Code, did not bring measures that would actually make it get off the ground. It adds that it was only with the creation of the Brazilian Institute for Forestry Development (IBDF) that it was seen as the only really effective one, despite criticism of the fact that the institution soon became more concerned with the incumbency of reforestation of exotic species than with conservation policies. However, it is important to highlight that it was from the creation of Law n.º 9.605/98, called Environmental Crimes Law, which provides for criminal types related to the violation of the Forest Code precepts, that rural landowners took the first measures to respect for restrictions on the exercise of property rights. Notwithstanding, instead of trying to adapt and conserve environmental resources, they chose to insist on the model based on immediacy without a long-term sustainability vision, since doing the right way would be too costly for them. Despite the existence of the law and reforestation, there are evidence of the high rates of deforestation in the period in Brazilian biomes. Something that seems interminable, even with the emergence of new legal instruments with a view to preserving forest resources.

### **The Amazon Biome and the New Brazilian Forest Code**

It focuses on the Legal Amazon, nine different units of the federation, which corresponds to all seven states of the northern region (Acre, Amapá, Amazonas, Pará, Rondônia, Roraima and Tocantins), plus the western portion of the State of Maranhão and the State of Mato Grosso, representing approximately 61% of the Brazilian territory in the Legal Amazon, [...] but Brazil is not just the Legal Amazon, we have other valuable and important ecosystems such as the Pantanal, the Caatinga, the Cerrado, the Atlantic Forest and of the Pampa” (NASCIMENTO et al., 2018, p. 26, our translation).

In its history, Brazil carries the *status* of a grandiose country with an exuberant nature, because “since the arrival of the colonizers, it was seen as a source of resources where forests were nothing more than “obstacles” that impeded the advancement of development” (BRASIL, 2017, p. 4, our translation). In this perspective, between advances and/or setbacks, evidenced daily by the assent and/or social, economic and

environmental fragility, aspects emanating from the policy imposed on the country and the decisions taken, which were sometimes unable to give serenity to the directions of Brazilian society. In order to support this logic, some inherent counterpoints to the current Forest Code are evidenced, where some categories such as CPT (Pastoral Land Commission), CUT (Unified Workers' Center), FETRAF (National Federation of Workers in Family Agriculture), MAB (Affected Movement by dams), MST (Landless Workers' movement) and Peasant Way, states that “the text of the (new) project of law is unsatisfactory”, support the idea that it is impracticable, harming, above all, small producers and family farming (Idem). Currently, there is the experience turbulent moments and instability in the various directions in the country, whether social, economic and political and above all environmental, promoted by the dismantling observed in function of the measures and decisions taken by the National Congress and of the Plateau on the rules that legislate environmental policy in the country. Furthermore, the lack of inspection of the Amazon biome has led, in the last five years, to a considerable increase in deforestation in the Amazon (INPE, 2021). TABLE 1.

In this perspective, it is observed that the natural landscape changes every year with the advances of predatory actions in the areas of primary forests with livestock and grain monoculture, as well as water through the indiscriminate exploitation of mineral resources and mercury pollution of the waters in the Amazon basin [...]. In an article from Brasil de Fato, dated March 30, 2021, published by Raquel (2021), reveals that “mercury poisoning, a metal used to extract gold, can cause malformation of fetuses, blindness and even death”. And this condition is related to the consumption of water, food, the soil and the air that we breathe. And it closes by showing that this is the reality of all the indigenous people of the Mundurukue ethnic group in the middle Tapajós region, in Pará.

The diversity of landscapes on Brazilian soil makes it impossible to create a single rule that is applicable to the country as a whole. About the subject, Nascimento et al. (2017, p. 26-27, our translation) state that “the Amazon biome is understood as a set of 17 different ecosystems, housing the largest number of species of flowering plants, amphibians and birds in the world”, and question whether it would be fair to apply the same law, or even if it would be a special case, since this part of the country is now receiving worldwide attention and focuses on the balance of the planet [...]. Thereby, it must be considered that “Brazil is not just the Legal Amazon, we have other valuable and important ecosystems such as the Pantanal, Caatinga, Cerrado,

Atlantic Forest and Pampa biomes” (IBGE, 2004). MAP 1.

Table 1: PRODES Amazon Rate - 2015 to 2021 (km<sup>2</sup>)

Years/ states	AC	AM	AP	MA	MT	PA	RO	RR	TO	AMZ LEGAL
<b>2015</b>	264	712	25	209	1601	2153	1030	156	57	6207
<b>2016</b>	372	1129	17	258	1489	2992	1376	202	58	7893
<b>2017</b>	257	1001	24	265	1561	2433	1243	132	31	6947
<b>2018</b>	444	1045	24	253	1490	2744	1316	195	25	7536
<b>2019</b>	682	1434	32	237	1702	4172	1257	590	23	<b>10129</b>
<b>2020</b>	706	1512	24	336	1779	4899	1273	297	25	<b>10851</b>
<b>2021*</b>	871	2347	39	363	2263	5257	1681	386	28	<b>13235</b>
<b>Var. 2021- 2020*</b>	<b>23%</b>	<b>55%</b>	<b>63%</b>	<b>8%</b>	<b>27%</b>	<b>7%</b>	<b>32%</b>	<b>30%</b>	<b>12%</b>	<b>22%</b>

Reference: INPE (2021). Adapted. Reference date 11/19/21.

Map 1: Map of Brazilian Biomes



Reference: IBGE (2004).



Therefore, the first Brazilian forest code, established in 1934, determined the preservation of  $\frac{3}{4}$  of the native forest of a rural property. Thirty years later, the 1965 forest code was created, which was in force until 2012 and defined the protection of the Permanent Preservation Area (APP) and the creation of a legal reserve of 50% in the Amazon and 20% in the rest of the country, having as a possible concern the policy of the National Integration Program from the 1960s. Thereby, it is verified that:

The Amazon, from 1960 onwards, is perhaps the regional cut that best reflects the needs for conquests projected by the elites of this country linked to agricultural activities. This region is, in the view of these agents of capital, a space to be conquered, much more than a regional space whose society is part of the nation (NASCIMENTO et al., 2018, p. 30, our translation).

The changes promoted by the New Brazilian Forest Code, approved as from Law 12,651, of May 25,

2012 and sanctioned by the then President Dilma Rousseff, led to changes in 32 articles in addition to nine other vetoes. [...] considering that one of these vetoes allows for an amnesty for those who deforested illegally until 2008. Notwithstanding this, an approved article that said that states should establish restoration strips for landowners who have degraded Permanent Preservation Areas (APPs) was vetoed. In this way, with the veto, it provides rural landowners with advantages, once the areas of deforested APPs were recovered, they would be exempt from paying fines due. It is also important to highlight the change made to the Environmental Credit, as the proposal presented by the Chamber granted credit to those who had deforested before July 22, 2008. From that date, the owner would have five years to recover the APP, from so that if it didn't, it wouldn't be able to receive the credit (EMBRAPA, s/d). Figure 1 illustrates minimum areas to be recomposed.

APPS with anthropic occupation pre-exists on July 22, 2008, with buildings, improvements or agro-pastoral activities, admitted, in the latter case, the adoption of the Pousio regime.

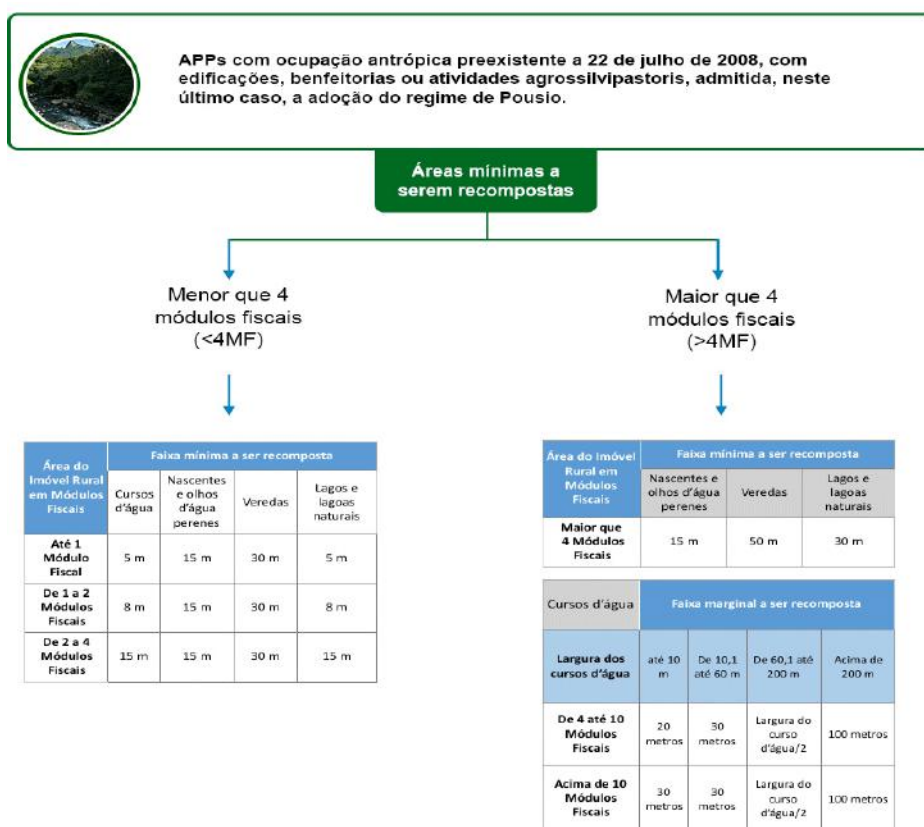


Fig.1: Minimum areas to be recomposed (APPs)

Reference: EMBRAPA<sup>4</sup> (s/d).

<sup>4</sup> "For watercourses, regardless of the size of the property, the width of the marginal strip is counted from the edge of the channel of the regular bed of the watercourse. For properties smaller than 4 MFs, the width of the strip to be recomposed does not depend on the width of the watercourse". (EMBRAPA, s/d).



In relation to urban areas, there were also changes in the article. The text of the Chamber allowed the urbanization of the restinga and mangrove areas as long as the ecological function of the natural areas was protected. However,

in the judgment of repetitive special appeals (Theme 1.010), the First Section of the Superior Court of Justice (STJ), unanimously, established the understanding that the Forest Code (Law 12.651/2012) must be applied for the delimitation of the extension of the non-buildable strip from the banks of watercourses in consolidated urban areas (STJ, 2021, p. 1, our translation).

For the rapporteur, Minister Benedito Gonçalves, this manifest decision, takes into consideration the best and most effective protection to the environment.

It is also observed that the veto of certain proposed changes, such as the areas of apicuns, salt marshes and wetlands remain as APPs, and mangroves, also, must be preserved (BRASIL, 2012). The restoration of riparian forests for small properties will not vary according to the width of the river, but rather according to the size of the property. The range to be recomposed varies from 5 to 15 m. Areas with more than four modules, bordered by rivers wider than 10m, may have a strip of up to 100m of riparian vegetation. Previously, the article predicted that properties in APPs should have vegetation on the banks of rivers recomposed by 15 meters (BRASIL, 2012). The Brazilian Forest Code itself covers and protects all Brazilian Biomes and their diversities, involving the fauna and flora, protects a percentage of the area for the creation of legal reserves, with different percentage criteria for the different biomes: that a portion of 80% of the property must be preserved with primary forests intended for the creation of a legal reserve; in the Cerrado Biome 35% of the property and 20% in the area of general fields, including its characteristics mainly for having a vast forest with a tropical climate. Although, in the Cerrado Biome, this percentage is different, being 20%, from the low trees to the twisted trunks, etc. (BRAZIL, 2012).

For the Caatinga Biome also gets 20% and it should be more, because it is a biome exclusively from Brazil, not being found anywhere else in the world, the Atlantic Forest Biome gets 20%, despite having a great diversity, such as mangroves, restinga vegetation, between

others. 20% for the Pantanal Biome, which is composed of Pantanal vegetation, grasses, medium-sized trees, shrubs, etc. 20% was allocated to the Pampa Biome, taking into consideration its formation, which is basically made by grasses and small plant species (BRASIL, 2012). The data presented by the National Institute for Space Research (INPE) from 2015 to 2021, deforestation in the Amazon Biome is asserted and with the prolonged droughts each year, the outbreaks of fires are constant and harmful, which has affected the fauna and flora of the different ecosystems of the Amazon. For example, INPE data reveal that deforestation and fires have only increased. For example, the data referring to 2019, “from January 1st to August 25th, show that in the Amazon there were 75,000 outbreaks of fires and in 2021, in the same Biome, there were 74,908 fires, representing 40.8% of the outbreaks of fires in the country (INPE, 2021). The forest is being devastated by people who see the destruction of the environment as an economic means, taking away from the animals their habitat along with their food, resulting in problems inherent to the climate (temperature, air and water) manifested each year, serving as an example heavy rains, which cause silting of rivers, lakes and streams (INPE, 2019). In the study on deforestation in the Amazon carried out by Pontes (2021), it is shown that the policy of advancing about forests does not bring social progress, since their results show that cities that deforest the most in the Legal Amazon have the worst rates. It summarizes, evidencing that:

In the Legal Amazon, the social and environmental conditions of the people living in its 772 municipalities are deteriorating. The scenario is captured by the Social Progress Index (IPS) made for the region, which reached a score of 54.59 for all nine states – below the 54.64 verified in the last survey, in 2018 (PONTES, 2021, p. 1, our translation).

According as the author “Altamira and São Félix do Xingu, are champions of forest destruction, received scores below the Amazon average: 52.95 and 52.94, respectively. In the ranking of the 772 municipalities listed, they appear in positions 509 and 513”. Notwithstanding this, it corroborates, evidencing that “among the cities in the last positions, many are marked by forest degradation and social conflicts, such as Pacajá (771°) and Pau D'Arco (763°); and illegal mining, such as Jacareacanga (762°). All are located in Pará” (IBID). They

are clear evidence of the political instability and fragility that the country is going through. According to Santos et al. (2021), the Amazon lost 803 km<sup>2</sup> of forest in October alone, an area almost four times the size of Recife. As a result, the accumulated deforestation from January to October reached 9,742 km<sup>2</sup>, the worst rate in 10 years. Only in comparison with the same period last year, when the devastation had already reached the highest mark since 2012, the accumulated deforestation this year grew 33% (SANTOS et al., 2021).

INPE data reveal that “until 2020, there was deforestation in the Amazon biome of 729.781.76 km<sup>2</sup>, and in the Brazilian Legal Amazon (ALB) it reached 813.063.44 km<sup>2</sup>” (INPE, s/d). The data also show that from August 1, 2020 to July 31, 2021, deforestation in the ALB grew 21.97% in relation to the rate of the previous period, configuring itself as a reflection of illegal and disorderly occupation by the absence of effective government action (INPE, 2021).

In this context and with this large number of problems, it is understood that the debates and protests against the new Forest Code are many. However, researchers do not believe in a setback, but in a new path. The Amazon biome, like others, has been suffering every year with increasing deforestation and is on the edge. Because, deforestation is corrosive, destroys ecosystems and puts millions of lives on alert.

## V. CONCLUSION

As seen, the Legal Amazon has municipalities covered by different forms of vegetation which cannot be treated in the same way. For example, areas of cerrado and savannahs, which have different social and economic dynamics, cannot be treated in the same way as forest areas. “The cerrado biome occupies an expressive part of Mato Grosso, Maranhão and Tocantins. The pace of development of municipalities in this biome cannot be extrapolated to those located in the Amazon biome” (VERISSIMO et al., 2021, p. 10, our translation).

Furthermore, deforestation and expansionist occupation, according to this author, do not promote improvements in the social progress index (IPS) in the Brazilian Amazon. It is important to highlight that this perspective was only possible, in view of, that the study used an innovative method with an approach to demonstrate the results in a quantitative way (IBID). In this sense, we can see that the region has presented successive problems of land order, social and rural violence in recent years. Corroborated in the following way:

Deforestation, in addition to causing serious problems to the environment and climate, does not promote social assent. For example, the municipality of Pacajá (PA) and six other municipalities on the list of the 20 largest deforesters in the territory failed to reach 50 points in the IPS, ranking in the 70 worst positions among all 772 municipalities in the Legal Amazon. They are: Portel (PA), Apuí (AM), Senador José Porfírio (PA), Novo Repartimento (PA), Uruará (PA) and Anapu (PA). These are rates below the average for the Legal Amazon and Brazil. These results only support the thesis that deforestation and the use of fire in agricultural activity is harmful to the environment and society in general. (VERISSIMO et al. 2021, p. 9, our translation).

Therefore, the forest has increasing value and strategic importance. Our understanding of the intrinsic economic value of the forest is expanding, and the Amazon also plays a key role in regulating the region's and the world's climate. Thereby, it is understood that the Legal Framework on Brazilian forests needs to be rethought in order to promote more significant advances and/or changes that are capable of reversing serious socio-environmental problems. And, for that, the collective effort of political leaders, civil society and the legal environment becomes indispensable, in search of a governance system capable of providing actions that enhance the positive premises, in the sense of reversing social and environmental degradation in the country.

Thus, it is still perceived, that the changes promoted by the Brazilian Forest Code and the lack of supervision by the public power, the deforestation of rural and urban areas has grown month after month in the Amazon, promoting not pleasant mishaps. The official data made available by the Space Research Institute about the region are frightening and mark turbulent times, agrarian conflicts and marginalization. Illegal mining grows in territories of traditional (indigenous) populations; [...] large enterprises erode ecosystems and policies do not advance in a climate-friendly direction in the required dimension. These are dark times where wild capital prints different

rhythms that often lead us to conditions of impotence. But, not everything is lost! It's urgent needed joint efforts towards a new path that raises our consciousness and promotes a dignified life, that we are capable of reversing the deleterious effects of our actions.

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