

The Challenges of Environmental Protection in the Brazilian Amazon

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Abstract

This article aims to analyze the importance of preserving the environment in the Brazilian Amazon, in view of the relevant role it plays in climate stability, in the preservation of fauna and flora and as a reserve of drinking water. The research method will be hypothetical-deductive, using legislative and bibliographic research techniques, with documentary collection in electronic files and press agencies. This investigation is expected to present proposals that may influence the search and implementation of measures that promote efficient preservation of the environment in that important region.

Keywords

Amazon Region, Environmental Damage, Illegal Mining, Logging, Biodiversity

1. Introduction

The Amazon, an area located in the North of Brazil and in eight other countries in South America, as Bolivia, Ecuador, Colombia, Guyana, Peru, Suriname, Venezuela and French Guiana, is the largest rainforest biome in the world, where the largest amount of fresh water on the planet is found, corresponding to about a fifth of the existing reserves on planet Earth.

The Brazilian Amazon is a sparsely populated area of tropical forest covering 6,700,000 km². To have an idea of its size, adding all the rest of Brazil, plus Mexico and all of Central America, we will have an area of 4,316,000 km². And it is in this area that almost half of the planet's known biodiversity is found.

Dall'Agnol (2021) emphasizes that:

The forest plays a key role in the water and carbon cycle. In the carbon cycle, the absorption of atmospheric CO₂ released by the combustion of fossil fuels and by the burning of vegetable residues and other organic

products takes place. With CO₂, which is one of the greenhouse gases, captured from the atmosphere by the plants of the great forest, the amount of this gas present in the atmospheric air is drastically reduced.

Still, the Brazilian Amazon, or simply the Amazon as it will be called from now on, is usually treated as something uniform, but, in fact, it is a region with diverse origins and significant differences. Professor and researcher Aziz N. Ab'Saber (2022: p. 7) notes that:

The fact that the region has always been presented as the empire of equatorial forests, with a zonal layout, has led to serious distortions in the studies of regional ecosystems. It is true that, in terms of the total Amazon space, forest ecosystems endowed with high biodiversity overwhelmingly predominate. However, if we take into account the original concept of ecosystem, regardless of the spatial disparities of its occurrence, we will reach a much larger number of local or sub-regional ecological patterns.

The traditional populations living there are not exactly the same. Research carried out by the Agency France Press (AFP), using information provided by the National Indian Foundation (Funai) in Brazil, revealed the existence of 107 indigenous peoples living isolated in the Amazon (Globo, 2018). These peoples are those who do not wish to maintain contact with the Brazilian population. However, even having their isolation respected by state bodies, they are subject to attacks by drug dealers, illegal mining exploiters and smugglers.

Besides the peoples of the forest, in the Amazon traditional populations live in different spaces, such as rubber tappers and caboclos, military personnel, farmers, traders, ranchers and other types of inhabitants.

The population density is also very diverse. The State of Pará has the largest number of people, since it has 8.074 million inhabitants, while in the State of Amazonas, with a much larger territorial extension, only 3.874 million people live. The State of Roraima is the least populated, with only 652,713 inhabitants, having the largest number of indigenous people, acculturated or not. The differences also extend to the type of fauna and vegetation. For example, the State of Roraima has large savannas.

Due to its relevance and the fact that it constitutes a mosaic of multiple factors and interests, among which the preservation of the environment is superimposed, on July 3, 1978, the countries where the Amazon region is located signed the Amazon Cooperation Treaty, in which the parties pledged to carry out joint efforts and actions in order to promote the harmonious development of their respective Amazonian territories, with profitable results for all and with a view to preserving the environment and the conservation and rational use of natural resources (BRASIL, 1980). However, said international agreement, so far, has not revealed significant advances or demonstrations that it has achieved the intended objectives.

But despite the importance of the Amazon in all nine countries where it is

found, it is in the Brazilian territory that it occupies the largest space, that is, no less than 5,500,000 kilometers, being the largest tropical forest in the world. Given its expressive territorial dimension, its importance in the balance of the environment goes beyond the borders of the countries in which it is located.

The Amazonian environment arouses interest from other countries, an interest that has increased a lot after the fight against global warming. Criticism against the country has increased significantly in recent years, creating a climate of veiled hostility.

The Amazonian environment has been the object of interest and international discussions for decades, accompanied by external accusations against Brazil and passionate defenses. However, more recently the topic has become more sensitive, either because of the growth of global problems, or because of the generalized concern about climate change and its consequences.

Studies by the North American Space Agency—NASA reveal that the increase in deforestation and burning in the Amazon, combined with the high concentration of greenhouse gases, is making the atmosphere over the tropical forest drier, increasing the demand for water and leaving ecosystems more vulnerable to fires and drought (Itatiaia, 2019). For some, it could be the cause of continuous droughts in Argentina, even affecting the capital Buenos Aires, because 19% of the rain that falls annually in the La Plata basin originates from the humidity generated by the Amazon rainforest and ends up being dispersed towards the south (El Pais, 2014).

There is no doubt that the Amazon region, due to its immense forests, waters and rich biodiversity, contributes decisively to the balance of the environment, not only in South America, but throughout the planet, and that this attracts and will attract more and more attention of the international community.

In 2020, international concern for the Amazon had a strong boost. The fires in the region, which were followed by those in the Pantanal region, led to great dissatisfaction with Brazilian environmental policy. To mention just one example, the European Parliament began to consider the possibility of rejecting the free trade agreement between the European Union and Mercosur, mentioning in the original text the actions of the Brazilian government in the area.

However, the challenges for protecting the environment in the Brazilian Amazon are not few. Although there is a consensus on the need to protect this important biome, the truth is that few people are aware of the difficulties to reach positive results. Considering this reality, it is imperative to analyze the existing obstacles, since the identification of the problem is the first step to combat it, followed, in the end, by suggestions.

2. The Most Serious Challenges in the Protection of the Amazon

The resources of the Amazon, its extension and the difficulties of inspection, have been attracting people of different origins and purposes, including crimi-

nals. The situations in which illegal intervention takes place are multiple. In this article, only those that are more intense and serious will be exposed. However, first of all it is necessary to clarify the complexity of the challenges in protecting the jungle.

The difficulties are many and little-known. For example, one of them is that there are no specific legal systems aimed at protecting the Amazon. Brazil is a federal state, however, unlike the United States of America, Canada and Australia, power is strongly centralized in the federal government with reduced autonomy for member states. For this reason, the most important legislation in the Amazon is federal and is the same one in force for all Brazilian states, even though other regions are completely different.

Another relevant and little-known aspect is that, sometimes, there is a lack of support from the local population in the fight against environmental crime. This happens because people from rural areas and mainly from the smaller and more distant cities of the Amazon, even if they act correctly, they benefit from the illegal action of criminals, as it moves the commerce, services, the local economy. Merchants, self-employed professionals and even people who sell delicacies in the square earn and live off the circulation of money that illicit practices make possible.

Obviously, in the medium-term illegal exploration is very harmful, as extraction runs out and the money disappears, leaving a trail of devastated land. But people are known to care about the present and not about tomorrow. For this reason, large operations must be associated with social action, as many Courts of Justice in the region have done, promoting social security rights, social assistance and providing documents to the many who do not have them.

2.1. Large-Scale Tree-Cutting

Deforestation, through the cutting down of trees or fires, is what draws the most attention to illegal practices against the environment in the Amazon. At this point the situation has been getting worse in recent years. According to data from the National Institute of Special Research (INPE), it increased by 21.97% between August 1, 2020 and July 31, 2021, with 13,235 square kilometers having been deforested (*Agência Brasil, 2021*).

As for the assessment carried out between August 1, 2021, and July 31, 2022, there was a decrease compared to that recorded in 2021 (13,038 km²) according to annual data from the National Institute for Space Research—Inpe (*CNN, 2022*). However, the fact is not to be celebrated, because, even so, the rates remain high and require permanent attention.

To understand this situation, it is necessary to pay attention to some specific situations that are not always known. The first fact to clarify is that in that Brazilian region there are public and private lands, therefore two different situations.

In public lands in the Amazon there are currently no less than 145 federal and 191 state conservation units. In Brazil, Conservation Units are regulated by Law

9985, of 2000, which in art. 2, item I, defines them as: “territorial space and its environmental resources, including jurisdictional waters, with relevant natural characteristics, legally instituted by the Government, with conservation defined objectives and limits, under a special administration regime, to which adequate safeguards of protection are applied” (BRASIL, 2000). The Brazilian conservation units are managed by the Chico Mendes Institute for Biodiversity Conservation (ICMbio), a federal agency linked to the Ministry of the Environment.

However, the legal recognition of an area as a conservation unit by act of the public authority does not mean, in reality, that it will be really protected. In the Amazon, many conservation units are located in distant, inhospitable places, the administrative structure has serious deficiencies and inspection is deficient. This ends up resulting in the illegal exploration of the forest, through the action of criminal groups.

In private lands, the situation is different. Logging is often clandestine, criminal, even using false documents. But in certain situations, it is legal, allowed by the Brazilian forest legislation. The explanation is as follows.

The Forest Code establishes in art. 12, items I and II, that every rural property must maintain an area covered by native vegetation, as a Legal Reserve, which will correspond to 80% of the property in the Amazon and 20% in other regions of Brazil. Therefore, in areas considered Legal Reserves, there will be no exploration of any kind. It so happens that, within the Amazon, if the property is in a cerrado vegetation zone, the Legal Reserve will be 35% and in the general fields area, only 20%.

The logging within the legal percentage of 20% of forest areas, 35% of existing general fields areas (e.g., in the State of Pará) or 20% in existing cerrado vegetation areas (e.g., in the States of Mato Grosso, Roraima and Amapá) are allowed and done within the law. Special hypotheses occur when the Municipality has more than 50% (fifty percent) of the area occupied by public domain conservation units and homologated indigenous lands, when the Legal Reserve area goes from 80% to 50%. The same happens “when the State has approved Ecological-Economic Zoning and more than 65% (sixty-five percent) of its territory is occupied by nature conservation units of public domain, duly regularized, and by homologated indigenous lands” (as per §§ 4 and 5 of article 12 of the Forestry Code).

For the European Union “Illegal logging constitutes an insidious problem of an environmental, economic and social nature that contributes to climate change, reduction of biodiversity, loss of income, triggering of conflicts (sometimes armed) motivated by issues of land and resources, as well as corruption” (EUR LEX, 2010).

This causes those who watch videos exposing deforestation through the felling of large trees in the Amazon, a situation of perplexity and revolt. Two different situations are mixed up, the exploration of the forest within the law, with environmental licensing and other requirements fulfilled, and the illegal exploration.

However, the concerns caused by deforestation make some people sustain,

mainly in other countries, that the cutting of trees in the Amazon should be prohibited in any situation, even when provided for in the Brazilian legislation.

Such a proposal is obviously controversial because it violates Brazil's sovereignty in the area. Internally, it would encounter strong resistance from the owners of areas in the region, who, by the way, can only explore them with great restrictions. Such a prohibition, in addition to the difficulties it would have to be approved by the Legislative Power, would oblige the State to expropriate the areas by paying large sums.

Therefore, any initiative in this sense would require in-depth studies and, possibly, the creation of a system that would create a form of compensation by countries of the international community to Brazilian landowners, through a fund with income from different sources.

2.2. Illegal Mining

Mining is part of our lives. All the time we make use of thousands of instruments that come from it. For example, computers, saucepans, household appliances and planes. Therefore, attacking it in a generic way reveals naivety or bad faith. Its exploration will always cause environmental damage. Therefore, if we need it for our daily activities, we have to obtain it in a way that causes the least possible environmental damage. For this, the best available technology must be used and there can be no economy in investments.

In Brazil, mining is regulated by Decree 227 of 1967 (BRASIL, 1967), updated by later laws, which makes a distinction between *garimpo* and mining. *Garimpo* consists of exploring resources in a more artisanal, simple way, carried out by workers (*garimpeiros*) who use their own hands to extract the material. In the Amazon, gold is extracted in this way. Mining, on the other hand, is the most sophisticated form of exploration, carried out by companies, in large quantities and with the use of diversified and modern machinery.

In the Brazilian Amazon, illegal mining is practiced in regions far from urban centers and difficult to access. Sometimes in indigenous lands, which aggravates the situation. Such actions are not recent, but have been practiced for decades, causing very serious environmental damage, such as deforestation of forest areas that do not recover, contamination of nearby rivers, death of specimens of aquatic life and risks to the health of riverside communities and indigenous populations.

For example, in gold exploration, certainly the most common one, *garimpeiros* use chemicals and heavy metals for extraction, such as mercury (Hg). These are sedimented at the bottom of rivers, pollute the waters and contaminate the fish. The continuous use of water and consumption of fish causes serious health problems in the nervous system, loss of vision, heart, and even reproductive system problems in local populations. Such problems often do not arise right after consumption, but over time, which makes it difficult to prove the causal link.

If illegal mining is a problem wherever it is practiced, it will be even worse when it occurs on indigenous lands. An interview with Paulo Basta, coordinator

of a research carried out by the National School of Public Health, of the Oswaldo Cruz Foundation - Fiocruz, revealed that *garimpo* in Yanomami lands has existed since 1980, but has grown at a frightening rate from 2014 onwards. In the research “239 Indians were evaluated in the period from 11/16/2014 to 12/03/2014, and, after free and informed consent, hair samples were collected from children and adults, with a focus on children under 5 years of age and women of reproductive age”. High levels of Hg “were found in the village of Aracaça, at the Base Pole of Waikás, where there were a large number of clandestine *garimpo* rafts when the field work was carried out” (Basta, 2016). Despite the recommendations made after the end of the research, illegal *garimpo* did not stop, which demonstrates the seriousness of the situation.

Carta Capital magazine showed how the PCC, the largest criminal organization in the country, has consolidated its actions in mineral exploration. In the State of Roraima, thousands of fugitives from justice find refuge in distant places, with 25 of them residing in the Yanomami indigenous land, where they work with 20,000 illegal *garimpeiros* (REVISTA CARTA CAPITAL, 2022). Making use of heavy weapons and using the experience of drug trafficking, organized crime has an enormous field of action in this area, including taking advantage of restrictions on the entrance of police officers and state environmental agencies into indigenous lands.

In January 2023, under the new federal government, the fight against this tragic situation began, through the destruction of clandestine landing strips, estimated at 840, and medical assistance to indigenous people, mainly children, hospitalized in Roraima. It is estimated that there are around 20,000 *garimpeiros* working illegally, whose destiny is another kind of concern.

2.3. Biodiversity and the Difficulties in Its Sustainable Exploration

Biodiversity is everywhere, including in the oceans. However, it is richer in biomes, which are large ecosystems with a certain homogeneity.

According to the website of the Ministry of the Environment, Brazil “is the country with the greatest biodiversity in the world, with more than 116,839 animal species and more than 46,355 known plant species” (Gov.br, n.d.).

In this total, the Amazon accounts for a huge percentage, and it is worth remembering that “Almost a quarter of all freshwater fish in the world, more precisely 23%, are found in Brazilian rivers. As well as 16% of the birds on the planet, 12% of the mammals and 15% of all species of animals and plants” (Costa, 2018).

The Federal Constitution of 1988 protects the diversity and the genetic heritage of the country in article 225, paragraph 1, item II. It was complemented by Brazil’s adherence to the Convention on Biological Diversity, CDB, agreed at Rio-92 and incorporated into our legal system through Decree 2159, in 1998.

In the wording of the CBD, article 2, biological diversity “means the variability of living organisms from all origins, including, among others, terrestrial, marine

and other aquatic ecosystems and the ecological complexes of which they are part; also including the diversity within species, between species and of ecosystems”.

As for its economic value, the website of the Ministry of the Environment confirms that only “the environmental services it provides—as the basis of the biotechnology industry and agricultural, livestock, fishing and forestry activities—are estimated at 33 trillion dollars annually, representing almost twice the world GDP” (BRASIL, n.d.). Although we own this rich heritage, we have not taken advantage of it. The greatest difficulties are in regulating the matter, with all the doubts and demands that it gives rise to.

At the international level, Brazil signed the Convention on Biological Diversity (CBD) and the Trade-Related Aspects Intellectual Property Rights (Trips). However, both have some disagreements.

The CBD recognizes States’ rights over their biological resources, encourages payment for the immemorial knowledge of traditional populations, approves sustainable development in the use of biodiversity and the right to a fair distribution of genetic resources, under conditions previously agreed with the countries of origin.

TRIPS, on the other hand, is less emphatic, because, despite recognizing that States may have rights over plants and animals, it does not recognize any rights of the traditional populations over their knowledge, only patents over what is considered new. In fact, TRIPS required the adhering countries to standardize their laws on industrial property. For this reason, in Brazil, Law 9279 of 1996 was enacted, which does not consider the discovery of something existing in a plant or animal as an invention and, consequently, does not provide for the sharing of profits between those who explore it and the country of origin or traditional populations.

Due to the difficulties in approving a law on this matter, the Executive Power issued Decree 4339 in 2002, seeking to make the Brazilian legislation on biodiversity compatible with the CBD.

Finally, Law 13,123 of 2015 was approved, a hope that the situation would be appeased, taking into account the various interests at stake. This law created, within the sphere of the Ministry of the Environment, the Genetic Heritage Management Council, CGen, a collegiate body of a deliberative, normative, advisory and appeal nature, formed by representation of entities of the federal public administration and civil society, with representation of businessmen, academia, and indigenous populations.

However, the situation remains practically the same. The consequence of the bureaucratic obstacles to permission is that biodiversity is not explored. But, on the other hand, illegal exploration continues without the State being able to curb it.

2.4. The Smuggling of Ornamental Fish

Another illegal market is the smuggling of small ornamental aquarium fish.

These specimens of the ichthyological fauna are highly appreciated in Brazil and abroad because they bring light and beauty to the interior of homes of people with medium or high purchasing power.

The trade can be done legally, as it happens in several municipalities in the Zona da Mata, in the State of Minas Gerais, where breeding grounds allow the sale of 100,000 to 150,000 fish per month in the consumer market, mainly in the State of São Paulo (Colpani, 2017). But exploration can also be carried out illegally and hence, evidently, the profits are much higher.

The capture of small fish in large numbers in the Amazon contributes to breaking the ecological balance, which has repercussions on the ecosystem's food chain. An entire life cycle is jeopardized by the lack of small fish, impoverishing the diversity of specimens in the rivers.

The Federal Police has been fighting this type of smuggling, but with the difficulties typical of the region. Let's look at two examples. On January 27, 2019, the Federal Police reported the seizure of approximately 10,000 fingerlings packed in plastic bags, which would be taken to Colombia in a vessel and from that country, would be sent abroad (BRASIL, 2019). Arrests continue to occur, as seen in more recent examples, often at airports in the North region, where the export of small fish is attempted (Marques, 2021). However, the immensity of the Amazon makes it difficult to fight crime.

3. Administrative and Penal Repression in the Protection of the Amazon

The protection of the environment always and essentially involves the inspection system which, in cases of illegality, will have repercussions in the administrative area and in the criminal jurisdiction. Both are legally based on Law 9605 of 1998, which, although most of its articles are dedicated to environmental crimes, has express provisions for administrative infractions in articles 70 to 76. In the Amazon, when a larger operation is carried out, the records infractions drawn up by the administrative authority or the initiatives taken by the Police, or another body, are shared and give rise to autonomous accountability procedures.

Regarding the actions of environmental agencies, it is true that they do not have the appropriate structure to combat the multiple illegal activities practiced. At the federal level, two bodies are in charge of inspection, the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Brazilian Institute for the Environment and Renewable Natural Resources)—IBAMA, created by Law No. 7735 of February 22, 1989, and the Chico Mendes Institute for Biodiversity Conservation—ICMBio. The last public tender for the admission of Ibama employees took place in January 2022, with part of those approved in June of the same year being nominated.

Of course, it is evident that no form of protection for the environment can be rejected, and, among them, criminal repression proves to be of great relevance. So, let's see how and to what extent it can be used.

Brazilian Environmental Criminal Law is based on Law 9605, of 1998. However, that law was made for other times and for minor infractions, so that the absolute majority of its articles allow transaction or suspension of the process. It was designed to educate and repair the damaged environmental good through agreements and not to punish the violator with imprisonment.

If this was good for the peasant who, out of ignorance or secular habits, killed an armadillo, it ended up being of little use in today's most serious environmental crime, especially in the Amazon. Let's see.

According to Law 9.605/98, the illegal export of birds subjects the offender to the symbolic sanction of 6 months to 1 year of detention (art. 29, § 1, III), the cutting of trees in an area of permanent preservation, 1 to 3 years (art. 38), pollution in the most serious forms, 1 to 5 years (art. 54) and mining without any kind of license, 6 months to 1 year of detention (art. 55). The exception is in the event of mistreatment of cats or dogs, an offense punishable with 2 to 5 years (art. 32, § 1).

It is easy to see that, regarding such penalties, the State is weakened in the face of major environmental crimes committed in the complex reality of the Amazon, where harmful conduct is practiced on a large scale and environmental damage can have much worse consequences.

Some people think naively that the jungle, being so big, will never be decimated. Paulo Nogueira Neto, the first Secretary of the Environment in Brazil, narrates in his memoirs that while traveling in the State of Paraná, in 1941, "as soon as the plane took off in Curitiba, after about 15 minutes of flight, looking down, only forests were seen. No sign of human life was seen until the vicinity of Foz do Iguaçu. The forests were so immense and continuous that I wrote at that time, for a Law School magazine, that they would last forever. Big mistake" (Nogueira Neto, 2010: p. 25).

Predatory activity in the Amazon is not always well understood by inhabitants of other regions of the country. In addition to the almost general lack of knowledge, news with a purely political objective is mixed with articles that are limited to protests or lamentations.

However, the advance of deforestation proceeds rapidly. The Instituto Nacional de Pesquisas Espaciais (National Institute for Space Research)—INPE, based on data collected via Landsat Satellite, revealed that between August 1, 2020, and July 31, 2021, no less than 13,235 km² were deforested in the Legal Amazon, which represents an increase of 21.97% in the period. It is true that between August 1, 2021, and July 31, 2022, deforestation fell by 11.27% compared to the previous year, but it continues to exist in large proportions (SBT NEWS, 2022).

Let us see, therefore, the three most serious criminal practices existing in the Amazon and how Environmental Criminal Law can help combat them: deforestation and irregular mining.

The felling of the forest, obviously, is what draws the most attention. It is of interest to those who explore livestock and agriculture on a large scale, that is, agribusiness. The cheaper land and the large amount of water stimulate cattle

raising and the large-scale cultivation of soybeans, rice, and corn.

The import of soy undergoes the examination of the proposal of the European Commission, made on November 17, 2021, which intends to prohibit the import of products linked to Brazilian agribusiness due to forest devastation, even if done within the legality in the country of origin, that is, the use of 20% of the property for agriculture, as it is permitted in the Amazon (Pinto, 2021).

The import of beef is regulated in the Execution Regulation (EU) 2018/700, which requires strict control of traceability at all stages of production, transformation, and distribution (Nicoloso & Silveira, 2013).

One way of efficiently controlling the origin of wood is the Document of Forest Origin, DOF, which is a “mandatory license for the transport and storage of forest products of native origin, including native charcoal, containing information on the origin of these products”, pursuant to art. 36 of Law No. 12,651, of May 25, 2012, Law for the Protection of Native Vegetation (BRASIL, 2012).

However, the provision of the DOF has been carried out by the state environmental agencies and not by the federal environmental agency, based on art. 8 of Complementary Law 140/2011. State agencies have more serious shortcomings because all states in the region have great economic difficulties. Pará, which has the highest GDP in the Amazon (R\$ 215.936) is in the 10th position in the national ranking. Amapá, Acre and Roraima are the last three (IBGE, 2022). Obviously, their environmental bodies cannot be expected to be able to solve serious environmental problems.

Administrative processes do not have the desired transparency, making it difficult for the civil society to monitor them via the internet. This occurs despite Law 10,650 of 2003 ensures full public access to data and information existing in the bodies and entities that make up the Sistema Nacional do Meio Ambiente (National Environmental System)—SISNAMA. It would be entirely opportune for the Courts of Accounts of the States to carry out audits in the environmental agencies, examining whether this legal obligation is complied with.

The criminal action, evidently, takes advantage of the administrative action that, in most cases, gives technical support and provision of evidence. If the state environmental agencies do not act efficiently and promptly, the police action will undoubtedly suffer the consequences. It cannot be forgotten that the federal agency only operates in certain regions and with a smaller number of officers.

In the field of mining, boldness has been greater and certainly proportional to the high proportion of profits. In the year 2021, in the municipality of Autazes, in the eastern region of the State of Amazonas, illegal gold miners, convinced of their power, used hundreds of rafts forming a network to exploit illegal gold mining on the Madeira River, even threatening to resist federal authorities. However, faced with the prompt reaction of the Navy and the Federal Police, fearful of the seizure and sinking of their boats, they dispersed (G1 AMAZONAS, 2021).

On certain occasions there are joint operations by the Police, environmental agencies, Army, National Force, and state agencies. They act for a certain period

in the most problematic regions and achieve good results. For example, according to information from the Ministry of Defense, in Operation Verde Brasil, in 2020, in two weeks of action “47 trucks, 35 boats and 32 agricultural machines, such as tractors and excavators, were seized. 6,360 cubic meters of illegal wood were also retained; and 29 arrests were carried out in flagrante delicto” (Gov.br, 2020). But, evidently, these initiatives, although valid, have high costs and therefore can only be used sporadically. In other words, they help, but they don’t solve the problem.

4. Perspectives on the New Federal Public Administration

After the November 2022 elections in Brazil, Luiz Inácio Lula da Silva took office as President of the Republic, on January 1, 2023. The new political scenario has a direct influence on the protection, because the political perspective is opposite to that of his predecessor Jair Messias Bolsonaro. The commitment of the new government, which is politically considered left-wing, has as a priority the protection of indigenous peoples and traditional populations, besides revitalizing the Funds for the protection of the Amazon, while the previous government had, preponderantly, the objective of encouraging the agribusiness and livestock. The nomination of the state representative Marina Silva as Minister of the Environment, a woman from the Amazon region with a long career in the defense of the environment, showed the desire to radically change Brazilian environmental policy.

On the first day of the new government, that is, January 1, 2023, several acts were issued by the Executive Branch, with the aim of making it clear that the environment would be treated in an absolutely different way from what was done in the previous administration. In an article published in *Revista Eletrônica Consultor Jurídico*, Viegas (2023) analyzed the main changes made. Among them, Decrees 11,368, 11,373 and 11,367, all from 2023, deserve special mention for their direct impact on the Amazon.

1) Decree 11,367 institutes the Permanent Interministerial Commission for the Prevention and Control of Deforestation and re-establishes the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon, PPCDAm da. The initiatives are timely, but only time will tell if the desired results will be achieved.

2) Decree 11,368 provides for the governance of the Amazon Fund. However, as already mentioned, in recent years it has lost support in the international arena. Statements by the former President of the Republic and his Minister for the Environment aroused almost general animosity. On August 13, 2019, the Brazilian government extinguished the Amazon Fund’s steering committee, a fact that, days later, resulted in Norway suspending the donation of 133 million reais to the Fund. In 2020, the fires in the Amazon region, followed by those in the Pantanal region, originated the highest source of non-conformity with Brazilian environmental policy. To mention just one example, the European Parliament re-

jected the free trade agreement between the European Union and Mercosur, mentioning in the original text the actions of the Brazilian government in the area. By enacting Decree 11,368 and assigning the National Bank for Social Development, BNDES to raise donations and issue a diploma to recognize the contribution of donors to the Amazon Fund, a significant step was taken towards the return of donations from abroad.

3) Decree 11,373, when dealing with infractions and administrative sanctions against the environment, sought to make the collection of fines and compliance with this and other administrative sanctions more effective. In fact, the biggest transformation was to revoke the provision of conciliation attempts provided for in Decree 11,080, of May 24, 2022, which proved to be inappropriate, mainly for excessively centralizing decisions at the headquarters of the environmental agency (IBAMA) in Brasília and for allowing installments in an excessively long period of 60 months.

However, Decree 11,373 did not face the biggest problem of the system's inefficiency, that is, the existence of three administrative instances, and it is worth remembering that the prosecuted may still reopen discussion in the Judiciary, where the existence of four instances will allow the final decision to be delayed for many years.

As it can be seen, the three Decrees of the President of the Republic, issued on the first day of his government, had the objective of reformulating Brazilian environmental policy, especially in the Amazon. Donations from foreign countries began to come back. Illegal gold and cassiterite *garimpo* has been fought, with the media reporting the harmful effects of such practices on the Yanomami indigenous people, who inhabit the State of Roraima, where 75 clandestine runways for clandestine flights were identified in the lands close to the villages (O Estado de São Paulo, 2023, A14).

Finally, in the meeting with the President of the United States, Joseph Biden Junior, President Lula da Silva claimed support for the installation of centers for research and development of the resources of the Amazon, with the objective "not to transform the Amazon into a sanctuary, but into a zone of sustainable prosperity" (Sant'Anna, 2023, A13).

Less than a month later, the Vice President of the United States announced that projects pending in Congress would make 13.5 billion reais available to finance environmental initiatives in developing countries and that part of this amount would be allocated to the Amazon Fund (Camarotto, 2023, A8).

As it can be seen, there are significant changes in the political scenario which can be considered highly positive. However, only time will tell if the expressed decision to protect the Amazon's environment will become a reality.

5. Conclusion

As we can see, the Amazon's problems are proportional to its size, that is, gigantic. The difficulties also involve the invasion of public lands and the overlapping

of existing property titles, generating more than one Rural Environmental Registry—CAR, all in order to facilitate the fraudulent obtaining of the Document of Forest Origin (DOF) that allows the cutting of wood.

In this context, which requires urgent measures to be taken, it is initially suggested that the State Police be strengthened, so that they can act in a uniform and integrated manner, following the model of the Federal Police, which provides excellent services in the region.

But it is not enough that they are well structured individually. It is necessary that they exist in an integrated manner, including the implementation of a unit similar to the Integrated Border Operations Center (CIOF) located in the municipality of Foz do Iguaçu (PCPR, 2019). And in this union of forces, it is essential that bodies of the utmost importance in the structure of public security and related areas participate, such as the Federal Highway Police, the Federal Revenue Service, Municipal Guards, port, and airport bodies and, evidently, IBAMA and ICMBio, highlighting that these ones in recent years have had their staff reduced and their functional structure weakened.

Within the diversified forms of production of environmental damage, one of them requires special attention, that is, the permanent fight against illegal *Basmining*, including preventing access to food and fuel to clandestine explorers, in addition to the sinking of ferries, destruction of landing strips and everything that proves to be necessary.

It must not be forgotten that illegal mining often affects indigenous populations in the Amazon, which aggravates the problem and requires the implementation of a special public protection policy that goes far beyond an emergency operation in the area. In fact, an action plan is needed that involves various forces of the state and the society which in the solution of the problem, provides the destination to be given to the approximately 20,000 *garimpeiros* who practice the activity.

Exploration of biodiversity, with due sharing of profits benefiting the inhabitants of the region cannot be postponed. It is necessary to speed up the granting of licenses for such activities and to allow them to be carried out in a sustainable manner.

The more active participation in the forest protection actions by those who explore agribusiness is also essential. It is not enough for companies that operate within the legality to fulfill their role. They also need to take a clear position against illicit exploration, thus avoiding the current existing confusion that leads a portion of the population not to distinguish between those who work in the legality of those who act outside it.

At international level, it is necessary to encourage the participation of other countries, through financial contributions to environmental protection funds and stimulate participation in the exploitation of biodiversity, obviously under state control and with the sharing of benefits to local populations.

Obviously, the problems and suggestions go beyond the proposed solutions, but it is important that they be adopted not as acts of political propaganda by the

administration that is in power, but rather as a duty of Brazil to its citizens who inhabit that region and to all peoples that may be affected by a poorly conducted public policy.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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