

BRAZILIAN FORESTRY LEGISLATION AND TO COMBAT DEFORESTATION GOVERNMENT POLICIES IN THE AMAZON (BRAZILIAN AMAZON)

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1 Introduction

The forest legislation can be understood as a set of laws governing the relations of exploitation and use of forest resources. In Brazil, the first devices aimed at protected areas or resources have his record even in the colonial period, where the main objective was to guarantee control over the management of certain features such as vegetation, water and soil. Since then, the forest legislation has been undergoing constant changes (Medeiros, 2005) that directly affect the actors linked to the management, as the technical institutions that monitor and control the exploitation of environmental areas, as well as researchers working in the area. In this scenario, the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) (Law 7,735/1989) has been active in protecting the environment, ensuring the sustainable use of natural resources and promoting environmental quality nationwide. However, the need for decentralization of administrative actions of IBAMA, due to the large size of Brazil that overloads the supervisory actions of the body, led to publication of the Law 11,284/2006 of public forest management, which regulates the management decentralization process Union forest to the states and municipalities.

Subsequent to this, the rural actors such as farmers and entrepreneurs with political support from government wards opened the discussions on the reform of the main legal instrument of legislation - The Forest Code. New forms that aim to address the growing need of the country in parallel with the environmental protection have been placed under discussion. Existing interests of various social groups generated a heated debate on the topic mainly opposing the interests of farmers and the interests of conservation groups. In 2011, Congress discussed the Brazilian Forest Code modification 1965. The Bill 1,876/1999, the rapporteur of Congressman Rebelo (PCdoB-SP) has proposed major changes in the Brazilian agro-forestry setting. In the political debate, two political positions in relation to the new proposal emerged and were defined as the caucus and diametrically opposed, the environmentalist bloc.

By discussion of the new Forest Code, deforestation in the Amazon has undergone major changes in the first decade of 2000. These changes is related to the intensification

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of government actions to combat deforestation and protecting the natural resources of the region. For presentation purposes of the present scenario, this work was made a historical analysis of the Brazilian forest legislation and its main legal instrument - The Forest Code along with a survey of data on deforestation in the Brazilian Amazon. Check how is behaving deforestation in the Amazon given the changes in forest legislation and future prospects of the reform of the Forest Code are fundamental to support the State's role in the formulation of effective public policies that incorporate environmental sustainability and technological innovation.

2 Evolution of the Brazilian Forest Law

The Amazon has come under intense exploration over the centuries. Environmental policies have caused as these forests are being conserved in recent years. The Brazilian social formation, the expansion of the economic frontier and income generation and employment moved in the past and is currently removing the forest path (CAPOBIANCO, 2002; ARNT, 1992). In the Amazon, this process began 40 years after the opening of the first roads and colonization processes. The Amazon region has already lost a significant area of vegetation cover and features a large forest area already explored. According Imazon (2002), the Amazon lost 12% of its forest cover (600,000 km² of forests) over the past 30 years, the equivalent of the whole of the south of Brazil. Despite government attempts to control deforestation every year between 15,000 and 25,000 new km² of natural forest are destroyed and added to the deforested area (GONÇALVES, 2005).

To Caraciolo (2003), in Brazil, the Federal Constitution of 1988 by dedicating an innovative way, a whole chapter to the environment, has imposed as an obligation of society and the state itself, the preservation and defense of the environment, and, economic activities that could cause any negative impact on the environment were subject to public control. However, even before the 1988 constitution in the mid-30s, it became necessary control systems and environmental protection areas. On this, Medeiros (2005) shows that the search for effective ways to environmental preservation led in 1934, adoption of the text of the Brazilian Forest Code. This demonstrates that the conservative aspirations already came from the second Brazilian republican constitution of 1934 which for the first time, the protection of nature appeared as a fundamental principle for both Union and States. Of the Federal government and the States would be the protection of natural beauty and monuments of historical and artistic value. This was treated briefly in the 1934 Constitution, however outorgava nature a new value, becoming considered a national heritage. Within this context, the main legal provisions created at the time for nature protection are: 1) Forest Law (Decree 23,793/34); 2) The Water Code (Decree 24,643/34); 3) Fish and Game Code (Decree 23,793/34) and the Protection Decree to Animals (MEDEIROS, 2005).

Subsequent to that, in 1964, the new Forest Code was reviewed and approved (Law 4,771/65), which was a big change because extinguish the four types of protected areas previously provided in version 1934, replacing them with four new ones: National Park and National Forest (formerly specific categories), the Permanent Preservation Areas

(APPs) and Legal Reserve (RL) (Medeiros, 2006). The second major change came in 1981, when the National Environmental Policy which consolidates and extends the gains in state and federal level has been established.

According to Medeiros (2005) created the Special Secretariat of Environment (SEMA) in 1973 under the Ministry of Interior under the impact of the debates from the Stockholm Conference. At first it was planned to take the SEMA protected areas management and the Brazilian Institute of Forest Development (IBDF), take part in development. As part of the management of protected areas continued IBDF, this process resulted in the initial proposal of four new types of areas protected by SEMA: the Ecological Stations (ESEC) and the Environmental Protection Areas (APA) in 1981, as well the Ecological Reserves (RESEC) and Ecological Interest Relevant Areas (ARIE) in 1984. Later, in 1996 and already with SEMA purview of the Ministry of status, were created the Private Natural Heritage Reserves (RPPN), a new typology that allowed the recognition of a protected area in private domain (Table 1).

2.1 The Brazilian Forest Code and the National Environmental Policy

The Forest Code was first approved in 1934, and expressed the belief that conservation of forests and other natural ecosystems in the interest of the whole society (SOS FLORESTAS, 2011). According to Ahrens (2003), the Forest Code of 1934 (Decree 23,793/1934) resulted from a draft prepared by a commission whose rapporteur was Luciano Pereira da Silva, and stated that “forests considered together” were “well of interest common to all inhabitants of the country”. The 1934 Forest Code was a major step for the protection of forests and the environment in general environment, but had serious implementation difficulties. This law came about as a reaction to deforestation when the Atlantic forest was being rapidly replaced by coffee plantations.

In 1964 it was sanctioned the so-called New Brazilian Forest Code. This new law considered the forest and other forms of vegetation (natural) “goods of common interest to all inhabitants of the country”. Thus becomes the common interest of the population for its own sake and not only for their utility (use value) (AHRENS, 2003). However, the text of the new Forest Code has not linked the concept of reserves of natural vegetation. Thus, did not require the maintenance of fields and areas like savannahs and other natural vegetation. This code also did not have the term legal reserve - actually just fixed some restrictions on the exploitation of forest areas allowing deforestation of property since kept 50% of the natural vegetation in the Amazon region and 20% in the rest of Brazil. It also had restrictions on forest use in Permanent Protection Areas (APPs) (CUNHA & MELLO-THERY, 2010).

Table 1. Evolution of environmental legislation (Principal Protected Areas creation of instruments in Brazil).

Period	Instruments	Types
1934 – 1964	Forest Code (Dec. 2.3793/34) Hunting and Fishing Code (Dec. 2.3793/34)	Protective forest; Remaining forest; Yield forest; Forest Parks Model Creation and Refuge animals
1965 – 1999	New Forest Code (Law 4.771/65)	National Park; National Forest; Permanent preservation area; Legal Reserve
	Animal protection law (Law 5,197/67)	Biological Reserve; Federal hunting park
	Ma B program, 1970 (Decree 74,685/74 and Decree Pres. 9/21/99)	Areas of international recognition
	Convention on wetlands, 1971 (Enacted by Decree 1,905/96)	Areas of international recognition
	Conv. Patrimônio Mundial, 1972 (Promulgada pelo Dec. 80.978/77)	Areas of international recognition
	The Indian statute (Law 6,001 of 12/19/73)	Indigenous Lands
	Law of creation of the ecological stations (6,902 Law/81)	Ecological Station
	Law of Creation of the environmental protection areas (6,902 Law/81)	Environmental protection area
	Decree on the Establishment of ecological reserves (Dec. 89336/84)	Ecological Reserve
	Law of Creation of the ARIEs (89,336/84)	Relevant ecological interest area
Law of Creation of RPPNs (1,922/96)	Private reserve of Natural patrimony	
2000 forwards	New Forest Code (Law 4,771/1965)	Permanent Preservation Area
		Legal Reserve
	National System of Conservation Units (Law 9985/2000)	Integral protection units (PI) and Sustainable Use units (US)
	Ma B program, 1970 (Decree 74,685/74 and Decree Pres. 9/21/99)	Areas of international recognition
	Convention on Wetlands, 1971 (enacted by Dec. 1,905/96)	Areas of international recognition
	Convert world heritage, 1972 (promulgated by Decree 8,0978/1977)	Areas of international recognition
The Indian statute (Law 6,001de 12/19/1973)	Indigenous Lands	

Source: Summarized from Medeiros, 2005.

Only in 1981, Law 6,938, which will establish the National Environmental Policy, native vegetation is seen as a legal and environmental well. The National Environmental Policy (Law 6,938/81) in general, established principles on government actions to maintain ecological balance; rationalization of land use; planning and supervision of environmental resources; preservation of representative areas; control and zoning; encouraging research; recovery of degraded areas, among others. It aimed to harmonize economic and social development with preserving the quality of the environment, defining priority areas for

the quality of the ecological balance in the interests of the Union, states and municipalities (BRASIL, 1981).

From this moment, “flora” has come to be treated as well environmental law, a well with regard to “third generation rights”, those inherent in the so-called “diffuse interests” and incorporating concepts such as the Consumer Law and Right of Ethnic Minorities (AHRENS, 2003).

Law 6,938/81 in Article 2 sets the objective “to preserve, enhance and restore the environmental quality of life, aimed at ensuring the country, conditions for socio-economic development, the interests of national security and the protection of the dignity of human life, to the following principles: ecological balance; Rational use of soil, subsoil, water and air; Planning and supervision of the use of environmental resources; Protection of ecosystems; Control and zoning of polluting or potentially polluting activities; Monitoring of the state of environmental quality; Recovery of degraded areas; Protection of areas threatened by environmental degradation education at all educational levels. “

Currently changes in the Forest Code with regard to the legal reserve have left worried environmentalists, as well as other main points of the reform of the Forest Code.

2.2 The New Brazilian Forest Code and the major changes proposed in Bill No. 1876/1999

After 1981, several discussions and debates have been made about possible changes in the Forest Code. In early 2012, the new proposal of the Forest Code passed the House of Representatives. The text of the new Forest Code passed by three committees of the Senate before going to plenary. This text approved by the House of Representatives followed for presidential sanction, where President Rousseff vetoed Articles 1, 43, 61, 76 and 77 and made partial vetoes in paragraphs and subparagraphs of Articles 3, 4, 5 and 26.

The biggest concern of environmentalists was in relation to the APPs in urban areas according to the text modified by Members (rapporteur Paulo Piau-PMDB-MG), aimed to promote the relaxation of APPs recovery requirement, giving freedom to the Brazilian States to determine the recomposition of its APPs according to their interests and needs. The original text approved by the Senate delimited the recovery of permanent preservation areas APPs 15 meters around rivers up to 10 meters wide.

The change of management management through decentralization of federal environmental management for state and city also brings changes in the implementation of state forest policy and the forest code is critical in determining the direction of the municipal and federal forest management. Other 5 important points of the changes in the new draft of the code are: reduction of Permanent Preservation Areas (APPs), Amnesty environmental crimes, the legal reserve exemption for buildings with up to four fiscal modules across the country, reduction of the legal reserve in the Amazon in areas with vegetation, and areas cleared in a state compensation for forest areas in other states or watershed (SOS FLORESTAS, 2011).

The bill (Bill 1,876/99) of reported by Deputy Aldo Rebelo began discussions on the reform of the Forest Code, from a text that brought several proposed changes. The proposed amnesty, which is the end of the obligation to recover the areas that were deforested

before July 22 of 2008 including tops of hills, river banks, marshes, mangroves, springs, mountains and steep terrain were among the changes in this proposal the text of the PL 1,876 / 99 (MIRANDA et al., 2011). The proposal created the figure of consolidated rural area - that existing occupation until the set date, buildings, improvements and agrosilvopastoris activities in any areas, including protected areas (SOS FLORESTAS, 2011).

Most of the APPs on hilltops is in the South and Southeast of course have higher relief. In the Amazon, where the terrain is low in many plains, the APPs have enough occurrence in rivers, creeks and streams. Thus, changes in the Forest Code with regard to the amnesty would focus more in the regions of South and Southeast. But in the Amazon region with the end of the obligation to recover possible areas already degraded and reduced riparian forests around the rivers also suffer the impact of changes in the Forest Code.

According to art. 24 of the new text of the Forest Code, when the Environmental Adjustment Program - PRA is deployed, and comply with the terms of compromise or adjustment of conduct possibly signed, is assured the maintenance of agricultural and forestry activities in consolidated rural areas, located in Areas Permanent Preservation and Legal Reserves. In areas of restricted use referred to the arts. 10, 11 and 12, prohibited the expansion of floor space, and since i) the removal of native vegetation occurred before 22 July of 2008; ii) ensure the adoption of practices that ensure the conservation of soil and water and iii resources) the owner or rural property owner make their environmental records in the state agency's SISNAMA (Substitutivo de autoria do deputado Aldo Rebelo ao PL 1.876/99. Em <oglobo.globo.com/.../comparativo-codigo-florestal-x-proposta-aldor>. Acesso: 20 de junho 2011).

With regard to PPAs, the changes that the new text provides for the reduction of the minimum extent of these areas from the current 30 meters to 15 meters of marginal range, and marks the riparian forests protected from minor riverbed and not the highest level of travel water (TRINDADE, 2010). The current text of the Forest Code considers permanent preservation area, forests and other forms of natural vegetation located along rivers or any water course "from its highest level." This paper defines APP in rural or urban areas, from the lower edge with bed width of 15 meters, to the waterways of less than 5 meters wide.

Another important point at issue is the exemption of legal reserve (RL) for buildings with up to four fiscal modules across the country. This change eliminates the need for recovery of legal reserves in accordance with the provisions above. While the RL is compulsory for all rural properties in accordance with the Forest Code, the substitute of the bill 1,876/99 made it mandatory to maintain the RL only for those over 4 fiscal modules. The move aims to protect family farmers and small producers (TRINDADE, 2010).

Regarding the reduction of the legal reserve in the Amazon in areas with vegetation the project decreased from 80% to 50% the areas of Legal Reserve and from 35% to 20% cerrado in the Amazon. This measure gained strength because in the opinion of some layers of the countryside, such a situation prevented the development of the Amazon is seen that there is a need for expansion of the agricultural frontier (SOS FLORESTAS, 2011).

Another critical issue evolves compensation of deforested areas in a state of forest areas in other states or watersheds. In the current regulation compensation has to take place within the same State of the Federation, which makes the solution of liabilities in the south and southeast by the absence of forest remnants. According to the new Forest Code will be allowed this to be done in other Brazilian states. The new approved proposal allows the use of exotic by up to 50% of areas - without the property size difference - increasing the potential economic returns to be obtained with the RL. The equivalent Environmental Easement or Reserve is also allowed as Item II, it allows the ecological importance of the area lease and extension in the same biome according to criteria established by regulation. Thus, one can say that these changes will cause impacts code mainly in local communities (Substitutivo de autoria do deputado Aldo Rebelo ao PL 1.876/99. Em <oglobo.globo.com/.../comparativo-codigo-florestal-x-proposta-aldor>. Acesso: 20 de junho 2011).

3 Ruralists and its influence in the adoption of new Forest Code

The caucus has its beginnings in the mid-80, the end of military dictatorship. With the arrival of democracy, there are social movements and political parties advocating opposing sides in the struggle of the rural cause in Brazil. At this time, the Movement of Landless Workers - MST appears on the national scene in order to promote the distribution of land to poor families and no work opportunities - the so-called land reform as it became known was enormously widespread among the media and heated debates in the government were made in order to seek solutions to the land problem in Brazil. In contrast to this group, I had the Rural Democratic Union - UDR which was formed by landowners defenders of their lands that were considered endangered (PETRY, 2014).

From that moment on, the caucus has grown and spread in much the Chamber of Deputies, which was elected with the support of large landowners and farmers, lenders of their campaigns were against any reform to subdue the ownership rights of the land. The clamor of society and environmentalists by increased government protection of natural resources led to a change in the way of thinking about the agricultural issue. The search company today, an alternative way to conservation of the environment in accordance with the use of natural resources to production and growth of the country - sustainable development enters the government agenda and the caucus sees it, the opportunity to preserve their interests (maintenance of land and agricultural incentives) with a pseudo-argument of defense of the country's forest areas. To this end, it would be necessary to change one of the most important instruments of the Brazilian environmental legislation - The Forest Code, which for over 40 years has not changed.

The need to update the code, was due to the new Brazilian agricultural scenario where the medium and small producers, has been the margin of the great discussions, even with these large share of the GDP of agribusiness in Brazil. This scenario led to the Chamber of Deputies to discuss the bill 1,876/1999, which later would become the new code (PETRY, 2014).

The lobby, which is the practice of influencing people, formed by this interest group, was highly persuasive in government debates about the new code. The caucus sought the support of other benches to the approval of the Forest Code and other projects related to agribusiness in return offered support and votes in other projects such as the evangelical bench, which has been growing in the Chamber of Deputies. Thus, favoring the interests of ruralista group was clear in the government and in March 2011 the replacement of the original bill 1,876 came to be known as the House bill - PLC 30/2011. The text approved in the House brought to Amendment 64, which would reduce the environmental preservation areas in the country, amnesty for small farmers who deforested by 2008 and maintaining the consolidated activities in APPs. In the Senate, some items were removed from Amendment 64 and after some revisions and vetoes of President Dilma Rousseff, the new text of the Brazilian Forest Code (Law 12,651/2012) was approved, even when the resistance of much of the environmental and researchers who said that the new code would be a setback to various achievements in environmental friendly as the recent policy of the government to combat deforestation in the Amazon forest (PETRY, 2014; BRASIL, 2012).

4 Panorama of prevention and combating deforestation policies

The growing discussion around the new forest code has been accompanied by changes in deforestation in the Amazon scenario. Deforestation has been a chronic problem in the Amazon for centuries and intensified in the 80s and 90. At the end of the 90s, this scenario beginning to change with the implementation of various programs and policies aimed at integrating and protect natural resources through public and private investments. One of the first major programs implemented by the government according to the historical series analyzed was the program Prevention and Combating Deforestation, Burning and Forest Fires (Florescer) in 2001. ABRASIL (2001) reports that “the program does brigades training, satellite monitoring, controls and other actions, especially in the Midwest and north of the country. “ This is how was detected in the Amazon, a critical region, called “Arc of Deforestation”. Only in 2001 the program has performed several actions with main focus on combating forest fires called, with federal funds to purchase equipment and staffing for over sixteen states. The program also offered several training courses for farmers in INCRA settlements and indigenous areas. The main actions of this program were:

- Supervision of Forest Resources;
- Fires Fire Prevention and the Arc of Deforestation in the Amazon (PROARCO);
- Fire-fighting action plan, fires and deforestation;
- Monitoring of Burning and Forest Fires Prevention.

Only PROARCO was responsible for the implementation of various national actions, especially in the Amazon that are related to combat forest fires as: Operation Pipe (irregular logging of Guarantã in Mato Grosso, to Novo Progresso, in Pará); Operation

Amazon Stay Legal (in nine states of the region) and Operation to Combat Extraction Palmetto (Itatiaia National Park, State of Rio de Janeiro). The total investment program was around R \$ 208 million according to the 2001-2003 Multi-annual plan for the forestry sector. The table below shows in particular the main state results with the program, plus the cost of the federal government (UNESP, 2012. Available at <http://www.agr.feis.unesp.br / media environment _>) (Table 2).

Table 2. States of Amazon and Actions promoted by the Prevention Program and Combating Deforestation, Burning and Forest Fires from 2001.

STATES	Actions
PARÁ	Meetings in 11 municipalities, involving Civil Defense, Fire Department, Fetagri and Ibama aiming action plan in 2002. Participation in environmental Puxirim Santarém - training of rural leaders with multipliers preventing and fighting forest fires.
AMAPÁ	Awareness-raising meeting with various partners aiming at the creation of State Council for combating forest fires.
RORAIMA	Meeting were held and domiciliary visit the community of Trairão, aiming at creating community brigades and meeting on the 7th jungle infantry battalion, aiming to settle the 2002 activities program. 30 multipliers were trained to fight fires in the Amazon rainforest.
TOCANTINS	Meeting of Inkra, settlements in the region of applause, aiming to bring farmers alternative technologies for the reduction of burned. Visits were made to City Hall, workers ' associations and of INCRA, settlements in the North of the State, to divulge the work of Proarco and strengthening of bodies of firefighters.
RONDÔNIA	Held five meetings to strengthen State Civil Defense Committee and made contact with partners, such as Civil Defense, CBM, city halls, State environmental agencies and IBAMA, for revitalization of the brigades and strengthening of bodies of firefighters.
MARANHÃO	Proarco's actions were expanded with the deployment of desktop supervision and made visits to settlements of Inkra, in the region of Empress and Açailândia.

Source: Brazil (2012).

Another major government program to combat deforestation and other environmental crimes happened in 2004 with the launch of the Action Plan for the prevention and control of deforestation in the Amazon. This plan gave priority to achieving a new model of development in the Amazon region, based on social inclusion with respect for cultural diversity while also allowing the various economic activities through sustainable use of natural resources. He settled from a Permanent Inter-Ministerial Working Group before decree signed under former president Lula (Presidential Decree of 03 July of 2003) before previous studies of the National Institute for Space Research - INPE (BRAZIL, 2004).

The government's plan was a strategic initiative that was inserted on the guidelines and priorities of the Government Lula Program - Multi-Year Plan (PPA) 2004-2007 and the Sustainable Amazon Plan (Amazon Sustainable Development Plan - PAS). The

working group responsible for preparing the technical document (BRASIL, 2004) for implementation of the program points out that “the Amazon region have been prioritized by the federal government for the creation of rural settlements, serving also as an” escape valve “for social injustices other regions of the country”. Also, explain that the advance of deforestation over the past decade with opening and expansion of new deforestation fronts has varied factors as the advance of cattle as the predominant land use, logging, wood mining to the expansion of mechanized soy the grabbing of public land, opening roads and creating rural settlements in places in the region. The main guidelines that guided this plan were:

i) enhancement of forest for biodiversity conservation, forest management of timber and non-timber and environmental services, as one of the foundations of a new regional development model, aiming at quality of life of local people with reducing social inequalities, economic competitiveness and environmental sustainability;

ii) incentives for better use of already deforested areas on a sustainable basis, covering technological innovations, such as pasture management, agroforestry, organic farming and the recovery of degraded areas, in order to increase productivity and reduce pressures on remaining forests ;

iii) urgent action to land and land use planning aimed at reducing the free access to natural resources for predatory use purposes and the strengthening of instruments of democratic and sustainable land management, prioritizing the fight against public land grabbing, regularization land, viability of alternative models of land reform suitable to the Amazon, and the creation and consolidation of conservation units and indigenous lands;

iv) improvement of monitoring instruments, licensing and monitoring of deforestation with innovative methodologies, considering its integration with incentives to prevent environmental damage and the adoption of sustainable practices among users of natural resources;

v) strengthening of a strategic planning culture infrastructure projects, involving the proper analysis of alternatives (in terms of cost benefit and socio-economic and environmental impacts), preventive, mitigation and compensation measures, and the execution ex ante planning actions land on a sustainable basis, with transparency and participation of society;

vi) execution of a monitoring system of deforestation dynamics and related public policies in the Amazon, enabling continuous analysis of the efficiency and effectiveness of these instruments in order to ensure an ongoing process of learning and improvement, with transparency and social control.

In short, the actions that constitute this plan are presented in Table 3, along with their costs and number of activities per share.

Table 3. Overview of strategic actions in the action plan for the prevention and control of deforestation in the Brazilian Amazon second number of activities and costs of implementation starting in 2004.

Actions	Main activities performed	Total number of activities	Costs R\$
Land and territorial planning	Regional planning of the arc of deforestation and BR 163; Agrarian regularization; Demarcation and approval of indigenous lands; Implementation of the land reform Policy for the Brazilian Amazon; Completion of the establishment of sustainable use conservation units; Development of models of land use; Implementation of integrated environmental management projects.	35	244.306.172
Monitoring and control	Improvement of monitoring systems of deforestation; Intensification of environmental crimes and other illicit; 19 institution operational bases; Integrated environmental monitoring operations, labor, land, tax and bus station; Implementation of shared environmental licensing system in rural Properties.	60	82.707.486
Promoting sustainable activities	Improvement of financing and credit instruments that use public funds, p/promote sustainable productive activities and discourage illegal deforestation; Development and implementation of training program, training and dissemination of information on Sustainable forest management; Implementation of the national forest management support-Cenaflor; Deployment and consolidation of Poles Pioneers Sustainable Family production (Pro-environment); Regulation of the management of public forests; Support for the sustainable development of the steel production chain; Promote the intensification of agroeconômico use of already deforested areas, through pasture recovery, encouraging the production of permanent crops and the universal adoption of use of soil conservation practices.	67	66.994.471

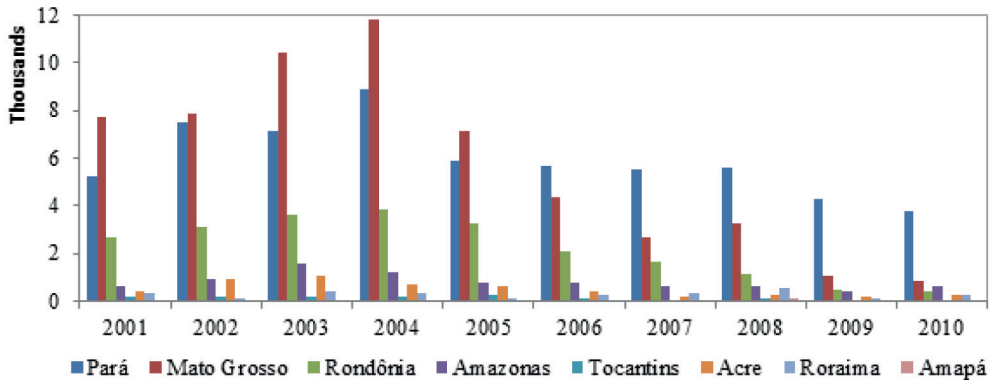
Source: Prepared by the author from BRAZIL (2004).

The government generally has made strong interventions in the Amazon rainforest to preserve and monitor the protected environmental areas and strengthen local development in the region. In recent years, efforts to combat deforestation has increased consistently, especially in the former president's term Lula with the elaboration of programs and plans for the Amazon like the PPCAD through integrated actions between IBAMA, the Federal Police, Armed Forces and National Public Security Force.

4.1 Scenery and policies to combat deforestation in the Amazon

INPE data (2011) raised by the PRODES project show that the intensification of government programs to combat these crimes has been falling influence of deforestation. The deforestation rate in the first decade of 2000 showed a drop in mid-2004 and 2005 in key states (Mato Grosso, Pará and Rondônia) that make up the Amazon region, and mostly (Figure 1).

Figure 1. Annual Deforestation in square kilometers in the Amazon between 2001 and 2010.

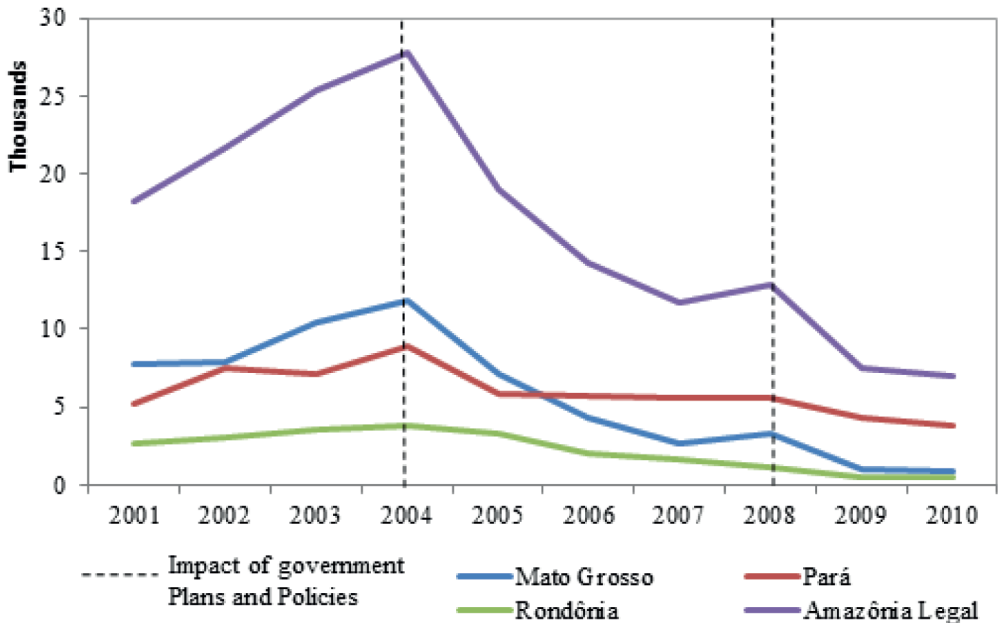


Source: Prepared by the author using data from PRODES/INPE, 2011.

The most significant drop occurred in the state of Mato Grosso in 2004 reached almost 12,000 square kilometers of deforested areas and at the end of the series had less than 900 square kilometers of areas. In 2004, where deforestation rates reached high levels, deforestation in the Amazon was 27,771.02 km². In the same year, an important government program was implemented with objectives of combating illegal logging practices and forest fires in the Amazon. The Multiannual Programme (2004-2007) for the Lula Government Amazon contemplated several actions and plans to combat environmental crimes and sustainable development for the region, which include the Action Plan for the prevention and control of deforestation in the Amazon - PPCAD (2004) and the Sustainable Amazon Plan - PAS (2008).

The government's plans had performance in the national and state levels, where governments the states of the Amazon entered into strategies for better land use planning, monitoring and control of sustainable activities. The following Figure 2 gives a clear view of the start of these programs by running or turning points in the time series analyzed along with the decline in deforestation in key states and the Amazon as a whole.

Figure 2. Deforestation and effects of government policies in the Brazilian Amazon (Amazônia Legal).



Source: Prepared by the author from PRODES / INPE, 2011.

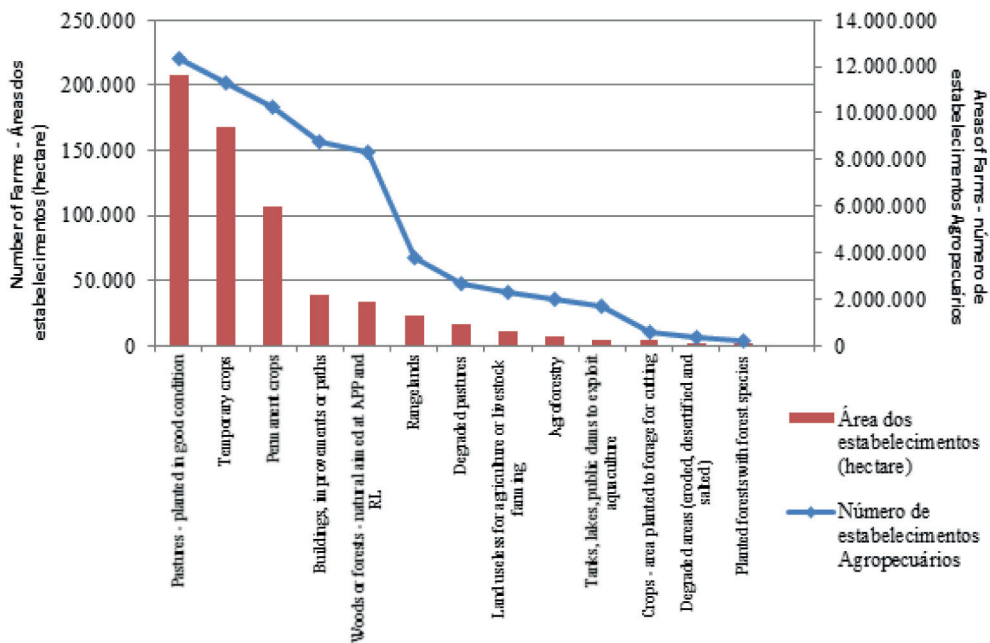
As well as shows the previous figure, deforestation had an absolute decline from year-implementation of government programs through to combat deforestation in the region policies. In general, many achievements have been achieved with regard to forest legislation, and this promotes direct impacts on forest management and the choice of more effective environmental policies in the Amazon region. The legislation has become more stringent, especially with the issue of decentralization of forest management law (Law 11,284/2006). This law allowed each Brazilian state had more autonomy to legislate and act on environmental crimes in its territory. The diversity that each region has hinders the federal action, which requires state agencies to work together in the control and monitoring of forest areas. In the state of Pará, for example, the law allowed the creation of the Forest Development Institute of Pará (IDEFLOR), whose mission is to manage the state's public forests and implementing forest policy in the state, through Law 6,963/2007. In addition, state SEMAS have implemented various policies together with IBAMA to combat environmental crimes, particularly those arising from the illegal timber industry.

5 The New Forest Code (Law 12,651/2012) and deforestation in the Amazon

The reform of the Forest Code endangers many achievements presented by the issue of public forest management law, weakening the forest legislation. One of the changes

that could bring great harm to the Amazon biome is the reduction of the legal reserve in the Amazon for 80% to 50%. The remaining available land in 2008 for use in the Amazon are around 2,248 million square kilometers and of these, 80% (1,798.400 square kilometers) should be kept untouched as a legal reserve (Miranda et al., 2008). So, in that year, they would be left 449,600 km² to use the landowner. With the reform of the Forest Code, considering 50% legal reserve, that number would jump to 1,124.000 km². This can compromise the long-term government targets related to the 80% reduction in deforestation by 2020 (less than 4,000 km²) throughout the Amazon (BRASIL, 2011). To hold 50% of the rural area for exploration, the owner buys more land and can use it in various ways as converting largely pasture or perform activities related to agricultural crops by increasing deforestation in the areas of agricultural farms. The study by the IBGE Agricultural Census in 2006 showed that in the North, much of the areas focused on agricultural activities are linked primarily grazing and secondly, the plantations of temporary and permanent crops. In forest areas designed to APP and RL, the number of outlets is somewhat smaller (Figure 3).

Figure 3. Number of farms in the Amazon by type of land use in 2006.



Source: IBGE-SIDRA, 2006.

The scenario presented by Figure 3 shows 150,000 agricultural farms in possession of just over 2,000 hectares of land for APPs and RL, which is equivalent to 0.01 km² of protected areas for each farm. The issue of the new Forest Code, with regard to the RL, tends to promote an increase in areas used by the landowner for productive purposes

and at the same time dec protected areas, which are already few in relation grazing land owner rural. For the PPAs, a decrease of 30 meters to 15 meters in marginal band will also provide better use of the area by farmers to the detriment of the marginal areas of the rivers, which can cause erosion and leaching of the soil near the edges. The same can be said about the other expected changes as amnesty for environmental crimes and exemption from legal reserve for buildings with up to four fiscal modules. The so-called amnesty to environmental crimes undermines the effectiveness of laws against loggers in the Amazon forest. This measure removes the obligation to recover deforested areas until 2008, the year that deforestation rehearsed a small growth, but contained then through the intensification of actions to combat deforestation government, such as the PAS, responsible for more than 162 activities direct and indirect repression of environmental crimes and forest management throughout the Amazon.

At the end of every discussion on amending the Forest Code, the new text was approved in 2012 and one of the major setbacks argued by the environmental layer concerns the PPAs where there was a reduction of APP strips along water courses. Further, the current text authorized the continuation of agroforestry activities, ecotourism and rural tourism in APP in the consolidated rural areas until July 22, 2008, which is configured on amnesty to loggers in the areas of APPs to date (BRASIL, 2012).

On May 25, 2015, the New Forest Code (Law 12,651/2012) completed three years into force and few effective character changes were made. Experts say one of the main obstacles to the effectiveness of the new text is the small number of human resources trained to work in rural communities and lack Rural Environmental Registry - CAR by Brazilian producers. The non-registration of farms endangers the environment and the producer himself falling into lawlessness as it has no way to prove that their agroforestry activities are sustainable without environmental license to deforest areas of dense forest. The CAR was established by the New Forest Code, being an important instrument of control and monitoring of the environmental deficit, which once identified forces the farmer to make compensation or recovery, reclamation or restoration of legal reserve areas (AZEVEDO et al., 2014).

6 Conclusion

Throughout the process of presenting and voting on the new Forest Code, the media showed a great discord between social agents such as environmentalists and farmers. Research has shown that the easing of the use of natural resources in agricultural activities is a trend that has demonstrated support of much of the political state and federal level. But more concrete studies on the possible damage that the reform of the Forest Code will have on the protected areas, especially in the Amazon, there are few. In parallel, to combat deforestation policies and repression of other environmental crimes such as fires, illegal logging and cattle ranching has had a positive effect in the first decade of 2000. The current Brazilian forestry legislation has evolved and contributed to this reduction deforestation in the Amazon through the enactment of new laws and increased enforcement of environmental agencies in areas protected by the Union, states and municipalities.

Several programs were implemented in order to reduce deforestation and combat environmental crimes in the Amazon rainforest. Alongside these programs, integrated actions of federal, state and government environmental agencies were performed with the same goal, as well as surveillance, monitoring of the territory and seizing illegally traded wood in the forest. The differentiation between programs and actions is important in the sense that government programs are more comprehensive and guide the actions. They consist of policy guidelines that deal with new models of management and development of a region. The actions are often integrated into policies that programs are needed to adopt and maintain the efficiency of the programs. Between 2001 and 2010, the government integrated actions provided for in their programs in the Amazon contributed to the decrease of more than 25% of deforestation in the region, and in the Mato Grosso and Pará the reduction was even greater. However, the rules of the Forest Code without further impact studies in the different biomes and the low adherence of farmers to the CAR can hamper the effectiveness that the government has achieved in its environmental programs in the Amazon states, could mean a setback in good part of the government's achievements relating to the protection of forest resources.

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BRAZILIAN FORESTRY LEGISLATION AND TO COMBAT DEFORESTATION GOVERNMENT POLICIES IN THE AMAZON (BRAZILIAN AMAZON)

THIAGO BANDEIRA CASTELO

Abstract: The present study aimed to verify the effect of government programs aimed at combating deforestation in the Amazon and possible damage to the reform of the forestry code may result in the Amazon biome. The data used in this study were: Amazon deforestation by INPE data (2001-2010) and different land uses by the IBGE Agricultural Census. Deforestation rates in the first decade of 2000 showed a drop after the year 2004 in the major states (Mato Grosso, Pará and Rondônia) Brazilian Amazon. Government policies implemented plans that were fundamental to the decline in deforestation in 2004 (PPCDA) and in 2008 (Sustainable Amazon Plan - PAS). These plans could reduce deforestation in the Amazon by more than 25% by 2010 and reform of the forestry code can promote a setback on the gains that the government has achieved in reducing deforestation in the Amazônia.

Key words: Forest legislation; Deforestation; Forestry Code.

Resumo: O presente estudo verifica o efeito dos programas do governo voltados ao combate do desmatamento sobre a Amazônia e possíveis danos que a reforma do Código Florestal poderá provocar no Bioma Amazônico. Os dados utilizados neste estudo foram relacionados ao desmatamento na Amazônia fornecidos pelo INPE (2001-2010) e de diferentes usos do solo fornecidos pelos Censos Agropecuários do IBGE. Os índices de desmatamento na primeira década do ano 2000 demonstraram queda após o ano de 2004 nos principais estados (Mato Grosso, Pará e Rondônia) da Amazônia Legal. As políticas do governo implementaram planos que foram fundamentais para a queda do desmatamento em 2004 (PPCDA) e em 2008 (Plano Amazônia Sustentável – PAS). Esses planos conseguiram uma redução do desmatamento na Amazônia Legal em mais de 25% até 2010 e a reforma do Código Florestal pode promover um retrocesso sobre as conquistas que o governo vem obtendo na redução do desmatamento na Amazônia.

Palavras-chave: Legislação Florestal; Desmatamento; Código Florestal.

Resumen: Este estudio tuvo como objetivo verificar el efecto de los programas gubernamentales encaminados a la lucha contra la deforestación en el Amazonia y posibles daños a la

reforma del código forestal puede resultar en el bioma amazónico. Los datos utilizados en este estudio fueron: la deforestación en la Amazônia por los datos del INPE (2001-2010) y los diferentes usos del suelo por el Censo Agrícola del IBGE. Las tasas de deforestación en la primera década de 2000 mostraron una caída después de 2004 en los estados clave (Mato Grosso, Pará y Rondônia) en la Amazonía Legal. Las políticas gubernamentales implementadas planes que fueron fundamentales para la disminución de la deforestación en 2004 (PPCDA) y 2008 (Plan Amazônia Sostenible - PAS). Estos planes lograron una reducción de la deforestación en el Amazonas en más de un 25% en 2010 y la reforma del código forestal pueden promover un retroceso en los logros que el gobierno ha logrado en la reducción de la deforestación en el Amazônia.

Palabras clave: Ley Forestal; Deforestación; Código Forestal.
