



FORESTRY IN BRAZIL:
A BRIEF HISTORY

SEBASTIÃO KENGEN

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FORESTRY IN BRAZIL: A BRIEF HISTORY

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DEDICATED

*Dedicated to
My wife, Yara, for her support
and
Dr. John Dargavel who introduced me in the wonderful world of
forestry history*

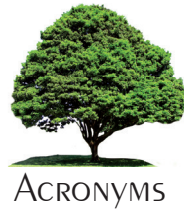


PRESENTATION

This paper it is an attempt to bring another vision of forestry development in Brazilian history. The generalized vision is that the Portuguese colonizer had a disregard to the Brazilian forest resources. This argument does not take into account that a similar process of exploration of forest resources took place along the colonization all over of the New World. Along the worldwide history, forest resources have been seen as a valuable resource to be used as well as endless. Therefore, it was not different in the Brazilian colonization. Within this context, it is fair to point out that the forest exploration has not been good or bad, but it follows a common pattern. Therefore, it is important to take into account the context of each time and that the factors that have contributed to a more or less forest exploration. This approach is valid to all process of forest management since the early stages of the Brazilian colonization up to the present.

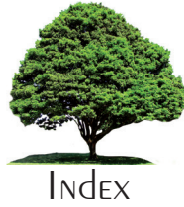
It is not the aim of this paper to exhaust the theme, but, on the contrary the aim is to contribute to stimulate other researches go further and bring new information and facts on the Brazilian forest history. To take lessons and experiences from past they contribute to advance with positive experiences, understand the present and avoid to incur in the same mistakes that took place in the past. Along the Brazilian history its forests have been managed from a utilitarian perspective to a preservationist point of view that is taking place

at present. It is fair to assume that both extremes are not good. Therefore, the great challenge to the Brazilian Government it is to find an equilibrium point between conservation and development what it is not an easy task.



APP	Area of Permanent Preservation (Área de Preservação Permanente)
CAR	Rural Environmental Database (Cadastro Ambiental Rural)
CGFLOP	Public Forest Management Commission (Comissão de Gestão de Florestas Públicas)
CNFP	National Database of Public Forests (Cadastro Nacional de Florestas Públicas)
CNUC	National Database of Units of Conservation (Cadastro Nacional de Unidades de Conservação)
CONAFLOP	National Forestry Commission (Comissão Nacional de Florestas)
CONAMA	National Council of Environment (Conselho Nacional de Meio Ambiente)
DF	Federal District (Distrito Federal)
DRNR	Department of Renewable Natural Resources (Departamento de Recursos Naturais Renováveis)
EMBRAPA	Brazilian Agricultural Research Corporation (Empresa Brasileira de Pesquisa Agropecuária)
EMBRAPA/ TERRITORIAL	EMBRAPA Territorial Intelligence (EMBRAPA Territorial)
FLONA	National Forest (Floresta Nacional)
IBA	Brazilian Tree Industry (Indústria Brasileira de Árvores)
IBAMA	Brazilian Institute of Environment and Renewable Natural Resources (Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis)
IBDF	Brazilian Institute of Forestry Development (Instituto Brasileiro de Desenvolvimento Florestal)
ICMBio	Chico Mendes Institute for Biodiversity Conservation (Instituto Chico Mendes de Conservação da Biodiversidade)
IPEA	Institute for Applied Economic Research (Instituto de Pesquisa Econômica Aplicada)
INP	National Pinus Institute (Instituto Nacional do Pinho)

MAPA	Ministry of Agriculture, Livestock and Food Supply (Ministério da Agricultura, Pecuária e Abastecimento)
MMA	Ministry of Environment (Ministério do Meio Ambiente)
PARNA	National Park (Parque Nacional)
PNF	National Forestry Program (Programa Florestal Nacional)
RL	Legal Reserve (Reserva Legal)
SEMA	Environment Special Secretariat (Secretaria Especial do Meio Ambiente)
SF	Forest Service (Serviço Florestal)
SFB	Brazilian Forestry Service (Serviço Florestal Brasileiro)
SFB	Forest Service of Brazil (Serviço Florestal do Brasil)
SISNAMA	National Environment System (Sistema Nacional do Meio Ambiente)
SISNAMA	National Environmental System (Sistema Nacional de Meio Ambiente)
SISNAMA	National System of Environment (Sistema Nacional do Meio Ambiente)
SNUC	National System of Units of Conservation (Sistema Nacional de Unidades de Conservação)
UC	Conservation Units (Unidades de Conservação)



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1



Forestry in Brazil: A brief history

Sebastião Kengen¹

“Foresters should understand that their profession is to serve people not trees” (Westoby, 1975)

The Portuguese discovered Brazil on 22 April 1500 in the peak of the called Age of Great Discoveries. The occupation and settlement of the Brazilian territory as well as the whole New World constituted a chapter in the commercial expansion of Europe. It is interesting to note that Brazil has a link to forest resource since its early stage of colonization once the first commodity to be explored in Brazil it was a tree, the Brazilwood² (*Caesalpineae echinata* Lam, 1785). According to some authors, particularly to Souza (1939) there is no doubt that the name Brazil came from the name of this tree. However, some historians do not agree with this assertion. For example, Castro (2002) points out that there are more than 20 interpretations to the origin of the name of the country. In fact, the name Brazil, it has been utilized as a commercial name to identify many dye species

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² The Brazilwood tree because of the red color of its wood, which resembled ‘brasas’ (burning coals) in a ‘braseiro’ (brazier) (Beattie, 1975).

that occur in the tropics, as for example the *Caesalpinea sappan* that was originally known as “brezel wood” and it is from the same genus as Brazilwood. Despite of such divergence it is interesting to point out that by 1511, the importance of Brazilwood was such that the Brazilian initial name of Land of Santa Cruz (Terra de Santa Cruz) changed to Land of Brazil and then to just Brazil.

The Brazilwood was the first resource easily available in Brazil and its exploration it became the first Portuguese enterprise in Brazil. It provided an essence known, as ‘brasileína’ that has a color purple that was the color of kings, nobles and the high rank of the church. Therefore, it had a great economic value in dyeing textiles and, consequently it had a great value in the European market³. Within this context, the Brazilwood became object of an intensive exploration. Due to its high economic importance, its exploration became a monopoly of the Portuguese Crown. The Brazilwood was available along the Brazilian coast and riverbanks. However, along its exploration, easily accessible stands became scarce and, consequently this led to inland incursions in searching of it. It is interesting to point out that a similar fact took place with the exploration of teak in South India, Myanmar and Java. The trading companies that secured leases by the British Empire they gradually moved in land as the closed resources were exhausted (Dargavel & Johann, 2013).

The economic cycles has characterized the Brazilian economic history. Brazilwood cycle it was just one of them. Each one of them it had a central hardcore based on a commodity as for example sugar

³ It is important to point out that the Europeans imported since the Middle Age the Sappanwood (*Caesalpinia sappan* L.) that is of the same genus of the Brazilwood as Brezel Wood. It produced a wood lighter in color than Brazilwood, but it had the same tinctorial principle. This species from Southeast Asian nations.

cane and coffee. However, it is interesting to point out that the emerging of a cycle did not led to the extinction of the previous one; on the contrary, they coexisted.

The occupation of the Brazilian territory followed a similar pattern observed in the whole New World (Americas). It took place in the context of the Great Age of Discoveries (XV Century). Therefore, Brazil as well as the other countries of the New World became a potential supplier of raw materials demanded by Europeans. Among these goods, wood was very important once it was in great demand by the shipbuilding industry. Wood was also important item for people in their daily life as a source of fuel among other goods. Thus, Portugal realize the Brazilian lush forest resources of strategic importance to it. It is fair to assume that a similar perception had England in relation to the United States forest resources.

Giving this great value of the Brazilian forest resources, the Portuguese Crown generated an extensive legislation in order to protect them. According to a generic survey did by Barreira (1990) he found nine Royal Letters, ten Regiments, one Posture, twenty Charters and nine Decrees among other legal pieces being all of them linked to the supply of wood to the navy. However, at the same time, there was also a series of legislation to encourage shipbuilding once the maritime trade was the main source of revenue to Portugal (Reboredo & Pais, 2012). This situation generated a paradoxical situation of, in one hand, a legislation to conserve the forest resources while on the other a legislation to stimulate the shipbuilding industry.

As referred to above the Portuguese Crown issued an extensive legislation in order to avoid an over exploration of the Brazilian forest resources and, particularly to preserve the species more valuable to the shipbuilding industry. This legislation required a personnel structure in order to have an effective law enforcement. Within this context, the Government created a series of administrative

posts, such as forest conservative judges among others. This led to the establishment of 'forest bureaucracy'. However, this does not necessarily mean that an efficient law enforcement took place or it had avoided illegal cutting.

Later on, this restrictive legislation generated a conflict with landowners that perceived it as a barrier that avoid them freely decide how to explore their land in an economic way. In fact, colonists perceived forest areas as susceptible to be converted to agricultural use as well as to supply the wood their wood requirements (Calder, 1980). On the other hand, to the pioneer settlers forest resources were endless. It is interesting to note that even, at present, similar divergence is still present.

This tradition of protecting the forest resources through issue of laws it persists. This can be attributed due to a pressure from environmental groups. Within this context, the Brazilian Government has adopted a legislation that is inclined to generate a restrictive policy. This by its turn it creates a negative environment to the establishment of forest development. The Brazilian forestry institutions, at the three level of government (federal, state and municipal), are subordinated to environmental ministry, at federal level and at secretary at state and municipal level.

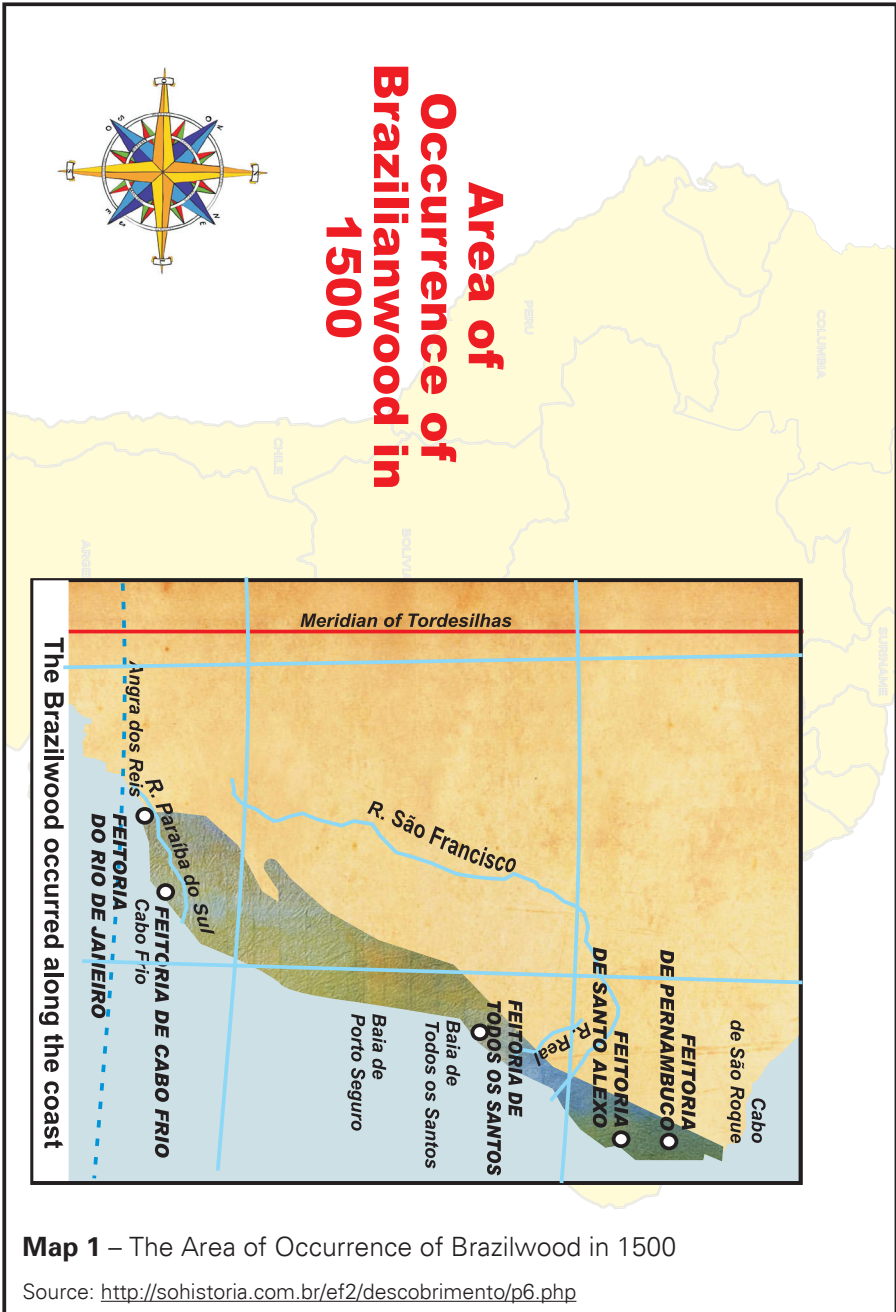
Finally, it is fair to assume that Brazil faces a similar paradox as Portugal in the past, i.e. a tendency to explore its forest resources and attempts to conserve them. In a territory that still has a lush and diverse forest resource, it is a difficult paradox to solve. Thus, it is fair to assume that the great challenge to the Brazilian Government it is to develop an actual forest policy and not just a restrictive legislation. In fact, evidence suggests that just restrictions have been unable to 'save' the forests. Find an equilibrium point between conservations and forest development is the great defiance of such forest policy.

2

PRE COLONIAL PERIOD
1500-1530

From 1500 to 1530, the Portuguese Crown did not take any action in order to promote an actual colonization of Brazil. This period is called pre-colonial period. During it, the Portuguese Government just sent expeditions to explore and promote the reconnaissance of the territory, in special to look for bullion, mainly gold. These expeditions took the opportunity to collect the Brazilwood that had been harvested. The Portuguese Crown also sent military expeditions in order to defend the territory against invaders, particularly French ones that came to Brazil to smuggle Brazilwood given its great economic value in Europe.

The Brazilwood was the first commodity explored in Brazil and it constitutes the first economic cycle known as the Brazilwood cycle. The Brazilwood occurred along the Brazilian coast from the State of Rio Grande do Norte to the State of Rio de Janeiro, but the area with major occurrence it was from the State of Pernambuco to the State of Rio de Janeiro (see map below) (Souza, 1939)



Map 1 – The Area of Occurrence of Brazilwood in 1500

Source: <http://sohistoria.com.br/ef2/descobrimto/p6.php>

Given the economic importance of the Brazilwood its exploration, including trading, it became a monopoly⁴ of the Portuguese Crown. However, due to lack of funds it granted concessions to people to explore and trade it. For example, in 1501, to Fernando de Noronha that had as partners Jewish traders got the concession to explore and commercialize the Brazilwood⁵. In return for such concession, they must send vessels to Brazil as well as build forts in order to protect the new territory and avoid the invasion by other nationalities⁶. In order to attract potential concessionaires, the Portuguese Crown prohibited the importation of Sappanwood from Asia once it was a competitor to the Brazilwood.

In 1503, the Portugueses built the first warehouses where the Brazilwood harvested was storage in order to be loaded in the ships towards Europe. They built them close to the sea or navigable river in order to make easier to load it in the ships. However, these warehouses were not actual settlements they were just place where the Brazilwood harvested it was kept while wait the ship to be embarked. The exploration of the Brazilwood was a nomadic activity what in some sense it contributed to avoid the establishment of actual settlements. Despite there is no data available it is fair to assume that the Brazilwood exploration had some impact on the forest cover.

4 This monopoly ended in September 1859 (<http://oguialegal.com/08-opaubrasil.htm>)

5 Due to high costs to explore and colonize Brazil the Portuguese Crown used to sell leasehold, under Royal License. People or associations interested to do the commercial exploration of the newfound lands under his own risk (risk contract) requested these licenses. The enterprises took place on their own risk without any cost to the Crown. However, the property continued to be of the Portuguese Crown. This system could give good profits to both the concessionary and the Crown. This system also contributed to assure the property of the new land to the Portuguese Crown.

6 <http://www.infoescola.com/historia/exploracao-do-pau-brasil/>

Although the economic importance of the Brazilwood, the focus of the Portuguese Crown continued to be in the trade of spices from Asia associated to consolidate its commercial sites in both Asia and Africa. On the other hand, it is important to bear in mind that the colonization of this new territory would require a great amount of capital that the Portuguese Crown did not have. Thus, the Brazilwood exploration was an activity that gave profit to the Crown without requiring major investments. The harvest of the Brazilwood was a nomadic activity and, consequently it did not imply in costs required by an actual settlement of the territory.

The apex of the Brazilwood harvest took place during the pre-colonial period although it was not restricted to it. It continued to be important and to take place in the following periods even though the introduction, for example, of the sugar cane plantations⁷. It just lost this importance by 1660 when sugar became the mainly export commodity. This can be attributed to the high costs to export it and, consequently a reduction of the profit⁸.

By 1530, the Portuguese Crown realized that just to explore Brazilwood without an actual process of colonization was no longer practicable. This can be attribute to factors, as for example, the great potential risk of Brazil be invaded by, for example, British, Dutch or French and, consequently Portugal lose the territory. Allied to this, it was the decline of trade with the Orient. This decline was due to

7 In fact, it is fair to assume that its exploration lasted for about 375 years in a continuous way (<http://www.historiabrasileira.com/brasil-colonia/exploracao-do-pau-brasil/>)

8 <https://www.estudopratico.com.br/o-ciclo-do-pau-brasil/>

the competition, mainly from the same nations previously referred. In its effort to start the effective process of colonization of Brazil, the Portuguese Crown sent an expedition under the leadership of Martin Afonso de Souza appointed as the General Governor of Brazil.

3



COLONIAL PERIOD 1530-1822

The expedition of Martin Afonso de Souza arrived in Brazil in January 1531. It marks the first actual effort of Portugal to promote the effective colonization of Brazil. This expedition brought the first settlers, domestic animals and plants. In order to stimulate the colonization, the General Governor gave pieces of land known as “sesmarias”. One year later, it was established the first village that received the name of “Vila de São Vicente”⁹.

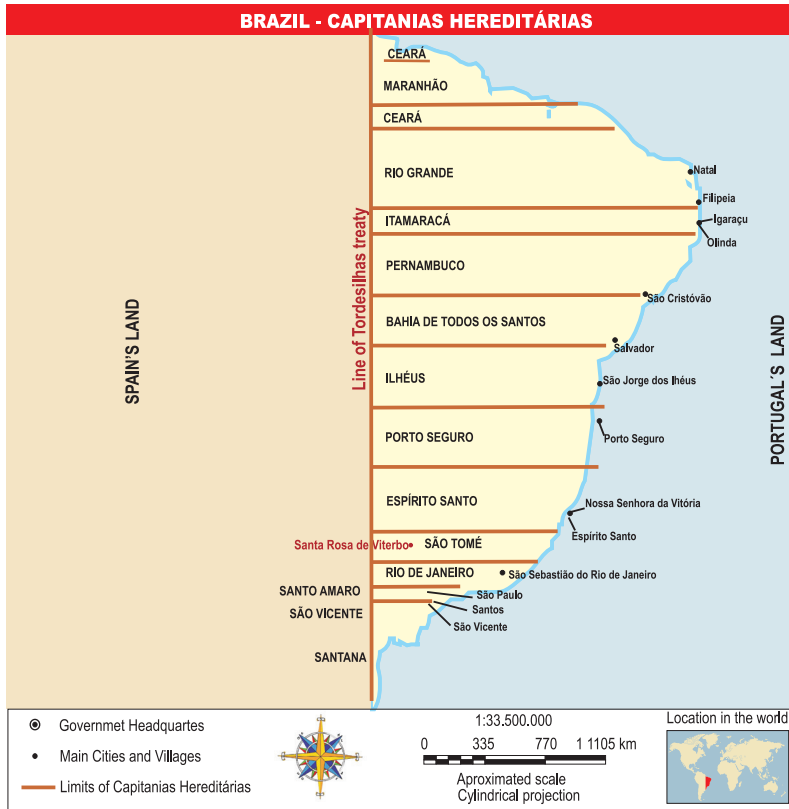
Following the policy of colonization that the Portuguese Crown used to be established in the islands of “Madeira” and “Cabo Verde”, in 1534, it established the same system of “Capitanias Hereditárias”¹⁰ in Brazil. The “Donatários”¹¹ could also give “sesmarias” to the

9 At present, “São Vicente” is a municipality located in the State of São Paulo.

10 “Capitanias Hereditárias” was a system of territorial administration created by the King D. João III, in 1534 once the colonization required a great amount of resources that Portugal did not have. Portugal had already established this system in other of its possessions, such as the Islands of “Madeira” and “Cabo Verde” as well as in Africa. It rested in dividing the Brazilian territory in 14 great strips of land from the coast up to limit defined by the “Tratado de Tordesilhas” (Tordesilhas Treaty). Each plot had a length that varied from 50 to 100 ‘léguas’. One ‘légua’ is equal to 6 km. The King gave each one to people, particularly nobles that assumed the risk and the costs of going ahead with the colonization.

11 “Donatário” was the person that received a “Capitania”.

colonists to cultivate. However, this model did not produce the expected effects and lasted until 1759 when it was abolished.



Map 2 – Brazil Capitánias Hereditárias

Source: <https://www.bing.com/images/search?view=detailV2&ccid=qfOaN0YV&id=FB898345F192CE8B33AFCC4D6D708269B1573E73&thid=OIP.qfOaN0YV5grTFLI30cZ5hQHhK&mediurl=https%3a%2f%2fsantarosadeviterbo.files.wordpress.com%2f2013%2f03%2fcapitanias-hereditarias.g&exph=784&expw=767&q=capitanias+heredit%3a%1rias&simid=608044389335500828&selectedIndex=21&qpv=capitanias+heredit%3a%1rias&ajaxhist=0>

Among the plants brought in the expedition, there were seeds of sugar cane that gave the beginning of the first plantations that presented promising results. This led to the expansion of these plantations. In 1533 it was established the first sugar cane mill in the “Vila de São Vicente”. (https://suapesquisa.com/historiadobrasil/ciclo_acucar.htm). However, the expansion of sugar cane plantations occurred along the coast of the Northeast region. Following this expansion, sugar mills were also established. This localization was strategic once it made easy to export the production to Europe. This sugar cane economic cycle happened in the XVI and XVII Centuries. (<http://www.historiabrasileira.com/brasil-colonia/ciclo-da-cana-de-acucar/>).

The sugar cane cycle was a turn point of the Brazilian economy. This was so once it was the first actual economic activity developed in Brazil. It led the Brazilian economy to move from an economy merely based on an extractive activity, Brazilwood harvest, to an agrarian one (Del Piore & Venâncio, 2006). It also contributed to consolidate the Brazilian process of colonization as well as it generated good profits to the Portuguese Crown.

It is important to point out that the Brazilwood extraction continued to coexist although the export of sugar had eclipsed the Brazilwood export. However, the Brazilwood harvest continued to be important to the Portuguese Crown economy. Concerned to the risk of an over exploration the King D. Filipe III issued on 12 December 1605 the Brazilwood Ordinance. It is fair to assume that this Ordinance had as aim to discipline the way that the Brazilwood should be explored and, consequently avoid an over exploration. Thus, it established, among other provisions, that the volume of the Brazilwood extracted it should not exceed the volume available. It can be inferred that this fits the sustainable yield principle as well as in the rudiments of

sustainable forest management. Later on, this concern to a potential risk of over exploration it was again expressed in the “Regimento da Relação e Casa do Brasil”¹² of March 1609 (Wainer, 1993). It is important to bear in mind that the issue of the Ordinance despite of its good will it did not necessarily lead to a better management of the Brazilwood. As one can guess it was a very difficult to do so as well as there were pressing tasks of the Portuguese Crown, as for example, to face the demand for resources to go ahead with the Brazilian colonization.

Along with Portuguese Crown both Britain and French were concerned with the degradation of their forest resources. These official concerns led to the publication, in 1664, of John Evelyn’s *Sylva* and later, in 1669, the French Government to issue the Ordinance of Waters and Forests (Ordinance des Eaux e Forêts). Both were basically concerned to the scarcity of wood for the naval industry (Williams, 2006). However, this does not mean that they were equal, on the contrary they had their own approaches. For example, the Evelyn’s *Sylva* had a scientific approach to forestry in order to bridge the gap among the competing demands of industry, agriculture and forest management. On the other hand, the French’s Ordinance tried to rationalize and codify the bulk of French forest law (Williams, 2006). All of these documents (Brazilwood Ordinance, John Evelyn’s *Sylva* and Ordinance of Waters and Forests) they had primarily an economic concern. However, it is also fair to assume that they demonstrated an awareness of the adverse effects of forest resources degradation. It is important to bear in mind that all of these actions followed a logic dictated by the socioeconomic and political contexts of the time

12 It was an Appeal Tribunal (Superior Court)

when they were taken. Therefore, they cannot be simply analyzed under the context dictated by the contemporary environmentalism movement that tends to deny that they had also a conservation approach.

The exploration of the Brazilwood continued to be an important source of resources to the Portuguese Crown. Within this context, it continued to deserve special attention and be present even more than two centuries later of the Brazilwood Ordinance of 1605 (Souza, 1934). For example, the Prince Regent D. João issued on 23 October 1817 a Decree in order to regulate the best offer to contract in public auction the right to harvest Brazilwood during the triennium 1818-1820 in the States of “Rio de Janeiro”, “Espírito Santo” and “Bahia”¹³. In the States of “Rio de Janeiro” and “Espírito Santo” the contractor could harvest the wood independently from where it was, i.e. in private land, vacant land or owned by religious orders (Del Priore & Venâncio, 2006).

Following this trend of diversification of the Brazilian economy, by the end of the XVIII Century, it occurred the introduction of coffee plantation. This marks the beginning of a new economic cycle known as the coffee cycle. Both crops expanded in a context of large properties (latifúndio). Although there is not data about the conversion of forestland to agricultural land, it is fair to assume that the expansion of sugar cane and coffee plantations had impact on the area that used to be covered by forests. Other factors also had implications on conversion of forestland, such as (i) clear land to produce food crops to supply food for an increasing population; (ii) demand for wood for

13 <http://www.historiacolonial.arquivonacional.gov.br/cgi/cgilua.exe/sys/start.htm?infoid=843&sid=105>

construction of houses as well as other facilities and fuelwood for domestic use. The sugar cane plantations, in particular, also required: (i) considerable amount of firewood demanded by the sugar mills to produce sugar and, (ii) wood to make boxes to pack the sugar and chariots to transport the sugar cane as well the sugar. Allied to this demand for wood, new forestlands were converted to agricultural land due to the decrease of the yield. A cycle between 12 to 15 years it was necessary to move the sugar cane plantation to a new field due to this decrease of the yield (Williams, 2006). However, according to Delson & Dickenson (1984) “although not as destructive as sugar because it made no firewood demands, coffee cultivation cleared a much larger area”

The adverse effects due to the advance of the process of deforestation it was a concern of the Portuguese Crown. The Government expressed this concern through the issue of a series of legislation. A complete review of the legislation is beyond the scope of this paper. However, it is worthwhile to mention some as examples. One of them it was that imposed to farmers the obligation of planting trees in their properties intersected by a watercourse. It is interesting to note that a similar legislation is part of the current legislation. This suggests an advanced legislation to that time. Going on this concern on 13 March 1797, the Government established that as Crown’s property all forests along the coast and navigable rivers that discharge in the sea. In exchange of these lands, the owners would receive other inland. However, according to local governments it was not possible to comply with what established in the legislation once there was not free land inland available (Wainer, 1993).

Following this trend to protect judicially the forest resources the Portuguese Crown issued on 11 July 1797 the first regulation

regarding to exploration of the Brazilian forest resources. This legal tool had thorough determinations from the cut system up to trading. Failure in fulfilling these rules could lead the violator to pay fines as well as to an exile for two years outside of the country (Souza, 1934; Swioklo, 1990). Once more, this legislation shows that the Portuguese Crown was concerned to discipline the exploration of the Brazilian forest resources. However, evidence suggests that the legislation per se it is unable to avoid deforestation. An effective law enforcement requires a structure that as one can guess it was weak although it there was a 'forestry bureaucracy' (conservative judge among other posts). If, even today, it is a difficult task to do law enforcement, it is fair to infer how it should be to do by that time. On the other hand, besides issuing legal pieces the Queen Maria I sent letters requiring efforts in order to protect the Brazilian forest resources and, in particular the Brazilwood.

From what it has been discussed above one can infer that there was a concern of the Portuguese Crown to the Brazilian forest resources. This is just the opposite of the generalized assumption that Portuguese Crown was not concerned. Delson & Dickenson (1984) argue that "the process of development as it is affected the land was not entirely negative nor entirely without rational planning". As pointed out by Williams (2006) "peoples of all cultures and at all times have seen forest as a valuable resource to be used" as well as endless. Therefore, the policy adopted by the Portuguese Crown towards forest exploration, it must be analyzed taking into account the context and time and not under the present point of view.

Following the trend of protecting the Brazilian forest resources via issue of a new legislation the Portuguese Crown issued, in 1800, a Royal Letter (Carta Real). This legal tool determined that owners had to conserve all species that had interest to the Government under

a lane of 10 'léguas'¹⁴ from the coast (Castro, 2013). To promote, supervise and assure an effective law enforcement it was created the post of Conservative Judge as well as a patrol. In other words, it was established a 'forest bureaucracy'. However, the governors of the 'Capitanias' they could allow the cut of trees that could be necessary to a legal consumption. According to Swioklo (1990) the rules of this legal piece were confused, conflicting and even impossible to be obeyed. This legislation did not change the Brazilwood trade that continued to be a Royal's monopoly.

2.1 Arrival of the Portuguese Crown in Brazil

The year of 1808 is very important in the Brazilian history. This importance was due to the move of the Portuguese Crown to Brazil. The invasion of Portugal by Napoleon troops was the reason for such move. The arrival of the Real Family in Brazil led to great transformations, such as the signature of the Royal Letter in 28 January 1808 that opened the Brazilian ports. This measure allowed people to export and trade directly with foreign nations without needing to pass through Portugal. A legal determination issued on 26 April 1810 authorized the Emperor to increase the exploration of Brazilwood. This was so in order to send to England about 20 thousand 'quintais'¹⁵ annually of it as part to pay the debt of Portugal to England. The trade of Brazilwood continued to be a monopoly of the Portuguese Crown that lasted until 1859 when it was extinguished.

14 légua = 6 km. Légua was a unit of measure length that used to be utilized by Portuguese and Brazil before the introduction of the metric system.

15 Quintal is an old measure of weight that Portugal used to utilize and it had different standard along the years until it has been abolished in 1875 when Portugal adopted the metric system.

Along the changes implemented with the establishment of the Royal family in Brazil it was the creation, on 13 June 1808, of the Garden of Acclimatization. This Garden is the embryo of what latter became the Botanical Garden of Rio de Janeiro. Initially it had as aim to acclimatize exotic plants as well as to study the Brazilian flora¹⁶. It is also fair to assume that has been the first Brazilian forestry institution and the embryo of the Brazilian forestry administration as well. Parallel to these changes it took place an expansion of the coffee crop (Del Priore & Venâncio, 2006) and, consequently this led the conversion of forest area to agricultural land.

Concerned to the advance of the process of conversion of forestland to agricultural land, in 1821, the Government issued a legislation that established that all lands sold or given in the "Sesmarias" system they ought to be kept 1/6 of its area under forest cover. The protected area could not be cut or burned. In case of being extracted or burned, the owner should plant a new area. This was so in order to avoid lack firewood and wood.¹⁷ It is interesting to note that this law is a precursor of the Legal Reserve and Area of Permanent Preservation areas that must be kept in the farm according to the current Brazilian Forestry Code.

In short, along the colonial period the Portuguese Crown demonstrated a concern to the process of disregard by the settlers towards the forest resources. Although the importance of them as

16 <http://brj.gov.br/jardim/historia>

17 http://www.obrabonifacio.com.br/busca/efetuarBusca?criterio=apontamentos&tipo_busca=3&inicio=30&inicio_site=0

suppliers of wood that was essential for construction of houses and barns as well as a source of energy (firewood). This process intensified with expansion of the sugar cane and later of coffee plantations. Within this context, the Government issued an extensive legislation to avoid such depletion of the forest resources. This by its turn required a great effort to implement an effective law enforcement. However, as one can expect law enforcement was a difficult task to be implemented. Thus, it is fair to assume that all these efforts were unable to produce in full the aim of these efforts. This failure has been object of criticism under the argument that these efforts were basically economic. In fact, they had an economic approach, however, it does not seem to be fair to analyze under the present environment concept. It is important to take into account the socio-economic and political context when these efforts were taken. As a matter of fact, these efforts were consonant with policies adopted, for example, along the colonization of other countries of the New World.

A new period in the Brazilian history started from 7 September 1822. This was so, because on that day Brazil proclaimed its independence from Portugal. Despite of such this did not necessarily mean great changes on the way that the new Government deals with forest matters as it will be discussed in the following item.

4

IMPERIAL PERIOD
1822-1889

Following its independence Brazil adopted the Imperial regimen. However, it is interesting to note that despite its independence, it was adopted the same Portuguese legal structure, including the legislation specific to forest matters. This was so, according to the Law issued on 20 October 1823¹⁸ that established as valid all Portuguese legislation that ruled Brazil until 25 April 1821.

On 25 March 1824, it was issued the first Brazilian Constitution. The Imperial Constitution that was essentially liberal accordingly to the policy adopted by the Imperial regimen. The Constitution did not deal with forest matters, but there was specific legislation on forests once there was a concern about the depletion of the forest resources (Viana, 2004). There is no data on the conversion of forestland to agriculture. It is important to bear in mind that increase in production of coffee it was resultant of increasing in area planted. Thereby, it is fair to assume that a considerable area of forestland was converted to agriculture.

18 http://www2.camara.leg.br/legin/fed/lei_sn/antioresa1824/lei-40951-20-outubro-1823-574564-norma-pe.html

Despite of existing a forest legislation, the landowners opposed to an effective law enforcement. They argued that the forest legislation was a hindrance to agricultural expansion and, consequently it obstructed the economic development. There were two political parties, liberal and conservative, although some ideological divergence both were constituted by landowners and, consequently they shared and advocated they same arguments. In other words, it was the landowners that provided the political support to the Empire. Therefore, nobody was imprudent enough to require an effective law enforcement of the existing forest legislation. Within this context, the Empire faced a difficult paradox to solve. On one hand, it tried to halt or, at least, reduce the deforestation while on the other hand landowners did not comply with the forest legislation and they continued to clear land to agriculture.

Allied to the agriculture expansion it was in course an ambitious policy of immigration (Resende, 2006). This policy was an answer to events such as the pressure from England to put an end in the slave-trading from Africa to Americas. Within the context of English pressure as well a domestic pressure, it was issued on 4 September 1850 the law known as Law “Eusébio de Queiróz”¹⁹. This Law prohibited the import of slaves to Brazil. It is interesting to mention that some landowners realized that to buy and keep slaves was more expensive than to hire a free worker.

Within the context of the liberal policy, the Imperial Government issued on 17 July 1822 the Resolution 76. This Resolution extinguished the “Sesmarías” system adopted during the Colonial Period (Resende, 2006). According to this Resolution, anyone could

19 The name of the Law “Eusébio de Queiróz” was a reference of the author that it was Senator and Ministry of Justice.

occupy a vacant piece of land. It is fair to assume that the aim of this legislative procedure it was to increase the agricultural production giving its great economic importance. According to this policy, there was also any regulation about how farmers could clear and expand his agricultural area. This situation lasted until 1850 when the Emperor D. Pedro II issued in September 1850 the law known as the Law of Land (Lei da Terra). This law decreed parameters on the ownership, maintenance, utilization and trade of properties.

Despite the advance of the agriculture, the Brazilwood monopoly continued in the Empire. This can be attributed to the fact that the Brazilwood was an important source of income and the Empire had to pay the loans contracted in the City of London (financial district). To do so, Brazilwood was sent to London where it was sold in public auction. Initially it was sent to agents of the Brazil Bank in London. Later it was sent to the Brazilian diplomatic representation in London. According to the article 51 of the Law of 15 November 1831 (Budgetary Law to the period of 1832-33), it was established that the Brazilwood will continue to be cut and sent to London in order to amortize the Brazilian external debt. Within this context, it should be sent to London up to 24,000 'quintais'²⁰, per year (Souza, 1934).

According to Souza (1934), from 1822 to 1859, the exploration of the Brazilwood got through three phases, as follow: (i) private people could cut and the Government paid them, (ii) contractors bought concessions through public auctions. These concessions allow them to explore and transport the woodcut up to the port, (iii) the Law issued on 30 November 1841 allowed landowners to explore the

20 Quintais is the plural of Quintal. Quintal used to be a unit of old measure of weight utilized by Portugal. In 1812 the King D. João VI established that 1 quintal = 10 arrobas (1 arroba = 15 kg).

Brazilwood available in their lands. However, if they had no interest to do so anyone could submit a proposal to the Government that chose that with more benefit to the National Exchequer. Following this tradition of regulating on forest matters on 15 October 1827 it was issued a legislation that enacted selected species, such as “Peroba” (*Aspidosperma polyneuron*) among others species, as wood of law (*madeiras de lei*) and as such they could not be cut and only the Crown could use them, particularly to be used to ship building (Barreira, 1990; Prado et al. 1995).

In 1832, an artificial dye was developed and it became a substitute to the Brazilwood. This led to a decrease of the demand of Brazilwood by the textile industry, and consequently, it lost commercial value and market. Similar events occurred, as for example, with Indian lac that was entirely displaced by synthetics in the manufacture of gramophone records as well as with natural rubber in Brazil (Kengen, 1997). In other words, traditionally the extraction of economically valuable commodities passes through phases of expansion, stagnation and decline.

3.1 End of Brazilwood monopoly

Despite the demand of the Brazilwood declined, as referred to above, its monopoly continued until 1859 when on 14 September 1859 the Emperor issued the law 1040 abolishing it. Following the ending of the Brazilwood monopoly, in 1875, the special tax on the export of Brazilwood it was also extinct. Thereby, its taxation became equal to any other wood species.²¹ The landowners by their turn made pressure in order to explore and trade the Brazilwood trees available

21 <https://www.estudopratico.com.br/o-ciclo-do-pau-brasil/>

in their lands under the argument that they became a constraint to the expansion of the agricultural land. However, the legislation prohibited it and determined that they had to keep them. It is interesting to note that the present legislation imposes the same restriction on farmers that have Brazilian Pine (*Araucaria angustifolia* (Bertol.) Kuntze) trees in their properties. They cannot cut them.

Demands from landowners in order to explore the Brazilwood in their properties finally succeeded when the Emperor issued an Ordinance on 11 January 1842. This Ordinance established the rules to be followed according to the Law 243 of 30 November 1841. However, farmers could only explore those available in their own properties. In idle lands, anyone could explore it, but the person concerned ought to request a legal permission to do so (Souza, 1934).

The advent of the process of vulcanization, in 1839, allowed the production of tires. The discovery of this method had an impact on Brazil. It contributed to a move to the Amazon region in order to collect latex in order to produce rubber. The latex was extracted from rubber tree (*Hevea brasiliensis* L.). This by its turn led to the establishment of the economic cycle known as the rubber cycle (Resende, 2006). As referred to above the rubber tree cycle faced the same phases, i.e. expansion, stagnation and decline. However, differently of the what took place with Brazilwood, its decline was not just a consequence of a synthetic substitute. It had an additional factor. Seeds of rubber tree were smuggled to England where they were cultivated and seedlings were later on sending to Malaysia among other countries in Asia. There the rubber trees produced a high-quality latex at a low cost and, consequently led to a decline of price of the rubber with negative effects on the Brazilian natural rubber.

3.2 Expansion of Agriculture and Breakthrough of Deforestation

Concerned to the advance of the deforestation along the advance of the agriculture the Empire issued in 1830 the Criminal Code. This Code established penalties for illegal cut of trees, but it failed to punish those responsible for forest fires. Just fifty years later with the issue on 14 October 1886 of the Law 3311 that forest fires became to be considered a crime (Swioklo, 1990; Resende, 2006). It is interesting to note that by this time it also started take place the first conflicts between expansion of agriculture and attempts to avoid the deforestation. This took place particularly along the coast and navigable rivers where forestlands were cleared to allow the expansion of the cane plantations (Volpato, 1986).

The Empire faced a difficult paradox to solve. On one hand it was concerned to the advance of the process of deforestation. On the other hand, the landowners perceived the forest legislation a constraint to agricultural expansion. Within this context, the Empire had to conciliate its own political and economic interests. It is interesting to take into consideration that by this time Brazil already had moved from a logging economy based on Brazilwood to an agricultural economy. Thereby this context required different requirements and actions.

In attempt to discipline the Brazilian agrarian structure the Emperor issue on 18 September 1850 the Law 601 known as Law of Lands (Lei da Terra)²². During the Colonial time, it was common the Portuguese Crown give pieces of land, in general, to affluent

22 http://www.camara.leg.br/Internet/InfDoc/novoconteudo/acervo/catalogo/leis_terras.pdf

people in order to colonize and promote agricultural development. However, many of these lands were given back to the Crown and they became public lands. After the issue of this law the Emperor could no longer give lands nor be occupied. From the issue of this law onwards the only way to become a landowner it was through buying the land from the government. It is interesting to note that besides to discipline the occupation of the land it also concerned to the advance of deforestation and its negative effects. Thus, in its second article it established punishment to the landowners that fell trees or put fire in forests. Within this context, one can infer that along the Brazilian history there has been a concern to protection of the environment. If there was an effective law enforcement it is another question. Even, at present, an effective law enforcement continues to be a challenge.

The expansion of the coffee plantations led to a great devastation of the forest resources around the city of Rio de Janeiro and even affecting the water supply to it. This situation led the Emperor, D. Pedro II, to become concerned to the negative impacts of such, particularly on the water supply. Hence, he determined, in 1862, the expropriation of farmlands around the city and to carry out a great project of reforestation with native species. This became the Tijuca Forest that, at present, it is part of the National Park of Tijuca²³.

Following the liberal policy, the it was issued on 5 January 1872 the Decree 4887 that authorized the establishment of the “Companhia Florestal Paranaense” (Paranaense²⁴ Forest Company). This marks the establishment of the first Brazilian private forest activity allowed

23 <http://www.parquedatijuca.com.br/>

24 Paranaense means a person that was born in the State of Paraná or an enterprise located there. The State of Paraná is located in the Region South.

to trade wood. This Company had as aim to explore the Brazilian Pine (*Araucaria angustifolia*) forests of its ownership (Souza, 1934). This concession had the validity for a period of 90 years. Within the same context a new legislation was issued on 19 July 1876. According to it, farmers could cut the trees of species known as “wood of law” (*madeiras de lei*) as referred to somewhere above that were available in their properties without requiring any previous license as it used to be (Resende, 2006).

A series of events from 1870 onwards undermined the Empire and led to its decline. Among these events it can be mentioned, for example, the advent of a new social structure that challenges the prevailing landowners’ class that gave the political support to the Empire. It is fair assume that allied to this new class it emerged movements that advocated the end of the slavery. Within this context, the Imperial Government was deposed and Brazil became a Republic. This event took place on 15 November 1889.

5

REPUBLICAN PERIOD
1889-to now

The proclamation of the Republic did not bring any immediate change in the forestry context. This was so once the overthrow of the ancient regime did not mean a rupture with the rural oligarchy that provided the political support to the Empire. Therefore, the agricultural system based on monoculture remained the same, i.e. production of agricultural commodities in large estates orientated to export as for example coffee.

A new Constitution was issued on 24 February 1891 in substitution of the previous one issued in the Empire period. The first Constitution of the Republican period. As the previous one it did not contemplate forestry issues but it gave unlimited right to landowners. Within this context, they were free to manage their properties as they wanted. For that reason, they could convert forestland area to agricultural one without needing any sort of permission. Along this each State could have its own legislation. As one can infer this generated a big mess. Forestry matters continued to be governed by the legislation issued during the Empire period that was added by the Criminal Code issued in 1890. This Code established punishment to whom put fire in forests (Pereira, 1950).

Parallel to the effort of the government in protecting the forest resources the civil society also demonstrated similar concern. For example, on 7 June 1902 it took place in the city of Araras in the State of São Paulo the first Tree Party. This event deserved attention of the media and it can be assumed as the embryo of National Tree Day. At present the national tree day is celebrated every year in 21 September. By this time, it also took place, in 1904, the introduction of Eucalyptus that, at present, it is the mainly species planted everywhere in Brazil. This introduction was carried out by the San Paulo Railway Company (Companhia Paulista de Estradas de Ferro). This had as aim to provide firewood to be utilized by its locomotives. Later on, in 1958, it was established the Brazilian Foundation for Nature Conservation (Fundação Brasileira para Conservação da Natureza – FBCN). The FBCN is one the first Brazilian environmentalist organization and it had an important role, for example, in contributing with technical support in issuing legislation as well as policies concerned to nature protection.

The Government by its turn it established, in 1911, the Forest Garden (Horto Florestal) as part of the Botanical Garden of Rio de Janeiro. In 26 July of the same year, the Government issued the Decree 8843 that created the first forest reserve in Brazil.²⁵ This reserve was located in the State of Acre (Amazon Region) and it had an area that was almost the entire territorial area of this State. However, this reserve was never actually established. Parallel to these actions the government also expressed its concern about the over exploration of the forest resources and the need of their protection. This concern

25 <http://legis.senado.leg.br/legislacao/ListaTextoIntegral.action?id=37841&norma=53549>

was expressed, for example, in the presidential messages at the opening legislature of 1907, 1913, 1919 and 1920. In all of them it was expressed a concern regarding to the process of deforestation in course and its negative effects. Within this context, it was argued the need of urgent governmental actions to refrain it. It calls attention the message of 1920, in particular, that pointed out to the paradox faced by Brazil. One hand it had a great area covered by forests while on the other it did not still have a Forest Code. Such a Code was perceived as an important tool in order to discipline and refrain the forest exploration and, consequently it would contribute to its conservation (Pereira, 1950; Resende 2006).

4.1 Decade of the 30s – Issue of the First Brazilian Forest Code

However, such governmental concern it was unable to raise awareness of the Congress to elaborate a Forest Code that it was just issued later in 1934. While the Congress did not take any action, the Government issued on 28 December 1921 the Legislative Decree 4421 establishing the Forest Service of Brazil (SFB). The SFB was the first actual Federal forest institution and it was subordinated to the Ministry of Agriculture. It was in charge of a large range of attributions, such as research, forest conservation, suggest forestlands to the establishment of national forests and parks among others. The Forest Garden of the Botanical Garden of Rio de Janeiro it was incorporate to the SFB. However, due to lack of financial resources, the FSB was gradually established. The process of establishment just ended in 1925 (Silva, 2014).

In the 30s, the Brazilian economy was still an export country of raw material particularly agricultural commodities being coffee the mainly one. This dependence led the Brazilian economy to face

hard time due to the great recession of the 1929. Allied to this the agricultural oligarchy lost power. This loss by its turn contributed to become clear that the Brazilian economy needed to be diversified. In other words, the economy could no longer exclusively based on agricultural commodity for export. Within this context, this led the Government to develop a policy towards to promote a process of industrialization. Allied to this it also took place political, economic and social changes. In other words, it started a process of modernization of Brazilian state. Thus, it is fair to assume that the 30s has been a turning point in Brazil.

Within this context of changes, in 1934, it took place in the city of Rio de Janeiro the “First Brazilian Conference of Nature Conservation”²⁶. During this event it was established the Society Friends of the Trees by the botanist Alberto José Sampaio. The Society adopted as symbol the Brazilian Pine (*Araucaria angustifolia*). Some Brazilian States established branches of this Society. Its members had different backgrounds, such as journalists and intellectuals that were concerned to environment. This suggests that already by that time there was a concern on environment.

The concern expressed in the Presidential Message of 1920 about Brazil have a luxurious forest resource and do not have a Forest Code it had to wait for 14 years to become real. In 1934 it was finally issued the First Brazilian Forest Code (Decree 23973 of 23 January 1934²⁷). It was mainly concerned to provide a reliable supply of wood, but it introduced regulations and concepts that can be considered as

26 http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-87752005000100007

27 http://www.planalto.gov.br/ccivil_03/decreto/1930-1949/D23793.htm

advanced to the time. Within this context, it can be emphasized, for example:

- I. The obligation on farmers to keep 25% of his farmland under forest cover. However, there was not any determination about what part of the property must be kept the forest resource preserved. This rule became known as fourth part and it is similar to the current Legal Reserve (IPEA, 2016).
- II. It also introduced the classification of the forest resources as:
 - a. **Protective.** It had as aim to protect hillsides, watercourses and dunes. It is fair to assume this as the precursor of the concept of permanent preservation area (APP in Portuguese) that is present in the Forest Code in force. It interesting to note that this concern was already expressed in the Decree 4421 of 28 December 1921. It limited the exploration to specific occurrences and it was required replanting (IPEA, 2016);
 - b. **Remainder.** They are those forest resources that, at present, they are classified as Conservation Units;
 - c. **Model.** It encompassed planted forests that could be with native or exotic species;
 - d. **Yield.** They are those forest resources that did not fit in any of the previous classification and, consequently they can be explored;
 - e. It also introduced the concept of reserved areas divided in three categories: National Parks; National, State and Municipal Forests besides the Protective Forests. This Code also incorporated the model of forest planning as well as the environmental and territorial management utilized by the USA by the end of the XIX Century.

In 1934, it was also issued a new Constitution (16 July 1934²⁸). It had a centralizer approach. Within this context, to legislate and promote law enforcement on forest matters it became an exclusive attribution of the Federal Government. It is worthwhile to mention that this Constitution had a short life, it just last for just three years. Hence, a new Constitution was issued on 10 November 1937. It adopted the same approach to deal with forest matters as it established in the previous Constitution.²⁹ By time, in 1937, it was also established the first Brazilian national park - Itatiaia National Park located in the State of Rio de Janeiro (Decree 1713 of 14 June 1937).

In 1938 the Government promoted a series of changes in the public administration. Among the changes in the Ministry of Agriculture is worthwhile to point out that the SFB was reenacted with the name of Forest Service (SF) according to the Decree-Law 982 of 23 December 1938. Allied to this it was also established under the Service of Foment and Vegetal Production the Reforestation Division that had as aim to promote forest foment (Resende, 2006; Silva, 2014).

4.2 Decades of the 40s and 50s

A new Constitution was issued on 18 September 1946. As the previous ones this Constitution also established that Federal Government continued to be in charge of forest matters. However, it was not too restrictive as the previous ones once it allowed the States to legislate too in a supplementary or complementary way on forest matters. By this time, in 1946, it was also established the first

28 <http://legis.senado.leg.br/legislacao/ListaTextoIntegral.action?id=72180&norma=93950>

29 http://www.planalto.gov.br/ccivil_03/Constituicao/Constituicao37.htm

National Forest – Araripe-Apodi National Forest located in the State of Ceará³⁰ (Decree 9226 of 2 May 1946).

The end of the 40s marked the start of the European economic recovery after the end of the Second World War. This process was intensified from the 50s onwards. This in its turn led countries such as Brazil to adopt policies to pursuit economic development. One of the requirements to do so, it was availability and a reliable supply of raw material. Within this context, demands for concessions or governmental incentives for establishment of industrial tree plantations became a consistent pattern of forestry meetings between the private and public sectors. Some examples of such will be given in the following paragraphs.

A national forestry conference held in 1957 concluded that was necessary the government to develop policies to grant finance, at subsidized interest rate through “Banco do Brasil”, to those interested in establishing tree plantations (INP³¹, 1958). In 1958, a study carried out by a working group estimated an annual rate of tree plantations of about 10 to 12 thousand hectares. It concluded that this rate was too low to restore the natural forests being explored. Within this context, it suggested that the government should establish a Forestry Fund managed by the “Banco do Brasil” to lend money under a subsidized rate. This special rate was justified on basis of peculiarities of forestry activity (INP, 1959a).

30 State of Ceará is located in the Northeast Region.

31 INP – Pinus National Institute (Instituto Nacional do Pinho (*Araucaria angustifolia*))

4.3 Decade of the 60s

The Second World Conference on Eucalyptus held in Brazil, in 1961 also discussed the low rate of tree plantations and again it was attributed to lack of a special financial scheme (INP, 1961). In the 60s the forestry sector experienced great changes, particularly from mid-60s onwards. Within this context, finally these claims succeeded in getting governmental grants to promote the establishment of tree plantations. This was granted in form of a scheme of tax incentives to individuals and corporations that will be discussed below.

Allied to domestic demands to promote forestry development referred to above, international agencies also played an important role expanding their programs of technical and financial assistance to countries like Brazil. This had as aim to promote forest development as 'engine to growth' and, consequently promote economic development. Within this context, early in the 50s, an ECLA/FAO mission visited Brazil as part of an overall study of the possibilities of development of the pulp and paper industry in Latin America (Kengen, 1985). In the same period the Brazilian Government also requested the FAO to send a mission to Brazil. This Mission had as aim, among other things, to completed the first surveys of the Amazonia forest as well as to help the establishment of a sawmill training center to instruct local people (INP, 1959b).

Following the great revolution taking place in the Brazilian forestry in the 60s. For example, it was issued the Decree 48247 on 30 May 1960 establishing the National Forestry School that was the first forestry course at university level in Brazil (Macedo & Machado, 2003). Until the 60s agronomists, some specialized in silviculture performed the forest's tasks. This course received the FAO support. The first Brazilian trained foresters were graduated in 1964. Therefore,

forestry as an activity organized on a professional basis is relatively new in Brazil (Kengen, 1985). Besides this event other actions were taken that had impacts on its forest resources governance. The first one was the issue of the Decree 1477 in December 1962. This Decree extinguished the Forest Service (SF) and transferred its attributions to the Department of Renewable Natural Resources of the Ministry of Agriculture (Silva, 2014).

On 15 September 1965 it was issued the Law 4771³² that established a new Brazilian Forest Code. This new Code replaced the former one of 1934. It is interesting to point out that it had been in discussion in the National Congress for seventeen years. The new Code expressed two tools to protect the native vegetation that today are defined as Area of Permanent Preservation (APP) and Legal Reserve (RL). The text original of the Law determined that the properties in the Legal Amazon³³ Region ought to keep 50% and 20% in the rest of the country. Due to pressure from environmental groups concerned to the process of deforestation in the Amazon, in 1996, the RL was increased to 80% and later, in 2001, it returned to 50% (IPEA 2016).

The military government that replaced the civil government on 31 March 1964 it marked not just a political happening, but it also marked the beginning of rationalization of the economy to promote further grow under a particular ideological perspective. Within the

32 http://www.planalto.gov.br/ccivil_03/leis/L4771/impresao.htm

33 The Legal Amazon is a region equivalent to 59% of the Brazilian territory and encompasses the states of Acre, Amapá, Amazonas, Mato Grosso, Rondônia, Roraima and Tocantins as well as part of the state of Maranhão (to west of meridian 44°W). It occupies an area of 5 million km² (http://www.ipea.gov.br/desafios/index.php?option=com_content&id=2154:catid=28)

context, it was issued a new Constitution³⁴ on 24 January 1967. Two major characteristics of this Constitution were the emphasis on national security allied to a centralization of decisions on the Federal Government. Therefore, the states could no longer legislate on forestry matters as it used to be in the previous Constitution. It became an exclusive attribution of the Federal Government to do so. Later, in 1969 the Constitution of 1967 was object of a series of amendments known as Institutional Acts that it became virtually a new Constitution³⁵.

The new government adopted a model of development that had as aim to promote economic growth. Thus, it was issued National Development Plans (PND) that had in common the goal of achieving ambitious economic growth. To do so, a large variety of subsidized credit programs were issue. Within this context, a fiscal incentive system was established. This system had as aim to promote regional development with emphasis on the Northeast and Amazon regions³⁶ as well as for the development of specific economic sectors, as follow forestry³⁷, fishery and tourism.

A scheme as the Brazilian fiscal incentives scheme can offer a relatively straightforward mean of promoting economic development when compared to other long term or complex measures that are

34 http://www.planalto.gov.br/ccivil_03/Constituicao/Constituicao67.htm

35 http://www.planalto.gov.br/ccivil_03/Constituicao/Constituicao67EM69.htm

36 The public agencies in charge of carrying out the scheme were the Superintendence for the Development of the Northeast – SUDENE and Superintendence for the Development of the Amazon – SUDAM, respectively.

37 The concession of fiscal incentives for forestry was restricted to the establishment of large scale industrial tree plantations as well as fruit trees. It did not encompass forestry as a whole.

more difficult to implement. Considering that it was in progress an ambitious Brazilian development model. Thus, the government could not wait for a long theoretical study on a viability of such a scheme to adopt it. One of the legal pillars of the fiscal incentive scheme it was the Law 5106 of 2 September 1966.

When the fiscal incentive scheme was launched different federal agencies shared attributions on forestry matters, as for example the National Pine Institute (INP) and Department of Renewable Natural Resources of the Ministry of Agriculture. This fragmented administrative structure did not seem adequate to deal with such a great program as the fiscal incentive scheme. Within this context, the government issued on 28 February 1967 the Decree-Law 289 that established the Brazilian Institute of Forestry Development (IBDF). The fragmented structure was extinct and its attributions were transferred to IBDF (IBDF, 1967). All reforestation projects to be granted fiscal incentive they had to be submitted to IBDF in order to be analyzed and approval. A document known as the Brasília Letter (Carta de Brasília) elaborated the basic guidelines for the IBDF. According to it IBDF had to elaborate and stimulate a national ten-year reforestation (tree plantations) program. This program had as goal to have established two million hectares by about 1978 (IBDF, 1968). In other words, tree plantations under the fiscal incentive scheme it became IBDF's high priority.

The fiscal incentive scheme had as main aim to induce the private sector to expand its activities into an economic sector that requires a stimulus. The forestry sector is one of them once, among other things, it requires a long period for the investment to mature. Allied to this one of the goals of the Brazilian economic policy it was to switch of position of Brazil from a net import of pulp and paper to a net

export. To do so, this required, among other things, a reliable supply of wood. However, the rate of tree plantations before the scheme it was of about 30 to 35,000 hectares per year. As such this low rate of plantations put in danger the long-term sustainability of demand and supply of wood.

As expected, the scheme awakening the interest of the stakeholders to invest in forestry. This was so that just in the first year of the scheme (1966/67) about 610 projects were submitted to IBDF. From this total 351 were approved totalizing an area of 163,000 hectares (IBDF, 1968). These projects were mainly concentrated in the Southeast and South regions, particularly in the States of São Paulo, Minas Gerais and Paraná. This can be attributed to the fact that in these states there was already a forestry industry established. The main genera were Eucalyptus followed by Pinus. To a lesser extent, some native species, particularly Brazilian Pine (*Araucaria angustifolia*) as well as some fruit species.

This scheme stimulated the establishment of enterprises specialized in tree plantations that can be divided in two major groups. One group is constituted by independent companies which established plantations for third parties. They performed plantations for those that had interest in participating in the scheme but for any reason they did not establish their own plantations. The second group was made up by firms linked to great consumers, such as pulp and paper industry and pig-iron industry³⁸ among others. The expansion of these plantations by its turn contributed to an increase in the price of land. Such an increase led to shift the most active centers of initial

38 The reason to steel and pig-iron industries establish tree plantations it is because they utilize charcoal as reducing agent.

plantations closed to major consumers, for example, pulp and paper industries to other areas where the price of the land was cheaper.

4.4 Decade of the 70s

In 1970 it was issued the Decree-Law 1134 (16 November 1970). This legislation can be assumed as a second pillar of the scheme. The major difference of this legislation to the previous one, law 5106/66, it is that the former granted fiscal incentives for both corporation and individuals while the new one restricted this concession to just corporations. The decree-law 1134 also determined that the income tax deducted must not exceed 75% of the project's total cost.

Since the initial Law 5106/66 an extensive legislation have been enacted to bring additional improvements in order to match the reality dictated by different factors, such as (i) economic crisis; (ii) due to pressure from SUDAM and SUDENE that alleged that the increasing preference of investors for the scheme it was responsible for the decrease interest in their funds; (iii) to attend to complains against the scheme under the argument that the plantations were taking over agricultural lands; it was also argued that scheme it was a donation rather than a tributary expense that required an efficient way of investment. As one can guess the complete legislation along the existence of the scheme is extensive and complex. Thus, a complete discussion about it goes beyond the scope of this paper.

Despite the changes in legislation as well as an economic crisis due to oil crisis of the 70s the government continued to commit in promoting the Brazilian economic development. Within this context, in 1974, the government launched two programs that had a direct impact on forestry. One of them it was the National Program of Pulp and Paper in the context of moving Brazil from net import to net

export of pulp and paper as mentioned somewhere above. The other one it was the National Metallurgy Based on Charcoal Program. Both programs were based on large tree plantations to raw material (wood). The charcoal was to be utilized as reducing agent in the production of pig iron rather than imported coal. These programs contributed to foment the fiscal incentive scheme. However, due to economic crisis from 1976 onwards the Second National Development Plan decelerated and, consequently these programs also were gradually phased out.

In the apex of the oil crisis that took place in the 70s it was promulgated the Law 6768 on 20 December 1979 that created the Coal and Alcohol from Wood – COALBRA³⁹ (COALBRA - Coque e Álcool da Madeira S.A.). This company had as aim to produce alcohol from wood (methanol). This fact causes surprise when one takes into consideration that Brazil produced alcohol from sugar cane since the colonial time. Thereby, it had a great experience as well as know-how in production of alcohol from sugar cane. The same it could not be said as far as alcohol from wood is concerned. It is difficult to find an answer to why the government implanted such an ambitious project. What it was actually produced is unknown. In fact, COALBRA had a short life. It was extinguished on 21 November 1986 according to the Decree 93603⁴⁰.

By this time, it was also in execution a policy of concession of incentives that had as aim to stimulate the agricultural

39 http://www.planalto.gov.br/ccivil_03/leis/1970-1979/L6768.htm

40 http://www.planalto.gov.br/ccivil_03/decreto/1980-1989/1985-1987/D93603.htm

development of the Amazon Region. It is important to bear in mind that the Amazon Region occupies circa the 45% of the Brazilian territory as well as it was covered by a luxurious tropical forest. However, despite of such majesty it has and had a low populational density. Thereby, the government perceived such characteristics as a potential risk of it be reclaimed by a foreign nation and, consequently Brazil would lose its possession on it. It is interesting to note that the Portuguese Crown already had a similar concern (Reis, 1940). This concern was reinforced by the fact that there was a strong influence of the national security concept. The influence of such concept it was even inherent to the Constitution in force. Within this context, it was necessary to put in practice a policy of occupation of the region. In order to contribute to justify the implantation of this policy the government launched the slogan 'integrate to not bestow' (integrar para não entregar). In so far as the environment increased its power it also increased the critics to the process of occupation of the Amazon Region. A great pressure was put on the government in order to adopt a new approach to it. The new approach ought to take into consideration the environment.

In 1972 it took place the United Nations Conference on the Human Environment held in Stockholm, Sweden. This Conference is considered as milestone on the environmental movement. It left as legacy the importance of environment be considering in any development policy. This concept spread worldwide and, consequently it influenced the Brazilian environment movement. Influenced by this international context it increased its power of pressure and influence on the government. Thereby it put press on the government in order to create a specific public institution to take care of environment. This pressure succeeded and the

government edited on 30 October 1973 the Decree 73030 creating the Environment Special Secretary (SEMA)⁴¹ that was subordinated to the Ministry of Interior.

It is interesting to note that while the focus of the SEMA was environment on the other hand IBDF continued its focus on tree plantations based on the fiscal incentives scheme although it had a department in charge of the Brazilian units of conservation, as for example national parks and national forests among others. These units of conservation were in accordance with the Forest Code of 1965 that was in course. However, SEMA created other categories as follow Ecological Stations (ESEC), Areas of Relevant Ecological Interest (ARIE) and Areas of Environmental Protection (APA). Thus, it is fair to assume that this situation generated a contradictory situation between SEMA and IBDF. Allied to increasing emphasis on environment the role played by SEMA also increased. On the other hand, IBDF's role if it did not decrease it, at least, stagnated.

4.5 Decade of the 80s onwards

Following the worldwide trend, from the 80's onwards, the theme environment each time played a key issue in any policy. Given this importance it was issued on 31 August 1981 the Law 6938 that established the Environment National Policy.⁴² This law instituted the National Environment System (SISNAMA) and National Environment Council (CONAMA). The SISNAMA has as aim to promote the

41 <http://www2.camara.leg.br/legin/fed/decret/1970-1979/decreto-73030-30-outubro-1973-421650-publicacaooriginal-1-pe.html>

42 <http://www4.planalto.gov.br/legislacao/portal-legis/legislacao-1/leis-ordinarias/1987-a-1981-leis-ordinarias>

Table 1 - Composition of SISNAMA

Superior Body	Advisory and Deliberative Body	Central Body
Government Broad	CONAMA	MMA
Executor Bodies	Seccional Bodies	Local Bodies
Ibama and ICMBio	States	Municipalities

Source: <http://www.mma.gov.br/governanca-ambiental/sistema-nacional-do-meio-ambiente>

Brazilian environmental management. It is a joint system composed by Federal, State, Federal District and Municipalities institutions in charge of environmental matters (See table below). CONAMA by its turn is an advisory and deliberative body of the SISNAMA. It can also propose and establish rules on environmental matters. It is constituted by five sectors as follow: federal, state and municipal institutions, entrepreneurial sector and civil society.⁴³

In 1985, it ended the Military Government that had been in power since 1964 and a Civil Government was elected. It also took place elections to the Congress with the specific aim of writing a new Constitution that was promulgated on 5 October 1988. It is the 7th Constitution along the Brazilian history⁴⁴ and it is, at present, in force. It has some points that deserve to be highlighted:

43 <http://www2.mma.gov.br/port/conama/>

44 http://www.planalto.gov.br/ccivil_03/Constituicao/Constituicao.htm

- I. It reinstated the right of the States, District Federal and Municipalities to legislate complementarily to the Federal Government about forestry matters (Articles 23 and 24). Within this context, it started a process of decentralization transferring to State and Municipalities attributions that used to be exclusive of the Federal Government. Therefore, the Federal Government became in charge to intermediate just on events between states. Although the importance of decentralization it is worthwhile to point out that this process is in course and its implementation has faced challenges. This can be attributed to the fact that traditionally it has been an exclusive attribution of the Federal Government to deal with forestry matters. Given this context, State and Municipalities did not have infrastructure (human, facilities and budget) to approach this new context.

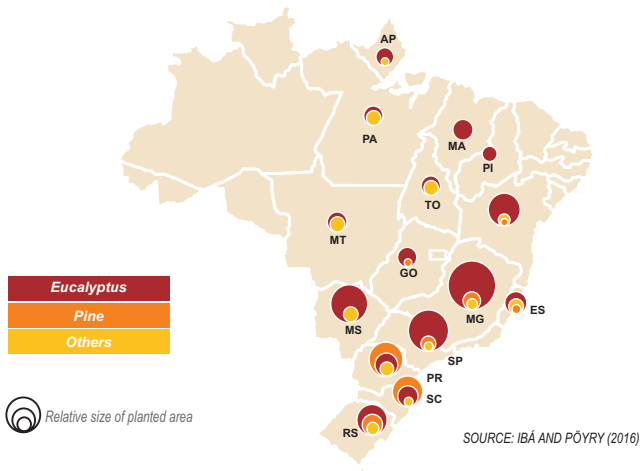
- II. Its Chapter VI is specific on environment. The Article 225 in this chapter institutes specific rules on the protection of the environment. The §4° of this chapter establishes the biomes Amazon Forest, Atlantic Forest and “Pantanal” as national heritage. Given this condition their management requires specific legislation. Despite of the importance of these biomes it calls attention that two other very important biomes, Caatinga⁴⁵ (Thornbush) and Cerrado (Savanna), were not also classified as national heritage. They are also important either under the point of view of environment as by its dimension. They occupy about 1/3 of the national territory. It is in discussion in the National Congress a law project in order to correct such mistake.

45 Caatinga is a plant community dominated by thorny trees or shrubs called thorn scrub.

Given the importance of the Amazon and the complexity of its ecosystem the government issued on 12 October 1988⁴⁶ the Decree 96944 that established the Program of Protection of the Amazon Complex Ecosystems. This program was nominated as Our Nature Program (Programa Nossa Natureza). This can be attributed as an answer to what was established in the Constitution that defined the Amazon as a national heritage. Following the prevalence of environment matters on any policy. Within this context, forestry management became subject to restrictions imposed by the environment policy.

In the 80s the fiscal incentives scheme of reforestation was faced by an association of negative events, as follow: (i) Brazil

Map 3 AREA OF PLANTED TREES PLANTED IN BRAZIL BY STATE AND SPECIES (2016)



Source: http://www.icmbio.gov.br/cepsul/images/stories/legislacao/Decretos/1988/dec_96944_1988_programadefesacomplexoecosistemasamazonialelegal.pdf

46 Source: http://www.icmbio.gov.br/cepsul/images/stories/legislacao/Decretos/1988/dec_96944_1988_programadefesacomplexoecosistemasamazonialelegal.pdf

faced a severe economic crisis; (ii) predominance of environmental policy; and, (iii) increasing pressure from its critics that advocated its extinction. Within this context, the scheme became progressively more vulnerable. Although this context was evident both government and the wood-based industry were unable to perceive it. On the contrary they defended the scheme in an obsessive way. In other words, they were unable to perceive the bankruptcy of the scheme. Therefore, the scheme continued to be the main focus of IBDF. Finally, on 29 December 1988 it was issued the Law 7714⁴⁷ putting an end in the scheme without generating a dialog channel in order to create an alternative to it.

Although the scheme of fiscal incentives has been susceptible to some criticism it is fair to assume the fiscal incentive scheme left a legacy. One of it, for example, it was an advance sustainable technology in management of these plantations. It also deserves attention the fact that these plantations are responsible for more than 90% of all wood utilized for productive purposes (IBA, 2017). The lack of an alternative policy in substitution to the fiscal incentives scheme it does not imply that tree plantations ceased. On the contrary, they continued to be established although in less scale as it used to be. This was so, particularly by the pulp and paper industry. Within this new context, these plantations were performed by the industry itself in their own properties as well as in farms according to a program of foment. The program was developed according to a contract signed between the company and the farmer. Within this context, the company was responsible, for example, to provide basic inputs,

47 http://www.planalto.gov.br/ccivil_03/Leis/L7714.htm

such seedlings and fertilizer as well as to buy the wood at the end of the cycle. The farmer but his turn it was, for example, to take care of the plantation. Under the company's perspective this program was interesting for reasons, such as it did not need to invest in buying new lands. In fact, the ownership of large states (latifúndio) by these companies always face a great criticism. As far as the farmer is concerned, he could, for example, to establish these plantations in areas not suitable to agriculture. There is no data on how many hectares has been specifically established under this program of foment. According to IBÁ (2017) 29% of tree plantations have been established by independent operators and participants in out grower scheme (foment program).

Eucalyptus is so far the main species. These plantations are mainly located in the states of Minas Gerais, São Paulo and Mato Grosso do Sul. On the other hand, Pine plantations are mainly concentrated in the States of Paraná and Santa Catarina. Acacia (*Acacia* spp), teak (*Tectona grandis*), rubber (*Hevea brasiliensis*) and Paricá (*Schizolobium amazonicum*) are among the other species planted in the country (IBÁ, 2017). From 2015 to 2016, there has been a small increase of only 0.85% in the planted area. This small increment can be attributed to an economic crisis in the period (IBÁ, 2017)

As in the 60s in the 80s the Brazilian forestry was also faced by significative changes. Following the extinction of the forest incentives program the IBDF was also extinct (Law 7735⁴⁸ of 22 February 1989).

48 http://www.planalto.gov.br/ccivil_03/Leis/L7735.htm

The same law created the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)⁴⁹. Thus, IBAMA became in charge of all duties that used to be of IBDF. However, IBAMA differently from IBDF it had and has a clear emphasis on environment. Within this context, it is fair to assume that the Brazilian forestry management and, consequently forestry policy lost ground and became subject to an environment policy. This change in approach it can be attributed to the pressure of the environment movement. Following the establishment of IBAMA, it was issued the National Conservation and Sustainable Forestry Development (Programa Nacional de Conservação e Desenvolvimento Florestal Sustentado) (IBAMA, 1989). Unfortunately, despite of this program has been discussed and evaluated by IBAMA it did not have evidence that it has been actually implemented.

Later, it was issued the Law 9985/2000⁵⁰ on 18 July 2000 that established the National System of Units of Conservation (SNUC)⁵¹. The SNUC⁵² divided the units of conservation in two groups as follows: (i) units of integral protection where is not allowed any direct use of the natural resources; (ii) units of sustainable use where the forest management is allowed (see table below).

49 Besides IBDF, this Law also extinguished three others institutions that became the basis of IBAMA. These institutions were: Special Secretary of Environment (SEMA), Superintendence of Rubber (SUDHEVEA) and Superintendence of Fishing Development (SUDEPE). In short, IBAMA is the result of merger of four institutions (IBDF, SEMA, SUDHEVEA and SUDEPE).

50 http://www.planalto.gov.br/ccivil_03/Leis/L9985.htm

51 Besides the two public units of conservation referred to above the SNUC allows the private owners to create and maintain Private Natural Heritage Reserve (RPPN) in their properties.

52 It was introduced new types of units of conservation that did not exist before.

Table 2 – National System of Units of Conservation

Units of Integral Protection	Units of Sustainable Use
Ecological Station	Area of Environmental Protection
Biological Reserve	Area of Significant Ecological Interest
National Parks	National Forests
Natural Monument	Extractive Reserves
Shelter of Wild Life	Fauna Reserve
	Reserve of Sustainable Development
	Private Reserve of Natural Heritage

Source: https://www.planalto.gov.br/ccivil_03/leis/19985.htm

This same law it also settled that the MMA ought to organize and establish a National Database of Units of Conservation (CNUC). The CNUC is fed with information on governmental units of conservation (federal, state and municipal) as well as private ones. It is pointed out that this has a positive benefit to do available official and standardized information about the SNUC. This by its turn contributes to that the planning and administration, including law enforcement of the SNUC be more efficient. See the tables below that provide information from the CNUC about the distribution of the Units of Conservation according biomes and government level of administration (Federal, State and Municipal).

As referred to somewhere above in the 80s it started a process of changes in the Brazilian public forestry management. Within this

context, on 2 March 2006 it was issued the Law 11284⁵³ that created the Brazilian Forestry Service (SFB)⁵⁴. Among the attributions of the SFB is to coordinate the National Forest Inventory (IFN) that has as aim to produce information on the Brazilian forest resources. The information by its turn will be the basis for formulating public policies on forestry. The IFN is in progress and it is a great task given the extension of Brazilian territory and, consequently a vegetation very diversified.

The law referred to above it constitutes a legal milestone in the Brazilian forestry management. It established a National Database of Public Forests (CNFP) in order to make available information on public forests to be granted in concession and, consequently to allow a better planning. It also implemented the model of forest concession in public forests. Thereby, the Federal, State and Municipalities became allowed to grant to the private sector, in concession, public forests. This process of concession takes place according to public tender. It is interesting to point out that the theme forest concession in the Amazon it had already been object of discussion in the 70s. However, by that time the Amazon region was a very sensitive subject. There was a great concern by the government that it could be internationalized and, consequently there was the risk of the national sovereignty over the region be lost. Within this context, the occupation of the Amazon region was perceived as essential to the national security. Therefore, on the contrary to implement a system of forest concession the

53 <http://www.florestal.gov.br/cadastro-nacional-de-florestas-publicas>

54 http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/lei/11284.htm

government promoted a program of colonization and infrastructure in order to link the region to the remaining Brazilian regions. The slogan was “Integrate to do no surrender”.

Following the process of changes started in the 80s mainly due to the pressure of the Brazilian environment movement it was issued on 28 August 2007 the Law 11516 that created the Chico Mendes Institute of Biodiversity Conservation (Instituto Chico Mendes de Conservação da Biodiversidade - ICMBio⁵⁵). It became in charge of the administration and management of the National System of Units of Conservation⁵⁶ that used to be performed by IBAMA. As IBAMA the ICMBio is under the Ministry of Environment (MMA) and is part of the National System of Environment (Sistema Nacional do Meio Ambiente -SISNAMA⁵⁷).

As one can note along the Brazilian history federal institutions have been created and extinguished. At present, the Brazilian forest administration encompasses different institutions at different levels of government (Federal, State, Distrito Federal and Municipal). At Federal level, the forest management is under the direct responsibility and competence of four institutions, as follow:

The Brazilian Forest Service (SFB) that is in charge of managing the federal public forests for sustainable production of goods and services. It is also responsible for the forest concessions; generate

55 <http://www.icmbio.gov.br/porta/oinstitut>

56 For further and more detailed discussion on this tradition, see Silva, J. de A. 2014. Organizações da Administração Florestal Federal no Brasil: E(in)volução 1912-2014.

57 The SISNAMA is the structure adopted to the Brazilian environmental management and it is constituted by the Federal, State, Distrito Federal and Municipalities environmental institutions. It was established by the Law 6938/81 of 31 August 1981.

information, training and promotion of forest sector as well as for development and implantation of the national forest inventory.

The Brazilian Institute of Environment and Renewable Natural Resources (IBAMA). It is the environmental and inspection agency responsible for the environmental licensing and control of Brazilian forest resources.

The Chico Mendes Institute for Biodiversity Conservation (ICMBio) is the agency in charge for proposing, implementing, managing protecting, inspecting and monitoring the Conservation Units instituted by the Federal Government.

All of the three institutions referred to above are subordinated to the Ministry of Environment (MMA)⁵⁸. Besides these three institutions, the MMA is also in charge of the Water National Agency (ANA) and the Research Institute Botanical Garden of Rio de Janeiro (JBRJ). The MMA is in charge to formulate and implement the environment policy, including the forest policy, in accordance with other governmental areas and the society in order to promote the sustainable development (<http://www.mma.gov.br/institucional>). The agenda of the MMA in forestry includes, among others programs and projects developed the (i) Coordination of the Plans of Control and Prevention of Deforestation and (ii) National Strategy to Reduction of Emissions due to Deforestation and Forest Degradation (ENREDD+) (<http://www.mma.gov.br/florestas>).

Since the issue of the National Constitution, in 1988, it is in course a process of decentralization that transfer to States, District

58 The MMA was created in 1992 (<http://www.mma.gov.br/institucional>).

Federal and Municipalities the forest governance. Therefore, they can establish their own legislation as well as creating local institutions in order to assume their duties on their forest governance. In 2011 it took place a step forward in this process. This was so with the issue of the Complementary Law 140 of 8 December 2011⁵⁹. This law set rules about the cooperation among the different levels of government (federal, state, federal district and municipal) as well as the competence of each level related to environmental matters. In case of inexistence of state environmental institution, the federal government should take care until a state environmental institution be established. In similar case at municipal level this responsibility is of the state to do so.

Following the federal model, the forest governance is subordinated to environmental secretariats. It is interesting to note that even in States where there are specific forestry institutions, as for example, the States of São Paulo (Forest Institute of São Paulo) and Minas Gerais (State Institute of Forests) they are subordinated to environmental secretariat. In the past, they used to be linked to the State Agricultural Secretariat.

Within the complexity that is the Brazilian forestry governance, the law requires that specific forest interventions be preceded by public hearings and consultations in communities directly affected. Besides them, at federal level, there are three collegiate bodies⁶⁰. These bodies have as aim to make possible the social participation in the forest management decision-making process. At state level, the

59 http://www.planalto.gov.br/ccivil_03/leis/lcp/Lcp140.htm

60 <http://www.florestal.gov.br/documentos/publicacoes/1795-brazilian-forests-at-a-glance-2013/file>

social participation takes place, in general, under the state councils of environment. The three collegiate bodies formerly referred are as follow:

- The National Environmental Council (CONAMA) is the consulting and deliberative body of the National Environmental System (SISNAMA). It is a collegiate body encompassed by representatives of federal, state and municipal environmental agencies, private sector and civil society;
- The National Forest Commission (CONAFLO) is the collegiate body that provides guidelines for implementing actions of the National Forest Program (NFP) and coordinates the joint participation of different stakeholders in the development of public policies for the Brazilian forest sector;
- The Public Forest Management Commission (CGFLOP) is the Brazilian Forest Service advisory board whose purpose is to advise, assess and propose guidelines for the management of public forests in Brazil and to contribute to Annual Forests Concessions Plan.

Table 3 - Institutional Arrangement for Forest Administration in the three Governmental Levels

Main Functions of the Institutions	Federal	State	Municipal
Forest Policies/ Grantor	Ministry of Environment (MMA)	State Secretariats of Environment	Municipal Secretariats of Environment
Environmental Control and Surveillance of Forests	IBAMA	State Agency or Department of	
Environment	Municipal Agency or Department of		
Environment			
Forest Conservation	ICMBio	State Agency of Environment	Municipal Agency of Environment
Management of Public Forests/ Concessions	Brazilian Forest		
Service (SFB)	State Agency of Public Forests Management		
Collegiate Bodies for Participation in Forest Management	CONAMA		
CONAFLO			
CGFLO	State Council of		
Environment	Municipal Council of Environment		

Source: <http://www.florestal.gov.br/documentos/publicacoes/1795-brazilian-forests-at-a-glance-2013/file>

When one analyzes the table above it calls attention that forestry matters are under public environment institutions and, consequently it is fair to infer that the forest policy has become an appendix to the environmental policy. This context is present in all three levels of government. As one can guess, forestry development has become

subordinated to an environmental legislation and policy that, by its turn, tend to be restrictive. In other words, forestry development lost ground.

In 2012 a new Brazilian Forestry Code was issued (Law 12651⁶¹ of 25 May 2012). This Code substituted the old one issued in 1965 (Law 4771 of 15 September 1965)⁶². The Code has as aim to establish rules on how to manage and protect the Brazilian forest resources. It establishes the areas to be preserved and which areas to be utilized to agriculture, including pasture purposes. The new Code kept the main tools of protection of the forest resource, such as the Legal Reserve (RL) and Area of Permanent Preservation (APP) that were present in the former Code. It also established new tools in order to promote the decentralization of the forestry administration and monitoring to the States. In fact, this followed what the Constitution established. The new Code strengthened, particularly, the resolutions of the National Environment Council (CONAMA) as well as the Rural Environmental Record (CAR) that was established by the Presidential Decree 7029 of 10 December 2009⁶³ (IPEA, 2016).

The aim of the RL is to preserve native vegetation leftover and conserve the biodiversity. The RL is a percentage of the total area of the property in which must be kept the native vegetation. In the RL is not allowed to do any traditional economic activity as such agriculture or cattle farming. It just allows the economic exploration under sustainable

61 http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2012/Lei/L12651.htm

62 Further information about this law it is available in: <http://www.florestal.gov.br/pngf/>

63 <http://www.planalto.gov.br/leslacao/portal-legis/legislacao-1/ecrtos1/2009>

64 The new text was a change introduced by the Law 12727 of 17 October 2012 (http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2012/Lei/L12727.htm)

forest management (Art. 17 § 10 of the Law 12651/2012 Forest Code⁶⁴). The Art. 12 establishes the percentage of the property to be left as RL that varies according to the type of vegetation and the region:

1. In the Legal Amazon⁶⁵ :

- a. 80% in the property located in the forest area;
- b. 35% in the property located in the savanna area;
- c. 20% in the property located in the area of general fields (Campos Gerais)

2. 20% of the farm in the remain regions of the country, independently of the vegetation type

The APP (Permanent Protected Area) is an area that must be kept untouchable from any management and it can be located in rural as well as urban areas. The item 3 of the Art. 3 of the Forest Code (Law 12651/2012) defines it as being: an area protected covered or not by native vegetation that has as aim an environmental function of preserving the hydric resources, the landscape, geological stability and the biodiversity, make easier the genic flux of fauna and flora, soil protection and ensure the welfare of human populations⁶⁶. The APP can be removed in special cases, such as in case of public utility as well as social interest among others (Law 12651/2012, Art. 8).

The areas of RL and APP do not slip up, however the Forest Code allows that the area of the APP be calculated in the percentage

65 It is important to point out that in the Legal Amazon there is not just forest, but there are other types of vegetation.

66 For further and detailed information see the Law 12651/2012 (New Brazilian Forestry Code) that is available for download in: http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/L12651.htm

of the legal reserve (RL) once it fits three conditions established in the items I, II and III of the Article 15 of the Law 12651/2012 (Brazilian Forest Code). It is important to point out that all areas of RL and APP must be registered in the Rural Environmental Database (Cadastro Ambiental Rural – CAR) that is an electronic national database. It has as aim to control and monitoring the actual law enforcement and, consequently avoid deforestation. The CAR is in the context of the National Information System on Environment (SISNAMA) according to the Law 12651/2012. The SFB is liable for the implementation and administration of the CAR⁶⁷.

On 11 December 2014 it was issued the Decree 8375⁶⁸ transferring the policy on planted forests from the Ministry of Environment (MMA) to the Ministry of Agriculture, Livestock and Supply (Ministério da Agricultura, Pecuária e Abastecimento – MAPA). To the execution of this policy it should be adopted the rules and actions preview in the National Agriculture Policy. This decree also established that the MAPA was in charge of elaboration the National Plan of Development to Planted Forests (PNDF). This Plan has been elaborated and published by the Ministry of Agriculture, Livestock and Food Supply (MAPA) ⁶⁹. As one can guess this event adds a new factor in the institutional arrangement in the already bureaucratic management of the Brazilian forestry.

67 For further information on CAR see: <http://www.florestal.gov.br/snif/gestao-florestal/cadastro-ambiental-rural>

68 http://www.planalto.gov.br/CCIVIL_03/_Ato2011-2014/2014/Decreto/D8375.htm

69 Available to download in: www.agricultura.gov.br/assuntos/politica-agricola/todas-publicacoes-de-politica-agricola/outras-publicacoes/plano-nacional-de-desenvolvimento-de-florestas-plantadas.pdf/view

From what it has been discussed above it is clear a change in approach in the Brazilian forestry governance towards an environmental context rather than forestry development. For example, at all three levels of government (municipal, state and federal) their forestry institutions are subordinated to the environmental ministry in case of the federal one and to secretariat in the other two levels. Within this context it is fair to assume that there is an unfriendly environment to develop forest economic activities.

The national and international environment movements accuse the Brazilian Government as negligent in take care of its native vegetation, in particular of its forest resources. The EMBRAPA Territorial ⁷⁰ carried out an excellent research on the protected and preserved areas as well as to other uses and occupation. This research was based on data of the Rural Environment Database (CAR)⁷¹ that is carried out by the Brazilian Forest Service. Among other conclusions of this study it calls attention that the total area preserved in farms is of 218 million hectares that is equivalent the area of 10 European countries. Other conclusion of this research is that 66.3% of the Brazilian territory is destined or occupied by different types of vegetation. This by its turn correspond to 632 million hectares that is equivalent to 48 European countries. It is interesting to note that despite of such, the Brazilian Government continue to

70 EMBRAPA – Brazilian Agricultural Research Corporation that is under the MAPA - Ministry of Agriculture, Livestock and Food Supply. The research referred to in the text it has been carried out by the EMBRAPA TERRITORIAL INTELIGENCE.

71 <https://www.embrapa.br/en/car/sintese>

be pressured and criticized, particularly at international level, as it was not concerned to conservation and preservation of its natural vegetation. The major finds of the study carried out by EMBRAPA/TERRITORIAL can be summarized in the following table.

Table 4 - Areas Protected and Preserved and Other Uses and Occupation

Category	Area (ha)	% of the Brazilian Area
Area Preserved in the Farmland	218,245,801	25.6
Units of Integral Conservation	88,429,181	10.4
Indigenous Land	117,338,721	13.8
Vegetation in No Occupied Land and No Recorded	139,722,327	16.5
Native Pasture Land	68,022,447	8.0
Planted Pasture Land	112,237,038	13.2
Agricultura Land	66,321,886	7.8
Silviculture (Planted Forests)	10,203,367	1.8
Cities, Infrastructure and Others	29,759,821	3.5
TOTAL	850,280,588	100.0

Source: <https://www.embrapa.br/en/car/sintese>

72 "Medida Provisória – MP" (Provisional Measure) is a legal tool established by the Constitution (Art. 62). The issue of a MP must deal with a theme that is both relevant and urgent and as such it requires an immediate providence. It is an act of the President with immediate force of law and it is sent to the National Congress that has sixty days to discuss it and approve or reject it. (<http://www2.camara.leg.br/comunicacao/assessoria-de-imprensa/medida-provisoria>)

73 http://www.in.gov.br/materia/-/asset_publisher/Kujrw0TZC2Mb/content/id/57510830

Following the Brazilian tradition of extinguish, merge and create new institutions on 1st January 2019 the Government issued a “Medida Provisória”⁷² (MP 870)⁷³ establishing a new administrative structure of the Ministries and within this context the Brazilian Forest Service that used to be under the Ministry of Environment (MMA) it was transferred to the Ministry of Agriculture, Livestock and Supply (MAPA). This suggests that forestry development will deserve attention again since forestry had become under the Ministry of Environment (MMA) and forestry development was left aside and the emphasis became in forest resources under an environment point of view. Another fact that supports this hypothesis it was the edition, by MAPA, of the policy on forest planted (Decree 8375 of 11 December 2014).

Finally, it is important to make clear that this paper has not the pretension to fully discuss Brazilian forestry history, but it is just an attempt to contribute to stimulate others authors to go ahead and deepen the theme. As research becomes more intricate, it is expected that researchers become more specialized and explore specific themes and, consequently bringing more light on gaps left by this paper⁷⁴.

74 For further and more detailed information on Brazilian forestry see, for example, <http://www.florestal.gov.br/documentos/publicacoes/1795-brazilian-forests-at-a-glance-2013/file> See also www.florestal.gov.br; www.mma.gov.br; www.ibama.gov.br; www.icmbio.gov.br.

6



It has been a common sense to attribute to Portugal a disregard to the Brazilian forest resources. However, it worthwhile to point out that the notion of what, at present, it is known as environment did not exist. It is also important to bear in mind that peoples of all cultures and at all have seen the forest as a valuable resource to be used as well as endless. On the other hand, the use of the Brazilian forest resources either by Portuguese or, at present, it requires to be rooted in a context of its time and that the factors that have contributed to their exploration. Therefore, policy and efforts of the Crown regarding to the Brazilian forest recourses they cannot be analyzed under a simply binary view as for example good or bad.

The Brazilian process of land occupation followed a similar pattern that took place in the so-called New World. Therefore, it is fair to assume that this context challenges the long history of negative stereotypes of the nature of the exploration of the Brazilian forest resources. On the contrary, along the Brazilian history there has been a concern to its forest resources. This concern has been translated into a historical tendency of regulating the use of its forest resources via juridical protection as well as creating a forestry bureaucracy, as

for example, judge conservative of forests. A good example of such it was the issue of the Brazilwood Ordinance, in 1605.

Allied to the trend of protecting and manage the forest resources based on issuing a new legislation, public forest institutions have been created and extinguished. It is fair to assume that this approach is still present. Considering these attempts to promote a better management of the Brazilian forest resources, and particularly the Brazilwood, it is fair to assume that the end of the Brazilwood cycle was not due to its extinction as it is, in general, assumed. As one can infer its decline was a consequence of the discovery of the artificial dye on the similarity as it happened to other non-wood forest resources as referred to above.

The pressure of environmental groups, particularly from the 80s onwards, following the international trend, it has contributed to issue of new legislations that, in general, tending to impose more restrictions. However, despite of the good will of the legislation, evidence suggests that this approach per se it has been unable to produce the expected results. In other words, it has been unable to issue an actual forest policy. For example, deforestation continues to be a great concern of the Brazilian Government. On the other hand, the frequent changes of the legislation allied to its complexity generate a legal instability. This instability creates, by its turn, an unfriend environment to the development of forest enterprises. Within this context, Brazil does not take advantage of its great diversity of forest resources that has a huge potential to supply goods and services from them. It interesting to point out that in a study carried out, in 1811, by the State Secretary of Foreign Affairs and War had a similar conclusion. In other words, it concluded that forest areas continued to be converted to agricultural use despite a restrictive legislation. This by its turn generated an unfriendly environment to the development

of forestry activities that could contribute to the national economy (INP, 1952). It is fair to assume that a very similar context still applies even today.

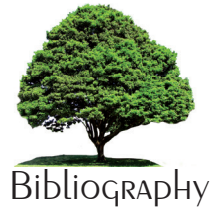
Brazil's search for economic development and the utilization of its resources has been characterized by the paradox between a tendency to exploitation and attempts to conserve. In a territory that is still endowed with virgin land and diverse resources, it is a difficult paradox to resolve. Therefore, to find an equilibrium point between forest management and preservation it is the great challenge in the governance of Brazilian forest resources. This does not necessarily require new legislations. It is important to bear in mind that preservation and conservation have a price and this in its turns raises the question: who should pay them?

As reviewed along the Brazilian history its forestry administration and management, at federal level, it has been under a series of institutions. These institutions have been established, extinguished or merged. This does not necessarily mean or have led to a better governance of the Brazilian forest resources. On the contrary, it is fair to assume that this context generates a legal instability and, consequently it generates an unfriendly environment to promote an economic forest activity. It is important to bear in mind that without a actual economic value there is an increasing risk of conversion of forestlands to other utilizations, particularly agricultural one, including pasture.

As final remark it can be pointed out that the whole process of forest management and deforestation along the Brazilian history it has not been good or bad. It has taken place under different contexts that reflect socio-economic and political factors which vary from time to time. Thus, this process moved from a mere utilitarian use forest

resources to a preservationist vision advocated, at present, by the environmentalist movement. Therefore, the great challenge to the Brazilian government it is to adopt a forestry policy that achieve a balance among the different and competing uses of forest resources and their conservation. In other words, a policy that accommodates the various and many times competing uses of the forest.

7



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8



ANNEXES

ANNEX 1 - BRASIL IN BRIEF

Brazil is a Federative Republic. It covers a total area of **8,515,767 km²** being the fifth largest country in the world. It is divided in 26 states and 1 Federal District (DF) where is located Brasilia its capital. The States are divided in municipalities, with exception of the Federal District. Five great regions group the States according to their common physical, human and economic characteristics (see map below).



Source: IBGE (2002)

Map 5 – Federative Units - Macroregions

Due to its intertropical location allied to its great territorial extension, Brazil has distinct types of climate and soils and, consequently it has a rich forest resource that range from tropical rainforest to sub-tropical forests. These f

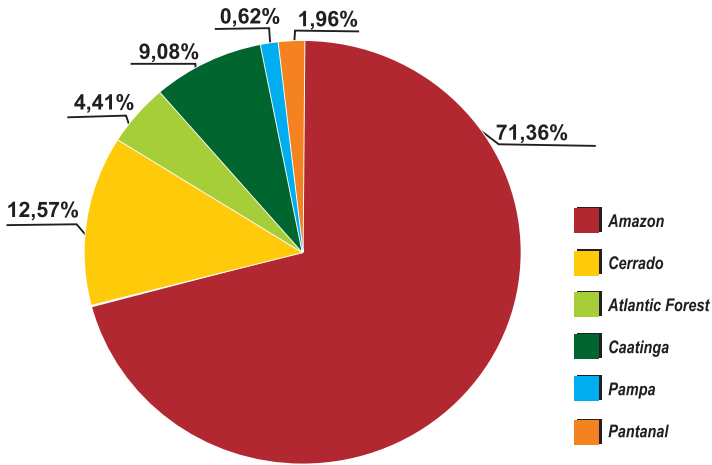
orests are distributed in Six great biomes namely Amazon, Caatinga (Thornbush), Cerrado (Savanah), Mata Atlântica (Atlantic Forest),



Map 6 – Brazilian Biomes⁷⁵

Source: IBGE, adapted by SFB quoted in: <http://www.florestal.gov.br/snif/recursos-florestais/os-biomas-e-suas-florestas> (pag. 43)

⁷⁵ Biome is a set of life forms (plant and animal) characterized by communities of contiguous and identifiable types of vegetation at regional scale, sharing similar geoclimatic conditions and history of changes, resulting in its own biological diversity. Source: (file:///C:/Users/Usu%C3%A1rio%20pc/Downloads/Brazilian_Forests_at_a_glance_2013%20(1).pdf)



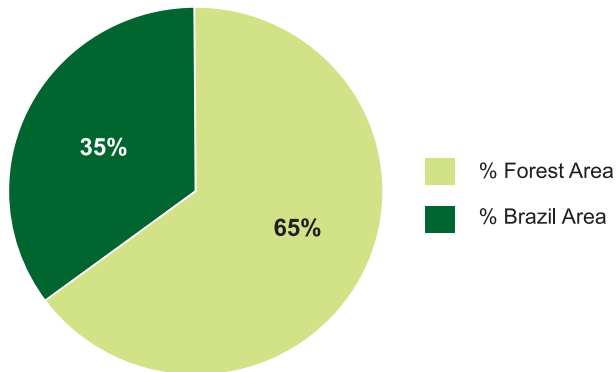
Graph 4 – Biomes in Brazil

Source: <http://www.florestal.gov.br/documentos/publicações/1795-brazilian-forests-at-aglan- ce-2013/file>

Pampa (Grassland biome) and Pantanal (Wetland) encompasses. These biomes cover about 54.4% of its territory. The map below provides a glance of these different biomes that cover the Brazilian territory.

It is interesting to note that this diversity of forest resources, and consequently its economic potential, it has not been able to generate an actual forestry policy⁷⁶. However, despite of such along the Brazilian history the management of the forest resources it has been focus on their legal protection. This by its turn it has generated an extensive and complex legislation. It also call attention the fact that

⁷⁶ It is important to bear in mind that there is a distinction between legislation and policy. The first one is a set of laws about a specific subject while a policy is a set of aims that let know on specific program of governmental action and impose its execution. Thus, laws are tools that can allow the implementation of a policy but they are not a policy per se. A policy emerges in general from the executive power while laws emerge from the legislative power. To implement a policy does not require necessarily the issue of new laws.



Graph 5 – Estimated Area of Forests in Brazil (2012)

Source: <http://www.florestal.gov.br/publicacoes/tecnico-cientifico/florestas-do-brasil-em-resumo-2013>

forestry as an activity organized on a professional basis is relatively new in Brazil. It was in 1964 that the graduation of the first class of bachelor of sciences in forestry took place. Until early in the 60s agronomists, some specializing in silviculture, performed forester's tasks⁷⁷.

From the table above, it calls attention to the fact that despite of news about the deforestation in Brazil, particularly in the Amazon region, Brazil still has about 54% of its territory covered by natural forests (SFB, 2013). Despite of such, the Brazilian forest sector has developed on basis of forest plantations. These plantations are world leader in timber productivity. The mainly planted species are eucalyptus that is the species predominant followed by pines.

77 For further information about the establishment of the first Forestry School in Brazil see: Macedo & Machado (eds.). 2003. *A Engenharia Florestal da Universidade Federal do Paraná: História e Evolução da Primeira do Brasil*. Curitiba.

With more than 7 million hectares of planted trees, the Brazilian tree plantations are responsible for 91% of the total wood produced for industrial purposes in the country. The forest sector contributes with 6.2% of the Brazilian GDP and about 3% of the total Brazilian exports.⁷⁸

According to Law 11284 of 2 March 2006 it was established the system of forest concessions. Concessions are taking place in some National Forests located in the Amazon region. They cover an area of about 1 million hectares.⁷⁹

78 (http://iba.org/images/shared/Biblioteca/IBA_RelatorioAnual2017.pdf).

79 (<http://www.florestal.gov.br/snif/gestao-florestal/concessao-florestal>).



ANNEX 2 - LINE OF TIME: A BRIEF SUMMARY OF THE EVOLUTION OF ENVIRONMENTAL LEGISLATION IN BRAZIL

Pré-Colonization Period

- 1500** Brazil is discovered followed by the extraction of Brazilwood
- 1503** Foundation of the first warehouses to storage Brazilwood harvested
- 1511** Change of initial name “Land of Santa Cruz” to Land of Brazil
- 1530** The Portuguese Crown sent the first expedition under the leadership of Martin Afonso de Souza with the actual aim of starting the Brazilian colonization.

Colonial Period – 1530 - 1822

- 1531** Arrival of the Martin Afonso de Souza as the first General Governor of Brazil. This expedition brought the first settlers, domestic animals and seedlings among them it deserves attention the sugar cane that were the embryo of the establishment of the first sugar cane plantations.
- 1532** Establishment of the first Village (Vila de São Vicente).
- 1533** It was established the first sugar mill.
- 1534** Establishment of the system of “Capitanias Hereditárias” as a way to stimulate the private sector to promote the colonization once a state process of colonization required a great amount of funds that the Portuguese Crown did not have.

1605 Issue of the Brazilwood Ordinance that can be considered as the first Brazilian environmental legislation.

1797 The Portuguese issued two legal pieces (i) one establishing all forests along the coast and navigable rivers as Crown's property; (ii) regulating the exploration of the forest resources.

1800 Issued a Royal Letter that determined that all landowners ought to preserve all species of the governmental interest under a lane of 10 "léguas" (archaic measure of distance, each "légua" about 4.8 km) from the coast.

1808 Arrival of the Portuguese Royal Family in Brazil. In the same year it was created the Garden of Acclimatization that is the embryo of the present-day Botanical Garden of Rio de Janeiro.

1821 Issued a legislation that determined that all lands sold as well as land given in the "Sesmarias" system ought to keep 1/6 of the forestland and it cannot be felt or burned.

1822 Brazil became independent from Portugal and it was adopted an imperial system of government.

1824 It was issued the first Brazilian Constitution that had an approach liberal. It did not approach forestry matters.

1827 It was issued a legislation that prohibited the felling of some species that became known as woods of law. The Brazilwood monopoly continued.

1830 It was issued the Criminal Code that established penalties for illegal cutting of trees, however, it did not establish any penalties to forest fires.

1831 It was issued a legislation that established that up to 24,000 "quintais"⁸⁰ of Brazilwood could be cut and sent to London in order to pay the Governmental loans contracted in the City of London.

80 "Quintais" is the plural of "Quintal" that used to be a unit of measure of weight utilized by Portugal. In 1812 the King D. João VI determined that 1 "quintal" it was equal to 10 "arobas" being 1 "aroba" equal to 15 kg.

1839 Advent of the process of vulcanization that contributed to the rubber boom in the Amazon region.

1841 It was issued a legislation that allowed the landowners to explore the Brazilwood available in their lands.

1842 A legislation established rules to be followed by the landowners to explore the Brazilwood available in their properties that had been allowed by the legislation issued in 1841.

1850 It was issued a legislation known as Law of Land that established parameters and rules on the ownership, maintenance, utilization and trade of lands once the "Sesmarias" system had been extinguished.

1856 It was synthesized the first artificial dye that contributed to decline of the importance of the Brazilwood as a source of dye. Its demand decreased and, consequently its economic value too.

1859 The Brazilwood monopoly was extinguished.

1862 It was issued a legislation expropriating farms and established a great project of reforestation that is the embryo of it is, at present, the "Tijuca" Forest and it is part of National Park of "Tijuca".

1872 It was issued a Decree that authorized the establishment of the "Companhia Florestal Paranaense" that is the first Brazilian private forest enterprise.

1876 It was issued a legislation that allowed farmers to cut the known Woods of Law available in their farms similar to the legislation of 1842 that allowed them to cut the Brazilwood in their properties.

1886 It was issued a legislation that established penalties to whom produced forest fire.

1889 The Empire was extinguished and Brazil became a Republic.

1891 It was issued the first Brazilian Republican Constitution. Similarly, to the Imperial Constitution it was also liberal and forestry matters did not deserve attention.

1902 It took place the first Brazilian Tree Party that is the embryo of the National Tree Day that is celebrated every year in 21 September.

1904 The Eucalyptus was introduced in Brazil and the first plantations were established.

1911 It was established the Forest Garden (Horto Florestal) as part of the Botanical Garden of Rio de Janeiro. In this same year it was created the first forest reserve in the State of Acre (Amazon Region) although it did not never actually implement.

1907 13/19 – Presidential Messages expressing concern about the need of protecting the forest resources as well as their recuperation.

1920 Besides the concern expressed in the previous messages this presidential message called attention to the fact that despite Brazil had a luxurious forest resource it did not have a forest code yet.

1921 It was issued a Legislative Decree 4421 on 28 December establishing the Forest Service of Brazil (FSB) that incorporated the Botanical Garden of Rio de Janeiro.

1925 It was finally concluded the actual establishment of the Forest Service of Brazil.

1934 It was issued the Decree 23973 on 23 January issuing the first Brazilian Forest Code. In this year it also took place the First Brazilian Conference of Nature Conservation in the city of Rio de Janeiro and it was established the Society Friends of the Trees. It was also issued a new Brazilian Constitution.

1937 It was issued a new Brazilian Constitution. It was established the National Park of Itatiaí in the State of Rio de Janeiro (Decree 1713 of 14 June).

1938 It was issued the Decree-Law 982 that recreated the FSB and changed its name to Forest Service (FS).

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- 1946** It was issued a new Brazilian Constitution. It was also established the first National Forest called of National Forest Araripe-Apodi in the State of Ceará (Decree 9226 of 2 May).
- 1960** Issued the Decree 48247 in 30 May establishing the Nacional Forestry School that is the first forestry course at university level.
- 1962** It was issued the Decree 1477 that extinguished the FS and its attributions were transferred to Department of Renewable Natural Resources (DRNR) of the Ministry of Agriculture.
- 1964** A military government replaced the civil one.
- 1966** It was issued in 2 September the Law 5106 that established the Fiscal Incentives Program of Reforestation.
- 1967** It was issued a new Brazilian Constitution. In 28 February it was created the Brazilian Institute for Forestry Development (IBDF). At the same time institutions such as the National Pine Institute (INP) was extinguished and its attributions were transferred to IBDF.
- 1969** The 1967 Constitution faced a series of amendments known as Institutional Acts. Within this context it is fair to assume that it became a new Constitution.
- 1970** It was issued in 16 November the Decree-Law 1134 that can be assumed as the second pillar of the Reforestation Program established in 1966.
- 1972** Took place in Stockholm the United Nations Conference on the Human Environment that is considered as milestone in the attempt to conciliate economic development and environment preservation that later would evolve to sustainable development. It played an important role in pressing the Brazilian Government to issue an environment policy.
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1973

it was issued in 30 October the Decree 73030 that established the Environment Special Secretary (SEMA) linked to former Ministry of Interior. On 15 March 1985 it was issued the Decree 91145 and it was established the Ministry of Urban Development and Environment that replaced the SEMA and its attributions. In 1990 this Ministry was replaced by the Environment Secretary that became linked directly to Presidency of Republic. In 1993 it took place a new change and this Secretary became Ministry of Environment and Legal Amazonia. In 1995 it changed the name again it became Ministry of Environment, Hydric Resources and of the Legal Amazonia then it became again Ministry of Urban Development and Environment. Finally, in 1999 it became known just as the Ministry of Environment (MMA) that still continue to be denominated.

1981

It was issue in 31 August the Law 6938 that established the Environment National Policy. This Law created the National Environment System (SISNAMA) and the Environment National Council (CONAMA).

1985

The Military Government ended and a Civil Government was elected as well as a Congress, too. The elected Congress had as specific aim to write a new Federal Constitution.

1988

It was issued in 29 December the Law 7714 that extinguished the program of fiscal incentives for reforestation and it was not established an alternative to it. On 5 October 1988 it was issued a new Brazilian Constitution that is the 7th one and it is, at present, in force. As far as forestry is concerned it can be highlighted the following points: (i) it reinstates the right of the States, District Federal and even Municipalities to complementarily to the Federal Government to legislate on forestry matters (Art. 23 & 24). To do so, it begun a process of decentralization that is in course; and (ii) it has a specific article on environment (art. 225 of the chapter IV). Following the establishment of IBAMA it was issued the Our Nature Program that it was not actually implemented.

1989

It was issued in 14 February the Law 7732 that extinguished the Brazilian Institute of Forestry Development (

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- 2000** In 18 July it was issued the Law 9985 that established the National System of Units of Conservation (SNUC). This Law also established that the MMA ought to organize and implement a National Database of Units of Conservation.
- 2006** In 2 March it was issued the Law 11284 that established the Brazilian Forestry Service (SFB). This Law can be considered the legal milestone to implantation of the system of forest concessions.
- 2007** Issue of the Law 11516 in 28 August that split IBAMA and created the Chico Mendes of Conservation and Biodiversity – ICMBio that became in charge of administrating the Federal National System of Units of Conservation among other attributions.
- 2011** Issued the Complementary Law 140 in 8 December that established rules on the cooperation among the Federal, State, District Federal and Municipalities Governments in the administrative actions in the exercise of common competence on environment matters, including forestry matters.
- 2012** Issue on 25 May of the Law 12651 that instituted the New Forestry Code in substitution of the Forestry Code of 1965 (Law 4772 of 15 September 1965).
- 2014** Issued the Decree 8375 in 11 December that established the agricultural policy to planted forest
- 2019** Issued in 1st January the “Medida Provisória” 870 that established a new administrative structure of the Ministries. This new organization transferred the Brazilian Forest Service (SFB) from the Ministry of Environment (MMA) to the Ministry of Agriculture, Livestock and Supply (MAPA)
-