BRAZILIAN FOREST-RELATED POLICIES

A MULTISECTORAL OVERVIEW OF PUBLIC POLICIES IN THE BRAZILIAN AMAZON SINCE 1964

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DRAFT

This Report is Part of a PhD on Tropical Forest Policies
at the Institut d'Études Politiques and CIRAD, France

December 2006

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ACKNOWLEDGMENTS

This study could not have been carried out without substantial help from a number of individuals and organisations who provided me with extensive information as well as logistical and financial support.

In France, I wish to thank my two directors of studies – Pierre Lascoumes (CEVIPOF/CNRS) and Alain Karsenty (CIRAD) for their precious advice and putting me in contact with the right people in Brazil. Concerning CIRAD, I am also grateful to Geerd van Vliedt, Marie-Gabrielle Piketty, Plinio Sist and especially Philippe Petithuguenin (CIRAD-Brazil) and Richard Pasquis (CIRAD/CDS-UnB) for their essential help on the ground in Brasília, Belém and in Mato Grosso.

In Brasília, my thanks go above all to:

- The Amazonian Cooperation Treaty Organisation (ACTO/OTCA) for their logistic support and providing initial contacts – especially to Rosalia Arteaga Serrano, Francisco Ruiz and Carlos Aragón, but also to Aldenir Paraguassú, Regina Wendling, Flávio Sottomayor and Belisário Arce for their practical help; and

- The French Embassy and particularly Martine Dorance (SCAC), Catarina Laranjeira and the Trustees of REFEB for providing me with accommodation, and Colonel Éric Boulnois for contacts in Amazonas.

Many thanks also Don Sawyer and the *Instituto Sociedade, População e Natureza* (ISPN) for giving me access to their extensive library, as well as Adriana Ramos (*Instituto socioambiental*) and Fernando Castanheira Neto (*Fórum nacional das atividades de base florestal*) for providing me with many contacts. In Pará, my thanks go to Rosana Costa (IPAM) for having helped me organise my work whilst in Belém.

In Mato Grosso, I would like to thank above all Laurent Micol (ICV-Alta Floresta) for having helped me find my way, as well as the entire team of ICV (especially Ayslaner) for enabling me to travel across North and Northwest Mato Grosso to carry out my research. In Cuiabá, many thanks to Rodrigo Ferreira de Moraes (FORMAD) for his logistical support, as well as Paulo Cesar Nunes (UNDP) for information on Northwest Mato Grosso.

Concerning Acre, I am grateful to Isabel Garcia Drigo (USP) for her list of contacts and to Rafael Luis Galdini Raimundo (CEFLORA), Camila (IBAMA-Cruzeiro do Sul), Nilson Mendes (Seringal de Cachoeira) and especially Alberto "Dande" Tavares Pereira Junior (WWF-Acre), for their invaluable logistic support. Many thanks also to George Dobré (IIBA) and Marcelo Argüeles (IUCN) for their help in identifying key issues in Acrean forest policy.

In Amazonas, my gratitude goes above all to Francisco Ademar da Silva Cruz and the entire team of the *Secretaria do Estado de Agro-extrativismo* (SEAE) and in particular Cédric Goyet, Nicole and Ana Flávia, without whom I would not have had the authorisation or the practical means of visiting the RDS Cujubim. In Jutaí, the staff of the RDS Cujubim Project – Francisco de Assis da Silva Morena, Leopoldo Barbosa Nato and Walben Júnior – was instrumental in getting in touch with a number of contacts in town. In the RDS Cujubim, I am most grateful to Luis Teixeira (President of Paraíso) and all the inhabitants of Paraíso

(especially Ilson and Araújo and their respective families) for their exceptional hospitality and collaboration during my stay in the reserve. My thanks also go to Malik Aït-Saïd for his support during challenging times.

Finally, I would like to thank all the people I interviewed and who gladly gave up some of their time to contribute to this research. This study was carried out as part of a PhD at the Institute of Political Studies in Paris and at CIRAD in Montpellier. It has benefited from a scholarship (*allocations de recherche*) from the French Ministry of Research and additional financial support from CIRAD.

1 FEDERAL FOREST-RELATED POLICIES

1.1 INTRODUCTION

1.1.1 Physical Geography

When compared with European countries, Brazil beats all records. With a surface cover of 8.5 million km² and a population of 188 million, the country ranks world's fifth in both respects. It is 15 times larger than France and has a population over three times its size. It is Latin America's largest nation and shares nearly 17,000 km of borders with (clockwise from the south) Uruguay, Argentina, Paraguay, Bolivia, Peru, Colombia, Venezuela, Guyana, Surinam and French Guiana.

Brazil straddles the Equator although most of its territory lies in the southern hemisphere, with its southern tip south of the Tropic of Capricorn. Given the country's immensity, its climate varies a lot from region to region and contrary to common belief, it is not all lush rainforest. In the south, the climate is subtropical with cool winters and the occasional snowfall in July and August, whereas much of the northern half of the country is hot and humid throughout the year. In between these two extremes, the interior of the country ranges from seasonally flooded in the west to *cerrado* (open bush) in the centre and semi-arid *sertão* in the Northeast.

Unlike much of the rest of South America, Brazil is predominantly flat and large mountain ranges are absent. The coastline is characterised by several series of low mountain ranges and the whole of the central part lies on a plateau some 1,000 metres high, as well as the area bordering the Guianas (the so-called Guiana Shield). In contrast, the North is crossed from west to east by a low-lying basin called the Amazon Basin. Given the relatively flat landscape (with the exception of the border with Venezuela, where the Pico da Neblina stands at over 3,000 metres), the number of river basins is limited. The Amazon Basin of course is the largest of them all with some 40% of the country's surface area.

1.1.2 Population and Demography

Brazil's 186 million inhabitants (according to IBGE's 2006 estimations) are scattered across Brazil in a very unequal fashion which mainly reflects the country's history as a land of immigration. The bulk of the population is situated along the Atlantic coast: the population in the Northeast states is mainly made up of people of African or mixed European, Amerindian and African descent, as it was the area which was first colonised by the Portuguese and where slavery was most engrained into local society.

Further south, in the states of Rio de Janeiro, São Paulo and Minas Gerais, the slavery-based society that survived until the late nineteenth century was profoundly modified by the arrival of European (and Japanese) immigrants in the late nineteenth and early twentieth centuries.

The state of São Paulo is by far the largest in terms of population and it forms the industrial heartland of the country.

The three states of Brazil's southern tip (Paraná, Santa Catarina and Rio Grande do Sul) remained mostly empty until the late nineteenth century when the land was dividied up into small plots and offered to European immigrants, mostly from Italy and Germany. In many cases the immigrants formed strong cultural communities which still characterise to this day large parts of the Brazilian South. Moreover, immigrants in Rio Grande do Sul developed with their counterparts of the *pampas* of Uruguay and northern Argentina a culture locally known as *gaúcho* which is not unlike that of North American cowboys as it is based on cattle ranching.

In contrast, the interior of Brazil remains relatively empty in terms of population, although the past century has brought fundamental changes to its demographic makeup. For a long time, the interior remained populated by Indians and sparse settlements of immigrants, but two major waves of migration put an end to that. First, the sharp increase in European and North American demand for rubber led to dozens of thousands of Northeasterners to penetrate deep into the Amazon in the late nineteenth century, displacing and decimating the indigenous populations living there.

Secondly, in the 1970s and 1980s, large-scale government programmes encouraged small-scale farmers of the Brazilian South (mostly *gaúchos*) to settle along the Amazon's newly built roads, notably in southern Pará, northern Mato Grosso, Rondônia and western Acre. The demography of the Brazilian Amazon – which is now home to over 20 million people – strongly reflects the complex makeup resulting from the different waves of immigration that make up its recent history.

1.1.3 Politics

Brazil's political structure is characterised by a federal system similar to that of the United States. The country is home to five regions (South, Southeast, Centre-West, Northeast and North) which are each divided into a number of states whose borders are mainly defined by historical factors. This explains why the smallest states are found in the Northeast – the historical heartland of the country – and the largest ones in the North – Brazil's "last frontier". The country's capital has changed three times in its history, from Salvador da Bahia (1549-1763) to Rio de Janeiro (1763-1961) and finally to Brasília (since 1961).

The country's federal system thus establishes three distinct levels or "spheres" of governance – the Union (Brazil), the state (*e.g.*, Amazonas) and the municipality (*e.g.*, Jutaí). In theory, each sphere is supposed to play a clear role in policy-making and implementation, although in practice, their specific roles remain blurred and subject to interpretation unless agreements are signed over particular issues, such as environmental policy (described below). This system also means that the three powers (executive, legislative and judiciary) are represented in each sphere by specific organs, thus multiplying the number of institutions with specific jurisdictions, as shown in Table I.

		Sphere		
		Federal	**State**	**Municipal**
Power	**Executive**	President of the Republic	Governor	Mayor (*Prefeito*)
		Vice-President of the Republic	Vice-Governor	Vice-mayor (*Vice-prefeito*)
		Ministers	State secretaries	Municipal secretaries
	Legislative	National Congress	Legislative Assembly	Municipal Chamber (*Câmara*)
		Chamber of deputies	State Deputies	Municipal councillors (*Vereadores*)
	Judiciary	Federal Senate and Higher Courts	Tribunals	Forum
		Ministers	Chief Judges (*Desembargadores*)	Judge of law (*Juiz de direito*)
			Judges	

Table I. — Distribution of the three powers according to the three political spheres in Brazil (after Carvalho de Noronha 2003:18).

Each level also has its own legislation, although the rule goes that laws of a lower sphere cannot be less stringent than those of a higher sphere. Also, whereas higher-sphere laws and norms can be imposed on lower spheres, the contrary cannot take place. Finally, within each state and many municipalities, one often finds representatives of all three spheres present and collaborating over specific policies.

For example, in the case of environmental policies in the municipality of Jutaí in Amazonas, one may find that IBAMA (representative of the federal sphere), IPAAM (representative of the state sphere) and the Secretariat for the Environment (representative of the municipal sphere) all three have their own office, staff and funds, and that all three play a role in environmental policies within the borders of the municipality. In practice, the superimposition of all three spheres and the subsequent multiplication of actors often lead to institutional entanglements and political nightmares.

Since 1985, Brazil is a Republic with a president elected by universal suffrage every four years, when the state governors, members of the national Congress and state legislative deputies are also elected. The last such election dates back to October 2006 which saw incumbent President Inácio Lula da Silva (of the Workers' Party, or PT) reelected for a second term.

Brazilian politics are mired by a wide array of different parties, many of which are of short-lived nature. Alliances are therefore essential in getting politicians to power and it is often said that Brazilian parties in all three spheres reflect individual political networks more than political opinions and the classic right-left spectrum that parties are generally said to abide to in Western Europe. One exception to this might be the PT which, many claim, is firmly anchored in the left, although many observers would disagree given Lula's economic policies during his first term in office.

1.1.4 Economy

Throughout the second half of the twentieth century and into the twenty first, Brazil has been heralded as the "next superpower", the "sleeping giant", without prolonged spurts of economic growth ever materialising. Until the early 1980s, the country's economy witnessed strong growth along with major infrastructure development paid for by the State, a heritage of the Vargas period of the 1930s. However, Brazil was also mired by strong inflation and a large debt, both of which the governments in the 1980s failed to keep under control. As a consequence, international debts were not paid, which resulted in deep economic crisis until the early 1990s.

It was only under Itamar Franco's government in the early 1990s that the situation came to be controlled with Economy Minister Cardoso's *Plano Real*, which among other things created a new currency, the real. With considerable nudging from the IMF, the Cardoso government of the second half of the 1990s privatised much of the country's public sector and retained a floating exchange rate, thus keeping the economy afloat. Cardoso's successor, Inácio Lula da Silva, only strengthened Cardoso's measures (much to the Brazilian elite's relief given their initial fears about the New Republic's first left-wing president).

In the early 2000s, the real was strongly devalued, resulting in a sharp growth of Brazil's exports and particularly of agricultural products. This boom created a sudden spurt of growth in the national economy, causing analysts to predict a golden future for Brazil. However, the revaluation of the currency in 2005 and 2006 along with fears of the environmental impact of the growth of agriculture meant that the spurt stopped as quickly as it had started.

In 2005, Brazil enjoyed a 2.4% increase in GDP which stood at roughly € 6,600 per capita (CIA 2005), placing Brazil within the world's emerging nations. In fact, Brazil ranks tenth in the world's greatest GDPs but given its large population and highly unequal distribution among citizens, Brazil has not succeeded in ranking among the world's developed nations. Despite this, it is by far the strongest economy in South America and comes only second in the Americas after the United States.

Brazil's main industries are textiles, shoes, chemicals, cement, lumber, iron ore, tin, steel, aircraft, motor vehicles and parts, other machinery and equipment, including airplanes (CIA 2005). However, the country's agricultural exports have made it a "heavy weight" on international markets. It remains the world's first producer of soy and ranks among the first in sugarcane, rice, coffee and beef.

1.1.5 Multilateral Foreign Policy

This leading position in the world's agricultural markets has largely contributed to Brazil playing a major role in WTO negotiations by heading a group of developing and emerging countries known as the G20 (which also includes countries such as South Africa, China, India, Indonesia, Argentina and Mexico). The main aim of this group, created in Brasília in June 2003 prior to the Cancún meeting, is to put an end to the protectionist policies of developed countries (especially the United States and the European Union) in the agricultural

sector so as to enable the growth of the share of developing countries in the world's agricultural markets.

Brazil has been playing a growing role in foreign policy in other fields too in recent years. For the first time, it has participated in UN peacekeeping missions such as the United Nations Stabilisation Mission in Haiti (MINUSTAH). As the world's largest Portuguese-speaking country, it has also greatly participated in building political and economic links with Portugal and the latter's former colonies in Africa and Asia through the Community of Portuguese Language Countries (*Comunidade dos Países de Língua Portuguesa* or CPLP).

Regionally, Brazil is the leading member of Mercosul (Mercosur in Spanish), a customs union founded in 1991, originally based on the model of the European Community and that brings together Brazil, Argentina, Uruguay and Paraguay, along with Venezuela which joined the union in 2006. All of South America's other countries (except for the three Guianas) remain associate members, and to a large extent Mercosul overlaps with the Andean Community (*Comunidade Andina de Nações* or CAN) of which Brazil is itself an associate member.

Since its inception, the evolution of Mercosul has been mired by floundering economies such as that of Argentina in 2001, as well as conflicts over trade policy between its member states. However, in recent years, it has been strengthened by Venezuela joining in and the bloc's rejection of the Free Trade Area of the Americas (*Área de Livre Comércio das Américas* or ALCA) in Argentina in 2005.

Also regionally, Brazil is a member of the Amazonian Cooperation Treaty Organisation (*Organização do Tratado de Cooperação Amazônica, i.e.*, OTCA or ACTO in English). ACTO is based on the Treaty of the same name, signed in 1978 between all eight members of the Amazon Basin except for French Guiana, with the aim of promoting the "harmonious development of the Amazon Basin" through environmental conservation and rational use the region's natural resources (OTCA 2006).

Originally, the Amazonian Cooperation Treaty (*Tratado de Cooperação Amazônica* or TCA) was managed by a rotating secretariat that shifted from capital to capital every year and lay dormant for almost two decades. However, in 1995, ACTO was founded and a permanent secretariat was created three years later, finally taking form in the shape of a Brasília-based office in 2002. Lula's government has contributed in pursuing the growth of ACTO which has entered the international scene on a number of issues on top of the all-obvious one of deforestation in the Amazon. It has notably played a large role in coordinating health issues across the Amazon as well as transfrontier programmes such as MAP in the triple frontier area between Brazil, Bolivia and Peru.

The future and vocation of ACTO remain open to interpretation. Its concrete actions are currently limited to small-scale initiatives and participation in international meetings, partly because decision-making depends on approval by all the governments of its member states. However, it has been seen as having great potential by a number of actors: first, France has been keen on joining ACTO in recent years, possibly in a new attempt to anchor its overseas departments in a regional context – in this particular case, that of French Guiana in South America. However, France's demands have been met with reluctance on behalf of a certain number of ACTO members who, analysts claim, see French Guiana as a mere "colonial confetti" and a pretext for a G8 member to get involved in regional politics. For the time

being, therefore, France has remained a "privileged partner" and an "observer" at ACTO's meetings.

Secondly, it has been said that some member countries see ACTO as a means of promoting regional-scale alliances (and thus perceiving ACTO as more than an agreement on the Amazon Basin) in the face of the influence of outside powers such as the United States, although this view is not shared by most of ACTO members. Finally, in the eyes of international organisations working on environment and development issues in the Amazon Basin – notably donor organisations – ACTO is a golden opportunity for seeking regional-scale solutions to the Amazon's woes, rather than concentrating on single countries. In this regard, ACTO has played a leading role in recent talks on forest law enforcement in South America, in collaboration with the European Commission and UNDP.

1.1.6 Brazil's forests and the Amazon

Brazil has the largest expanse of tropical forest in the world and approximately 64% of its territory has some sort of forest cover. However, the country's forests are highly variable in nature. Before the arrival of Europeans in the sixteenth century, Brazil was home to two major forests: (i) the Amazon Forest, most of which remains to this day, occupying much of the north of the country; and (ii) the Atlantic Forest (*Mata Atlântica*) which has severely receded over the last few centuries and of which a mere 7% remains, mostly in protected areas along the coast from Rio Grande do Norte to Rio Grande do Sul.

The Atlantic Forest was the first to disappear mainly for historical reasons, since it coincided with the place where Europeans settled and human populations grew over the past five centuries. In many parts of the South and Southeast such as the states of Paraná and Mato Grosso, these forests have been replaced with eucalypt plantations of which there are now some 4 million hectares. Along with the country's other two million hectares of other types of plantations, Brazil also ranks first in Latin America in terms of tree plantations.

In terms of natural forests, Brazil is home both to open and closed forest, and the latter type is very much concentrated in the Amazon Basin. Amazonian forests are typically evergreen rainforests where both temperature and humidity is high. The layer of organic soil is usually relatively thin because nutrients are recycled very rapidly. Forests in the Amazon are known for their exceptionally high species richness, and scientists invariably rank certain patches of the Western Amazon (Manú National Park in Peru, Yasuní National Park in Ecuador and Serra do Divisor National Park in Brazil) are the most biodiverse ecosystems on earth.

Nowadays, great concern is expressed at the loss of cover in the Amazon forest which many consider one of the planet's greatest natural assets. Rates of deforestation have been published since the late 1980s, first based on reports by state governments and since the early 2000s on satellite imagery. The data show a regular loss of over 10,000 km² per year over the past 18 years with the strongest peak in 1995 due to drought and forest fires, and in 2003 – which has mainly been attributed to the advance of the "soy front" in Mato Grosso. These rates are shown in Figure I which also shows the contribution of Mato Grosso, Acre and Amazonas to deforestation rates in the Brazilian Amazon.

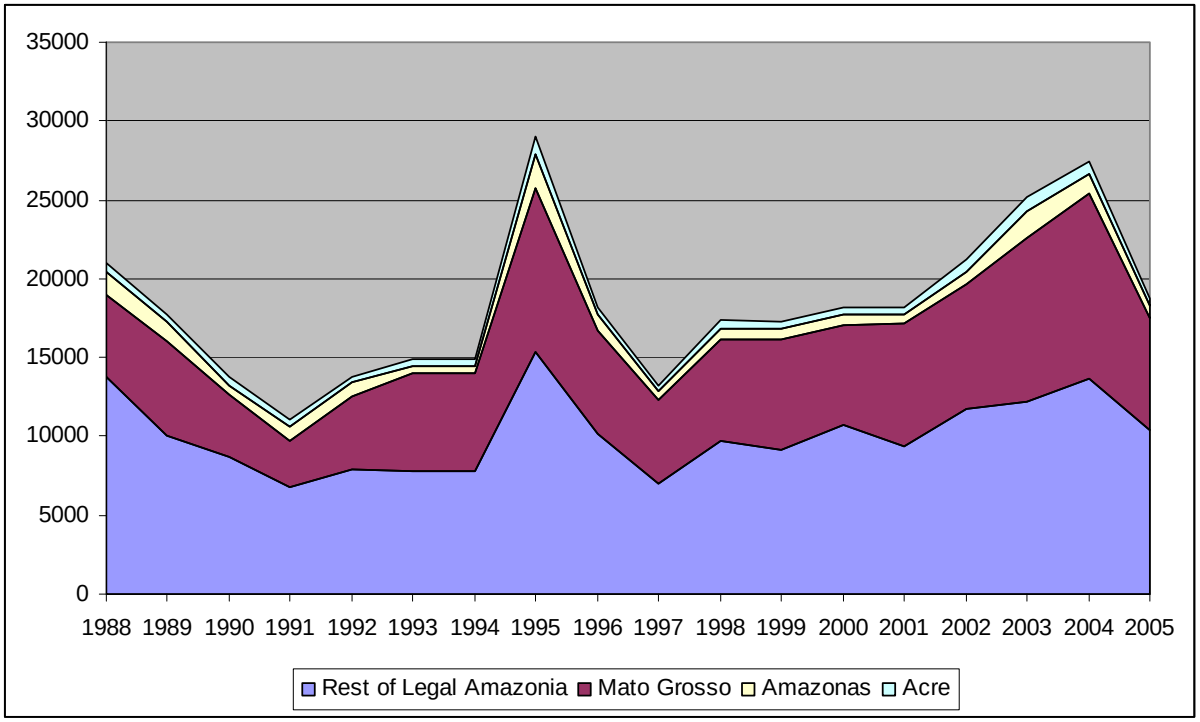

Figure I. — Deforestation rates in Legal Amazonia with the contribution of the states of Mato Grosso, Acre and Amazonas to regional trends, 1988-2005 (based on data provided by PRODES 2006).

As Figure I suggests, deforestation rates remain highly variable among the states that the Amazon Forest lies across, and the size of each state is not sufficient in explaining this variation. In the past 18 years, rates have been consistently highest in Pará, Mato Grosso and Rondônia, Mato Grosso having taken over the lead from Pará since the early 1990s. The other states of the Brazilian Amazon have enjoyed small to very small rates in comparison with the "big three" which in 2005 represented 86% of total deforestation in the Brazilian Amazon.

A number of geographers – many of them French – have put forward a geographical concept to account for this disparity in deforestation rates, known as the "Pioneering Front", the "Deforestation Front" or the "Ark of Fire" in reference to the fires responsible for most of forest clearance (Droulers 2004, Théry 1989, 2000, Théry & Aparecida de Melo 2004, Becker 2004). This concept can broadly be defined as an advancing front where the model of development and natural resource use is based on forest clearance. Becker (2004:76) identifies several factors in the so-called deforestation front of the Brazilian Amazon, notably (i) cattle ranching, (ii) logging, (iii) deforestation and (iv) high incidence of fires.

Since the creation of this notion, geographers have identified a large number of additional criteria that contribute to refining the concept, such as (v) a high incidence of conflicts related to land tenure (including murders), (vi) the rapid growth of towns, road networks and public administration and infrastructure more generally. All these activities characteristic of the "front" are said to go hand in hand and in the past few decades have advanced along an ark running from the eastern tip of Acre, through Rondônia and northern Mato Grosso and further north through eastern Pará. Box IV (in the section on Mato Grosso) describes the theory of the frontier concept in greater detail.

However, the main characteristic of this "front" has recently been questioned: its mobility has been described as fundamental in understanding the persistence of deforestation throughout the late twentieth century but several scholars such as Becker (2004) claim that the front has stopped moving and that it is now consolidating itself through the more sedentary character of its components.

According to Becker (2004:76), the "front" has turned into an "ark of consolidated population" with the gradual intensification of the region's economic activities, notably cattle ranching and logging. In other words, the motor of this front which was based on both these economic activities is no longer hungry for land as it has adopted different types of natural resource use. This position can nevertheless be questioned since observations in northern Mato Grosso still show the high mobility of timber companies, for instance, that appear to be currently shifting towards southern Amazonas (see section on Mato Grosso).

1.1.7 Legal Amazonia

There have been many attempts to try to define the borders of the Brazilian Amazon. Biologists and physical geographers have traced the extent of the Amazon based on vegetation or hydrological criteria, *i.e.*, defining the region as a single forest bloc or as the hydrological basin of the Amazon River. However, two administrative and political delineations of the Brazilian Amazon also exist: (i) the Northern Region (*Região Norte*) which brings together the states of Acre, Amapá, Amazonas, Pará, Rondônia, Roraima and Tocantins, and (ii) Legal Amazonia (*Amazônia Legal*).

In 1953, the Federal government devised the first Amazon-wide development plan. According to Federal Law no. 1.806, the boundaries of the region – known as Legal Amazonia – that was to benefit from the plan, were defined as follows: Legal Amazonia was to include the whole of the states of Amazonas and Pará and federal territories of Acre, Guaporé (now Rondônia), Rio Branco (now Roraima) and Amapá, along with: (i) the portion of the state of Mato Grosso north of 16 degrees south, (ii) the portion of the state of Goiás north of 13 degrees south, and (iii) the portion of the state of Maranhão west of 44 degrees west.

To this day, the borders remain much the same, with some minor changes: when Mato Grosso do Sul splintered off from Mato Grosso in 1978, the entirety of the new state of Mato Grosso was included in Legal Amazonia; likewise, the state of Tocantins which was created from the northern half of Goiás in 1988 also remained within Legal Amazonia. Today, this legal entity thus includes the states of Acre, Amapá, Amazonas, Mato Grosso, Pará, Rondônia, Roraima and Tocantins, as well as the portion of Maranhão west of 44 degrees west.

Legal Amazonia is more than a mere line on a map: it is legally recognised as a geographical area within which a certain number of regulations apply. The most famous and controversial of these is that of Legal Reserve (*Reserva legal*), whereby private owners are not allowed to clear more than 20% of their land from forest. It also acts as an administrative unit for a number of governmental agencies, notably:

- The Amazonian Development Agency (*Agência de desenvolvimento da Amazônia* or ADA, formerly known as SUDAM) which devises region-wide development plans; and

- The Bank of Amazonia (*Banco da Amazônia* or BASA) which gives credits for development projects within Legal Amazonia only.

Théry (2002) carried out a study showing the share of Legal Amazonia in Brazilian figures. Whilst it occupies some 60% of the country's territory, it is only home to 12% of its population and a mere 5% of its GDP. In many other ways, Legal Amazonia coincides with Brazil's vast hinterland which, despite occupying over half the territory, contributes only in minute amounts to many aspects of the country's economy.

With only a tiny share in Brazil's industries and service sectors (with the exception of Manaus and Belém as two large centres in both respects), it occupies a larger part, however, in several agricultural products, notably 29% for rice, 27% for bovine products and 26% for soy.[1] Théry also points out that Legal Amazonia is home to a staggering 61% of land conflict-related deaths, which emphasises the importance of conflicts over land in the so-called "deforestation front" which is entirely included in Legal Amazonia.

1.2 METHODS AND MATERIALS

This study is based on data collected between January and July 2006 in Brazil – mainly in Brasília, São Paulo, Rio de Janeiro, Belém and in the states of Mato Grosso, Acre and Amazonas. This research was carried out as part of a PhD on a comparison of Brazilian, Cameroonian and Indonesian forest policies at the Institute of Political Studies in Paris and CIRAD in Montpellier, France.

The central question of this thesis is to evaluate the effect of the emergence of an international debate about tropical forests on the national policies of a small number of forested tropical countries. In this respect, this report provides a mainly descriptive analysis of the change that has occurred over the past four decades or so in the forest policies of a number of case-studies. Data and information provided in this report will eventually be used in the thesis itself.

The angle chosen is political and the theoretical perspective is based on a much-used tool in public policy theory, namely that of policy networks. The concept of policy networks has been defined by Legalès & Thatcher (1995:14) as "the result of more or less stable and non-hierarchical cooperation between organisations that know and recognise each other, negotiate, exchange resources and sometimes share norms and interests". In order to distinguish policy networks from other types of social networks, one might add to this definition that the organisations in question need to interact over the discussion and attempt to solve specific collective problems.

The notion of policy network is particularly useful in the present study because of the nature of Brazilian forest policies. First, it adapts well to situations characterised by the fragmentation and multiplication of actors involved in specific policies. Secondly, it

[1] These data, probably based on 2001 figures at the latest, are likely to have increased, especially in terms of soy production since the boom in 2003 and 2004.

emphasises the "fluidity" of resources among different spheres – in this case the local, state, federal and international levels which are generally not as waterproof as they are often portrayed. Finally, the policy network approach is best used to understand the relations between actors and the flow of ideas and interests, which are all crucial elements in this research.

Box I
Defining Forest Policies

Definitions of what is meant by "forest policies" are very rare in the existing literature, but based on the implicit interpretations of the term, forest policies are generally seen to refer to policies determined by the State that are specifically aimed at forest management of one type or another. Such a definition is subject to two problems.

First, as in any other country or sector, public organisations are no longer the only actors or stakeholders in public policies; Brazilian forest policies have in fact witnessed a sharp rise in the number of different actors involved in forest management. It would therefore be more appropriate to describe public policies as the result of the exchanges between a number of different actors who interact in order to solve collective problems such as that of forest management.

Secondly, policies specifically aimed at forests are not the only public policies that have an impact on forests and forest management. In fact, in some places such as northern Mato Grosso, the agricultural and cattle ranching sector often have a greater impact on forests than policies aimed at forests *per se*. Restricting a study on forest policies to timber production and forest conservation policies would only allow us to focus on one part of the picture. This is why in this study forest policies have been defined as follows:

"Forest policies can be defined as public policies which result from interactions among a number of actors involved in forests and that have an impact on forests and their management, whether this impact be intentional or not".

The case-studies described here were selected according to three main criteria:

1. ***Importance.*** The case-studies were chosen according to their importance in two respects: first, the issue of forests has to play a large role in the economy and politics of the case-study, and secondly, the case-study has to be of regional or national importance. For example, this explains why the state of Acre was selected over that of Amapá: although both states have similar forest policies, Acre has played a major role in shaping national forest policies.

   Moreover, the criterion of importance also explains why the state of Paraná was not selected: despite the fact that many of the country's eucalypt plantations are located there, the timber industry and forest policies more generally do not play a very important role in the state's economy and politics (on top of which, strictly speaking, Paraná's forests are not tropical).

2. ***Diversity.*** The case-studies selected need to be as diverse from each other as possible. It was not possible to choose representativeness as a criterion given that in a study like this, each case is unique, providing a specific array of issues and actors. However, the criterion of diversity enables this study to illustrate the wide range of different issues and policy networks operating within Brazilian forest policies.

For example, this criterion explains why case-studies were selected from all three different spheres (local, state and federal) were selected. It also accounts for the selection of Mato Grosso, Acre and Amazonas as state case-studies, since Becker (2004:136) defines each of these states as a representative of the three major types of forest policies. Finally, the three local case-studies (the "deforestation front" in Mato Grosso, indigenist policies in Acre and RDS Cujubim in Amazonas) show the Amazon Basin's three main populations as protagonists: gauchos and recent immigrants, indigenous societies, and reibeirinhos respectively.

3. ***Complementarity.*** Scholars and professionals alike have already produced a mass of data on Brazilian forest policies, many of them having focused on specific case-studies. The cases selected in the current research are aimed at providing complementarity to the existing research. Rather than focusing on case-studies that have already been looked at several times, cases were selected about which little is known.

   The main advantage of this criterion is to increase the potential contribution of this study to the already existing databank on Brazilian forest policies rather than reduplicating research that has already been carried out. Carrying out first-hand research (through interviews and participant observation) on issues that have already been studied could arguably be perceived as a waste of time. This explains why the state of Pará, which concentrates the majority of research carried out in the Amazon Basin, was not selected.

The condition for selecting each case-study was that it had to fulfil at least two of the criteria above. Results for the selection process are shown in Table II.

Case-studies	Criterion 1 Importance	Criterion 2 Diversity	Criterion 3 Complementarity
Federal forest policies	As national forest policies that interact with both state and local spheres	As the only representative of policies at the federal sphere	
State forest policies of Mato Grosso	As the state that has ranked top in deforestation rates in the past decade	As a representative of Becker's frontier forest policies (2004:136)	
State forest policies of Acre	As a case-study which has strongly contributed to shaping national forest policies over the past two decades	As a representative of Becker's sustainable forest policies (2004:136)	
State forest policies of Amazonas		As a representative of Becker's conservation forest policies (2004:136)	As an understudied case-study in comparison with Legal Amazonia's other large states
The "Deforestation Front"	As the region with exceptionally high deforestation rates	As a case-study where the main protagonists are one of the Amazon Basin's three major population groups (gauchos and recent immigrants)	
Indigenist policies of Western Acre	As a case-study of an indigenous society that plays one of the most prominent roles in the country's indigenist policies (the Ashaninka)	As a case-study where the main protagonists are one of the Amazon Basin's three major population groups (indigenous societies)	As a case-study of indigenous societies whose relations with the indigenist movement have received little attention (the Jaminawá and Nawa)
The RDS Cujubim	As one of the country's most quoted examples of the implementation of environmental conservation policies	As a case-study where the main protagonists are one of the Amazon Basin's three major population groups (ribeirinhos)	As an understudied case-study given its geographical remoteness

Table II. — The selection of case-studies according to the three main criteria.

In order to investigate each of these case-studies, the relevant cities and states were visited, where two types of data collection were carried out. First, grey and academic literature, previous studies, correspondence, reports and governmental documents were collected wherever possible, providing a background of information on the case-studies in question and helping orient the researcher towards relevant issues and actors.

Secondly, a large number of interviews were carried out, totalling some 96 for the entire study on Brazilian forest policies. Identification of key actors and interviewees was based both on existing literature and "snowballing", whereby each interviewee is asked which other actors he or she would recommend the researcher meet next. Interviews were carried out in a semi-structured fashion and based on a small number of questions such as (i) how would you describe the organisation you work for and what is its history? (ii) what are your daily

activities? Do you have any projects underway or that you have taken part in? (iii) Whom do you work with most often? And (iv) the interviewee was asked to define a number of concepts (sustainable development, sustainable forest management, participation, conservation and preservation). The data provided by question (iv) will be analysed separately and in comparison with Indonesian and Cameroonian interviewees in a future study.

Data were collected on paper rather than on tape. Although this method of recording may not be as accurate as using a tape, it enabled the researcher to save considerable amounts of time and, more importantly, it allowed interviewees to speak more freely. Recording interviews by tape has been known to prevent interviewees from freely expressing their views on delicate issues such as that of deforestation.

1.3 A HISTORY OF BRAZIL AND THE AMAZON

Many of the factors that influence current forest policies in Brazil are the result of historical events that have marked the country, especially in the past five centuries of European occupation. This section describes the history of Brazil with a focus on the Amazon Basin since this region is the primary focus of this study.

1.3.1 The Land of the Holy Cross

Historians and archaeologists have long believed that before European arrival, the Amazon Basin was home to a few "primitive" indigenous "tribes" of little interest. The near-absence of archaeological artefacts at first seemed to confirm this view, but more recently, scholars have unearthed a wide variety of objects which led some to claim that the Amazon Basin witnessed a number of flourishing cultures.

What archaeological sites have managed to demonstrate is the existence of extensive trading networks from the foothills of the Andes down the region's main rivers, to the Atlantic and down the Brazilian coast (Droulers 2004:29). The coastline was culturally relatively homogeneous and was occupied by Tupi-Guarani societies who lived in small villages, cultivated mainly cassava and traded with each other along great distances. In southern Brazil and the area now known as Paraguay and northern Argentina lived large groups of Guarani societies whose language is still spoken today in Paraguay.

In the case of the Amazon, archaeologists from the University of São Paulo unearthed of an indigenous town some 30 km from Manaus that could have held up to 10,000 inhabitants. They also found proof of urban planning as the dwellings seem to have been built around a large central square. In the rest of Amazonas and in Pará, extremely ancient pottery has been discovered, which has led US archaeologist Anna Roosevelt to suggest that the Amazon Basin began cooking pottery some 7,000 years before the Incas got round to it. Instead of being an isolated hinterland as it is sometimes considered today, the Amazon might have been a cultural hotspot before Europeans arrived.

In the meantime, in Europe, the Portuguese had pioneered a way out of Europe and managed to sail most of their way round Africa in the search for an alternative route both to Jerusalem and India that would not have to go through the Arab world. Jerusalem had long been a goal of European crusades, each king hoping in turn that he would one day reign over Jerusalem and become universal monarch. As for India, it remained a crucial aim for the Portuguese who dreamed of getting direct access to the spice trade instead of having to go either through Arab or Venitian traders.

In 1474, the Portuguese King asked a Florentine merchant what the easiest alternative route would be to India, to which the Florentine replied that the king would have to send a fleet full west to go round the world. However, the king, who was as intent on getting his hands on the Indian spice trade as on Jerusalem and the legendary kingdom of Priest John (Ethiopia), discarded the suggestion and stuck with the idea of circumnavigating Africa. In 1489, the Cape of Good Hope was reached and it was only a matter of years before the Portuguese would meet Arab boats on the Indian Ocean who would show them the way to India.

Christopher Columbus, who had also suggested sailing round the world to get to India, was refused funding from Portugal and instead turned to Spain, which granted him financial support for his trip. He sailed out in 1492 but never got beyond the Caribbean. Spain and Portugal soon realised that what Columbus had tripped upon was in fact a *terra incognita*, and in 1493, a Papal *bulla* established that Spain and Portugal would have to share the world, the former having access to all the land west of a meridian line 100 leagues West of Cape Verde, and the latter the rest.

Both countries modified the *bulla* and signed the Treaty of Tordesilhas the following year, fixing the dividing line at 370 leagues instead of 100. It was supposed that the Spanish would have exclusive access to the *terra incognita* whereas the Portuguese would get Africa and the monopoly of the African route to India. However, the Tordesilhas line cut well into South America, from about the mouth of the Amazonas to today's city of São Paulo.

To sail out to southern Africa and onto India (which was reached by Portuguese explorer Vasco da Gama in 1498), Portuguese ships had to sail away from the African coast deep into the Atlantic to hit the prevailing winds that would then take them to the Cape of Good Hope. One such fleet, led by Pedro Cabral, sailed a little "too far" to the west and hit the coast of Brazil in 1500. The initial assumption that Cabral's discovery of Brazil was unintentional has since been questioned by historians who claim that Portugal secretly knew about Brazil and shifted the Tordesilhas line further West to include it into their realm without the Spanish ever realising (Bennassar & Marin 2000:24).

The first half century after the "discovery" of Brazil by Cabral witnessed a rather hesitant colonisation policy by the Portuguese Crown. The first expeditions to what the Portuguese had called the Land of the Holy Cross (*Terra da Santa Cruz*) returned claiming that the country was of little economic interest, even after the whole of the Brazilian coast had been mapped in 1514. Instead, Portugal continued looking east to its more lucrative Asian colonies. However, in order to prevent foreign powers from invading their American colony, King João III decided populate the country by promoting the following policy: after having divided the coast up into strips of 30 to 100 leagues, he promised to hand the land over to whomever would be willing to "develop" the land, *i.e.*, populate and cultivate it. If the new landowners failed to fulfil their duty, however, the land would have to be returned to the Crown.

This system of concession of land depending on its cultivation actually played a fundamental role in Portugal's conquest of its own territory over the Arabs during the period known as "Reconquista". Through a law called *Lei das Sesmarias* promulgated in 1350, the King attributed the newly acquired land to the country's nobles who were willing to cultivate it. Once the Portuguese had hit Algarve, this system was also applied to the Atlantic islands the Portuguese conquered in the early fifteenth century, where the labour-hungry cultivation of sugarcane was provided for by the slave trade. Brazil thus very much represents a continuation of this system of colonisation, as opposed to the trading outpost system that Lisbon had created across India and Southeast Asia.

However, Portugal's nobility proved unwilling to invest in a country with little apparent wealth and only twelve men (none of them noble) were found for 15 so-called *capitanias*, and by 1550, Portuguese America was only populated by some 20,000 immigrants divided between the *capitanias* of Pernambuco and Bahia. These two regions of the country were the only ones both populated and productive, with an economy based on timber and sugar.

The first decades of colonisation witnessed a boom in timber production, notably that of *pau-brasil* which eventually gave its name to the colony.[2] In 1511 alone, over 5,000 logs were exported to Lisbon as logging developed in the timber-rich forests of the Atlantic coast. By the end of the century, logging had reached such large proportions that the Crown imposed licenses on timber production in the early seventeenth century, limiting the volume of timber to a fixed amount for each individual company. In 1619, a complete ban on logging was imposed in the *capitania* of Pernambuco, although the Dutch invasion of the 1630s put an end to it.

The other colony's source of income was sugar, which reached major proportions once local Indian groups were reduced to slavery to work on the *engenhos*. However, the demand for labour was such that cattle was brought over to work in traction and transport. The import of cattle marked the beginning of the beef industry that would develop in the interior of Brazil for centuries to come, whilst the *engenho* system institutionalised a society based on slavery and extreme concentration of wealth and land ownership in the hands of a few.

The timber and sugar cycle of sixteenth and seventeenth century Brazil had a deep impact on pre-colonial environment and society. The Atlantic forest on the country's coast quickly gave way to fields of sugarcane whilst indigenous societies were either wiped out by disease or slavery, or migrated far enough south to avoid contact with the Portuguese. By the 1580s, African slaves started being imported *en masse* to the economic heartland of the country, the *Nordeste*. At the turn of the seventeenth century, African slaves started outnumbering indigenous ones.

[2] In Portuguese, the term *Brasileiro* (that refers to the inhabitants of Brazil) is grammatically incorrect as the terms referring to inhabitants of countries end in –no or –ense (Peruano, Colombiano, Mexicano, Guianense). Translated literally, Brasileiro means "Brazil worker", *i.e.*, Brazil-wood logger, and probably initially referred to the country's first inhabitants who spent their days in the forests cutting timber.

1.3.2 Foreign Threats and the Exploration of the Interior

By the 1550s, the Portuguese realised they were facing increasing competition with Europe's rising nations over Brazil, notably with France and later England and Holland on the Atlantic side, and with Spain on the borders with Spanish Argentina and Paraguay. In 1549, King João III gave the colony a capital, Salvador da Bahia and nominated Tomé de Sousa as the colony's Governor-general. However, the birth of Brazil's political structure did not prevent foreign incursions, notably that of the French who occupied the Bay of Guanabara between 1555 and 1560 and the island of Maragnan from 1612 to 1614, creating colonies known as *France antarctique* and *France équinoxiale* respectively. Both times, the Portuguese succeeded in defeating the French who nevertheless are at the origin of the foundation of two of Brazil's cities, Rio de Janeiro in the Bay of Guanabara and Saint-Louis du Maragnan, today known as São Luis do Maranhão.

The Dutch managed to last out slightly longer than the French when they captured Pernambuco, Ceará and Bahia, starting in 1632, following the creation of the western version of the VOC.[3] For a couple of decades, the whole of the *Nordeste* came under Dutch control who tried to gain support from the local population by allowing freedom of thought whilst they controlled over 120 *engenhos*. The Portuguese Crown did little to react against Dutch occupation and instead it was the wealthy landowners who managed to mobilise the colony against their Dutch masters and bit by bit conquer Dutch Brazil back until Recife capitulated in 1654 and the Dutch were thrown out of Brazil.

Further south, it was the foundation of Asunción by the Spanish in 1541 and their advance to the Rio de la Plata (which today separates Argentina from Uruguay) which encouraged the Portuguese to found colonies south of Rio de Janeiro. In the 1550s, the village of São Paulo was founded in 1554 by Portuguese Jesuits, although the south of the colony remained empty of immigrants for the first two centuries of Portuguese Brazil.

It was thus the threat of competition with European colonial rivals that prompted Portugal to occupy Brazilian territory in a more permanent way than it had done in the first half of the fifteenth century. The occupation and delineation of the Portuguese Amazon during the seventeenth century was a direct response to threats both from the east (Dutch, French and English) and the west (Spain). By the turn of the seventeenth century, whilst Portugal was still struggling to keep a stronghold on Brazil, the Spanish had long conquered the Aztec and Inca empires and were threatening to move down the Amazon into Brazil, although the Union of the Spanish and Portuguese crowns in 1580 officially put an end to Iberian rivalry in South America.

Portuguese navigators had spotted the mouth of the Amazon as early as 1500, the same year that Cabral set foot on Brazilian soil. Prior to European settlement in the Amazon Basin, a few explorers ventured up and down the Solimões/Amazonas and brought back legends of El Dorado and complex Inca-like civilisations living along the river, but such claims later proved unfounded. It was from the first European to sail down the Amazon river, Francisco de Orellana, that the region's name comes from. In 1541, he left the Peruvian town of Cuzco and

[3] VOC stands for Vereenigte Oost-Indische Compagnie, the Dutch colonial company created in 1601 which dominated the country's colonies in the Indian Ocean for two centuries. Its lesser known "western version", the Dutch West Indian Company, was not as successful and did not last long once Holland had lost Brazil back to the Portuguese.

went via Quito (Ecuador) before heading down into the forest with 220 Spaniards and over 4,000 Indians in the search of the "Cinnamon Country" and El Dorado.

Orellana never found either country and lost the vast majority of his men, but brought back the legend of the Amazons, mighty women, tall and blonde, who had attacked their fleet while they sailed down the "ocean-like river" that eventually took its name from this episode of their travels. Several explorers followed Orellana's tracks (such as Ursúa and Aguirre in 1559-1560) to try to locate the legendary places of Amazonian opulence but never came across anything that satisfied them.

In the meantime, back in Europe, Dom Sebastião, king of Portugal, died in 1578 without leaving an heir to the throne which was quickly claimed by King Felipe II of Spain. After a short armed conflict, he also became King Felipe I of Portugal in 1580, uniting the Portuguese and Spanish kingdoms for the next 60 years. It was at this time that the crown neglected many of Portugal's colonies, losing much of the Northeast coast of Brazil to the Dutch, along with several possessions in the Indian Ocean. However, during the period known as the Iberian Union (*União Ibérica*), the Portuguese, fearing French, English and Dutch incursions into the Portuguese Amazon, decided to occupy the Amazon Basin more permanently.

In 1616, the Forte do Presépio was built at the mouth of the Amazonas, where Belém now lies. Due to the difficulty in maintaining communication between the Amazon and Bahia – the then capital of the Portuguese colony – King Felipe III of Spain (a.k.a. Felipe II of Portugal) decided to create the separate state of Maranhão with the former French town of São Luis as its capital and in direct contact with Lisbon. Also, in the context of the Iberian Union, efforts to explore the Amazon Basin were united and it was decided that it would be easier for explorers to set off from the Atlantic than the Andes.

Hence, Portuguese explorer Pedro Teixeira's fleet set off from the mouth of the Amazon in 1637 and arrived in Quito within a year, before setting back in the opposite direction and returning to Belém in 1639. During this trip he fixed the limit of the Portuguese empire several thousand kilometres beyond the Tordesilhas line, at the post of Tabatinga, with minimal complaints from Spain given that the countries were united under the same crown. However, a year later, the crowns were divided, yet Portugal remained with the bulk of the Amazon Basin.

Ever since the Crown's claim to the immensity of the Brazilian territory, the Portuguese were hampered by the small size of their nation, people and wealth in relation to the sheer size of their colony which was attacked on all sides, by Europeans and Indians. In a bid to make the colony more "manageable", the northern part of Brazil, called Maranhão – Grão-Pará, was separated from the rest of Brazil in 1621 and governed as a separate colony with a capital in São Luis. Governing both parts as separate entities made sense, as the route from Lisbon to Belém or São Luis was much shorter than to Salvador, and affairs of the Brazilian North could now be administered directly from Portugal rather than having to go through Bahia. However, this also meant that the colonisation of the interior of both colonies was going to follow histories distinct from one another.

1.3.3 Portuguese occupation of the Amazon

Setting the boundaries of the Portuguese empire in the Americas was by no means sufficient to secure Lisbon's hold on Brazil. In the face of constant attacks from the Atlantic by the Dutch, English and French, and because of the threat of Spanish invasion from the Andes, the Portuguese needed to invest more in the huge territory they had acquired prior to the Restoration of the Crown. At the same time, in the mid-seventeenth century, coastal Brazilians were gradually running out of indigenous workforce as the Tupinambás, among other groups, were slowly dying out due to disease, exhaustion and constant wars. The Portuguese thus had to turn elsewhere for a source of workforce, and the Amazon Basin provided just that opportunity.

For the century to come, therefore, groups of Indian hunters would scour the forests of the Amazon in the search for live Indians to bring back and enslave. It was through such activities that the first settlements were created in strategic points, peppering the region with the first signs of permanent colonial occupation. One such settlement was the fortress of the Barra do Rio Negro, erected in the 1660s, and which was to become the town of Manaus two centuries later.

In the course of the seventeenth century, the Portuguese attacked and decimated countless indigenous societies along the region's main rivers – Amazonas and Solimões of course, but also Tapajós, Madeira, Xingu and Rio Negro. Thousands of slaves were thus captured and brought to the coast to work in fields of sugarcane. Of course, the Indians resisted to such atrocities and even pre-empted the massacres by attacking Portuguese settlements themselves, which explains why many of them soon became heavily fortified.

One example of indigenous society that was submitted to such relations with the Portuguese were the Tapajós, contacted for the first time in 1626. The first contacts proved to be friendly, especially as the Tapajós successfully repelled English invaders and helped Pedro Teixeira out in his trip to Quito. However, the year Teixeira got back to Belém, the son of the governor of Pará organised an attack on Tapajós Indians who surrendered unconditionally. As Acuña wrote in his chronicles, "What could these poor people do, prisoners, disarmed, their homes rampaged, their wives and daughters oppressed, apart from submitting themselves to anything [the Portuguese] would order them to do"? (*Que poderiam fazer esses pobres, presos, desarmados, com suas casas saqueadas, suas mulheres e filhas oprimadas, senão se submeter a tudo o que deles quisessem fazer?*).

In a bid to recover their freedom, the Tapajós handed over a thousand slaves to the Portuguese, which were dispatched to the coast of Pará and Maranhão. However, from then on the Portuguese returned to capture more slaves and the Tapajós thus resorted to enslaving neighbouring Indian villages to satisfy the needs of the Portuguese. In 1661, they converted to Christianity but this did not put an end to their sufferings, and attacks went on throughout the eighteenth century. By 1820, when German scientist Karl von Martius visited the area, the Tapajós were completely extinct (Dos Santos *et al.* 2002:58-59).

Across the oceans in Asia, the seventeenth century was a period of major decline for the Portuguese empire. The Dutch, who had taken part in many of the Portuguese ventures in

Asia during the Iberian Union[4], had only just gained their independence from Spain and began competing with the Portuguese. By 1649, the strategic Portuguese settlement of Melacca on the Malay Peninsula had fallen to the Dutch and from then on, the Portuguese lost control of the lucrative spice trade with the Molucca Islands. In India, they had lost all their possessions save their fortification of Goa.

As a result, the "balance" of the Portuguese empire tilted towards the Americas as Lisbon began demanding spices from their Brazilian colony to compensate for their losses in Asia. All of a sudden, the Amazon Basin became one big larder, full of *drogas do sertão* ("drugs from the bush") that the Portuguese began exploiting. The Amazon thus shifted from a distant hinterland of geopolitical significance to an ersatz of the Asian spice trade. Those who collected the *drogas do sertão* were of course the Indians.

The products that gained immediate popularity included wild cocoa (cocoa plantations did not yet exist), forest cinnamon, cloves, salsaparilla, Brazil nuts, timber and animal products. Within a couple of decades, the economy of Grão-Pará overtook that of Maranhão which depended mainly on sugarcane, cotton and tobacco exports, and the Amazonian "spice trade" became a major source of funding for further occupying the Amazon Basin. However, fear soon grew that the mode of exploitation in the Amazon was too predatory and a series of work and environmental laws were created in an attempt to regulate Amazonian trade. Incentives were also given out to those who tried to cultivate some of the products, notably cocoa and vanilla, although in most cases such attempts failed.

In terms of rules legislating the indigenous workforce, three types of "recruitment" of Indians were allowed: (i) *descimentos* consisted in trying to convince Indians to settle in a village headed by a missionary, but given their reluctance, they were often settled by force; (ii) *resgates* ("rescues") were raids on Indian villages where Indian prisoners were supposedly held to be eaten; they would be "rescued" and enslaved by the Portuguese; and (iii) *guerras justas* ("fair wars") where Indian prisoners would be made from wars where the Indians attacked and the Portuguese retaliated.

Despite the wealth generated by the *drogas do sertão*, the inhabitants of the Amazon Basin remained extremely poor in comparison with those of the Brazilian coast. Several explanations have been provided to account for this situation: first, nobody from Brazil or Portugal was interested in investing in what was regarded as a distant and politically volatile hinterland. Secondly, the Amazon Basin did not have a monetary economy until the 1750s when coins were introduced in the region; until then, people relied on barter or exchanged their products for reels of cotton. Thirdly, in 1682, Portugal decided to create the *Companhia de Comércio do Maranhão e Grão-Pará* in a bid to stimulate the economy in the Amazon and with the promise to introduce 10,000 African slaves to boost production, but the slaves never arrived and riots against the Company's monopoly caused it to close down only three years later.

Had it been merely for Indian hunters, the constant wars with Indians would have seriously weakened Portuguese occupation of the Amazon Basin. Instead, the consolidation of the Portuguese Amazon was enabled by another key actor – the Church. During the seventeenth and eighteenth centuries, two types of colonial settlements could be found in the region: the lay villages on the one hand, which were used as bases for hunting down Indians, were

[4] During that time, Holland was a Spanish province under the Habsburg dynasty, so the Portuguese and the Dutch were both under the rule of the King of Spain.

usually described as places where violence, alcohol and prostitution were rife. On the other had, the religious missions were always built in an orderly fashion and steadily grew as Indians were converted to Christianity and settled in these villages (*aldeias*).

These missionary villages, which greatly outnumbered the lay settlements, were thus composed in a large majority by Indians who were led by a small number of clerics. Their great wealth generally relied on the production of *drogas do sertão*. However, in the course of the eighteenth century these settlements began dwindling as a result of the extinction of entire indigenous societies but also outbreaks of diseases such as one of chicken pox in 1743-1750.

The missionaries were in fact civil servants of the Portuguese Crown. Since they were mostly free from attacks by Indians, they flourished in the Amazon Basin and greatly contributed to consolidating Portuguese presence in the region. Four main religious orders competed over control of the Amazon:

(i) The Franciscans, who arrived in Belém in 1618, administered 26 Indian villages by the turn of the eighteenth century, mostly in the lower Amazonas region and the island of Marajó;

(ii) The Jesuits, who were already present in the Northeast of Brazil, arrived in Belém in 1643 and entered the Amazon Basin ten years later. Jesuits were famous for vehemently defending Indians against slavery, a political position which cost them two expulsions (1661 and 1684), as well as their ultimate expulsion from the whole of Brazil in 1759;

(iii) The Carmelites were present in the Amazon Basin since 1627 and concentrated their activities in the Solimões region when the Spanish were successfully thrown out by the Portuguese; and

(iv) The Mercedarians, of the Order of the Blessed Virgin Mary of Mercy, arrived with Pedro Teixeira from Quito in 1639 and settled mainly in the lower Rio Negro region of the Amazon.

The seventeenth and eighteenth centuries were thus a period of intense conflict between several groups – between the Portuguese on the one hand and the English, French and Dutch on the other, between the Portuguese and the Indians, and between lay and religious settlements. Most, if not all of these conflicts were determined by competition over control of the indigenous workforce and ultimately of *drogas do sertão*.

The main group to suffer was of course indigenous societies themselves, although many of them resisted. In the 1720s, the Manao Indians of the lower and middle Rio Negro became the sworn enemies of the Portuguese when not only did they bar the way to the upper Rio Negro, but were also found trading with the Dutch to the north. In 1727, a military expedition was organised and resulted in bloodshed for the Manaos who retired into the forest. However, in 1757, they organised a last insurrection when one of their polygamous leaders was forced by a priest to divorce one of his wives. The revolt was crushed as well by the Portuguese and the Manaos soon disappeared off maps, leaving nothing but their name to the capital of the future state of Amazonas.

During the reign of Dom José I (1750-1777), a range of political reforms took place led by his minister the Marquis of Pombal: (i) *resgates* were forbidden and Indians theoretically acquired the same rights as Portuguese descendants in the Amazon, officially putting an end to Indian slavery; (ii) the *Companhia Geral de Comércio do Grão-Pará e Maranhão* was created with the aim of introducing African slaves, promoting agriculture and immigration into the Amazon; (iii) when Jesuits were thrown out in 1759, their goods were redistributed among the population; and (iv) the separate state of Grão-Pará e Maranhão was created in 1751 as well as the *capitania* of São José do Rio Negro with a capital in Barcelos.

The Governor of Grão-Pará e Maranhão, Francisco Xavier de Mendonça, implemented many of these reforms but also wrote the *Diretório dos Índios*, with the aim of "civilising" the Indians by encouraging them to settle and adopt the Christian faith, whilst allowing them to enjoy the same rights as the Portuguese settlers.

However, back in Portugal, the marquis of Pombal had accumulated numerous opponents and when Dom José I died in 1777, Pombal was forced to resign. The period which followed was marked by the abolition of many of Pombal's measures and is known as the *Viradeira*, as the *Diretório dos Índios* was annulled and the status of Indians eventually went back to what it was in the first half of the century.

The late eighteenth century was also the period of early scientific explorations into the Amazon, such as that of naturalist Alexandre Rodrigues Ferreira who travelled up numerous rivers of the northern Amazon throughout the second half of the century. As for the borders of Brazil, Portugal and Spain signed the Treaty of Madrid in 1750, recognising Portuguese control of most of the Amazon thanks to the concept of *uti possidetis* – the land belongs to whoever occupies it first. Parties were sent out to delimitate the borders on the ground and acknowledge Spanish and Portuguese occupation of the Amazon, but these operations failed and the Treaty was abandoned, only to be replaced with that of Santo Ildefonso in 1777 which confirmed Brazil's existing boundaries.

1.3.4 Portuguese Occupation of the Centre-West

The penetration of the Portuguese into the interior of Espírito Santo, Rio de Janeiro and São Paulo followed distinct patterns from the Amazon and had a greater impact on the destiny of Brazil. Until the late seventeenth century, the regions beyond the coastal *serras* remained unexplored, but in 1683, the first mines of topaz and aquamarine were found in the interior, initiating a sudden wave of colonisation that was to last over a century.

The first to arrive were the *Paulistas* or inhabitants of São Paulo, who took control over the mines and incorporated them into their state. However, the Portuguese Crown was quick to react and sent *provedores* (tax collectors) as early as 1700. During the first half of the century, as new gold mines were being discovered every year, immigrants – usually single men – poured into the interior and despite the Paulistas' claim to the land, separate capitanias were created, notably Minas Gerais (General Mines) in 1720 and Goiás in 1746. This period was also marked by the arrival of immigrants into what is now known as Mato Grosso, which was soon separated from São Paulo and turned into a *capitania* in 1748.

Goldmining was carried out with rudimentary tools, even after the 1720s when large amounts of gold were located in Minas Gerais. At that time, Spanish colonies had run out of gold and only India was producing small amounts, so Brazil enjoyed a near-monopoly on gold production. The incessant discoveries of new mines fed a regular flux of migrants into the interior, creating a sharp rise in food prices, since a large proportion of the Paulista workforce had left the fields in search of a better life. Rio was also hit by the lack of labour and a famine started up, spreading to Bahia whose workforce had also been drained by the gold rush due to the Rio São Francisco which linked it with Minas Gerais.

The opening of mines also created the largest wave of emigration from Portugal that the country has ever known, causing an actual fall in the population of Portugal during the first half of the eighteenth century. Mainly as a result of the gold rush, the population of Brazil grew from a mere 300,000 in 1700 to some 1.7 million in 1776 and 2.5 to 3 million in 1808, *i.e.*, a tenfold increase in just over a century.

In particular, this gold rush enabled the southern regions of São Paulo and Rio de Janeiro to grow in size and overtake the historical heart of Brazil, the Northeast, as witnessed by the transfer of capital from Salvador to Rio in 1763. Both cities became major importers of African slaves who contributed to swelling the country's population. Bennassar & Marin (2000:105) estimate that some 1.8 million slaves were brought to Brazil in the eighteenth century alone, with Rio ranking first in slave imports. Slaves were promised freedom if they managed to lay their hands on gold. The gold rush also united the country for the first time, bringing Bahia and the Northeast ever closer to Rio and São Paulo, all connected to each other through a network of roads and rivers (notably the Rio São Francisco) that went through Minas Gerais. Even far-flung Belém started producing cotton for the new southern markets.

The Brazilian gold rush also had a major impact on the balance of European powers in the eighteenth century. Between 1700 and 1800, Brazil produced over 1,000 tonnes of gold, *i.e.*, about 80% of what had been extracted from Spanish America between 1550 and 1650. Once injected into the world economy, it acted as a stimulant for the beginning of the Industrial Revolution, especially as Portugal depended economically on Britain since the Treaty of Methuen. Signed in 1703 during the Spanish War of Succession, it enabled Portugal to benefit from English naval protection in return for which Portugal renounced to developing certain industries such as textiles. The Treaty also allowed direct British access to Brazilian ports, which meant that much of the gold produced finally went to England rather than Portugal.

1.3.5 The Road to Independence and the Nineteenth Century

In the second half of the eighteenth century, Brazil started outweighing Portugal in terms of trade between the two countries and represented 80% of bilateral trade by 1800. This only confirmed what Portugal saw as its own destiny, namely a country dominated by overseas trade, especially since the 1703 Treaty of Methuen established strong links between Britain and Portugal but also Brazil.

At the same time, Brazil in the 1700s witnessed a number of revolts and uprisings against colonial power, notably that led by Tiradentes in Minas Gerais against what he regarded as oppression by São Paulo and Rio and Portugal at large. He was finally hanged and quartered in 1792, but Republican ideas coming from revolutionary France only strengthened the

feeling of resentment against a colonial power that Brazil now dwarfed, both in terms of demography and economic power.

Portugal was all too aware of this unbalance and by the time Napoleon was threatening the country with invasion if the Crown did not cooperate, João, Prince Regent, decided to move with all his court to Rio de Janeiro in 1808 under the protection of the British Navy. In an unprecedented move, therefore, Rio was established as the first capital outside Europe of a European colonial empire. This moved was welcomed by Brazilians who saw trade with Britain flourish as British ships did not have to go through Lisbon to access Brazilian goods any more.

However, back in Portugal where trade with Britain had been curtailed, the mood was very different. After the end of French occupation, the country was threatened by a "liberal revolution" and the nobility called for the immediate return of the Prince Regent turned King João VI. The King accepted to go back to Portugal and leave his son Pedro in charge of the Brazilian colony, but when he too was called back, he proclaimed the famous "Fico": "I'm staying". It was a bloodless coup: the Portuguese empire split right down the middle of the royal family, and while the father remained king of Portugal, the son became Dom Pedro, Emperor of Brazil. By 1823, less than a year after the proclamation of independence by Brazil, the country's army forced Grão-Pará, which had remained a separate colony, to join the rest of Brazil as a newly independent nation.

In 1824, the emperor got a charter signed giving him all but full powers, with the ability to nominate ministers and dissolve the national assembly. However, the 1820s, 1830s and 1840s were mired by a number of revolts such as the *Cabanagem* in the north of the country and especially Pará. In 1835, following measures that they had regarded as oppressive, the non-white majority of Grão-Pará revolted against the white elite and forced them off onto Portuguese and British ships. Blaming the Government in Rio de Janeiro as well for the poverty they lived in, they even proclaimed an independent state of Pará but after five years of fighting – and infighting – they were finally defeated by Dom Pedro I's army with the help of the British. In Manaus, the Cabanagem was initially successful as it rallied support from the Chamber of Deputies which decided on proclaiming autonomy for the second time, but national guards eventually re-established the status quo – not without meeting fierce resistance from remaining *cabanos*.

In 1848, Dom Pedro was replaced with his son, Dom Pedro II who retained much of his father authoritarianism and kept suffrage limited to men over 25 and with a certain amount of income, limiting the electorate to a mere 0.8% of the population. However, he remained strongly influenced by the Council of State, a chamber of men nominated for 40 years who advised the Emperor on politics.

Throughout the century, the Brazilian economy was dominated by Britain who maintained a stronghold on much of the country's markets. Following British support for Brazilian independence, Britain had managed to secure a preferential import tax rate of 15% instead of 24% for other countries, which enabled it to levy Brazilian politics in accordance with its interests when needed. It played an instrumental role, for instance, in the abolition of the slave trade in 1850 (although not of slavery *per se*).

This measure was of great concern to Brazil whose government decided to turn to European immigration as a source of labour. However, in order to encourage European immigrants,

Brazil had to have land to hand out, but in the Northeast, it had all belonged to a small number of *latifúndios* since the sixteenth century. The Emperor thus promulgated the Land Law (*Lei das Terras*) only days after the abolition of the slave trade, enabling land to be purchased for the first time – which would both encourage white immigrants and discourage freed slaves from acquiring land as most of them remained in dire poverty.

Many slaves acquired freedom on the battlefield in the war against Paraguay[5] but neither that nor the law of 1850 prevented the abolitionist movement from gaining ground. By the early 1880s, even the emperor's grandchildren had rallied the cause and after much conflict both in the street and in Parliament, slavery was abolished for once and for all in 1888, with the northern states taking the lead. The abolition of slavery also caused the downfall of the Empire as the Emperor lost the support of the country's economic elite who had supported slavery. In 1889, an insurrection got rid of Dom Pedro II and marked the foundation of the Republic.

The late nineteenth century was also marked by the sharp increase in the much awaited European immigration. Most immigrants headed to the provinces/states of Rio de Janeiro and São Paulo where the coffee plantations were in dire need of labour after the end of the slave trade. They also settled in the three southern states – Paraná, Santa Catarina and Rio Grande do Sul, where land was still available. Most immigrants came from a small number of countries, notably Italy and Germany, and settled in large colonies whose planning resulted from immigration and land companies. Immigrants also came from Spain, Portugal, Poland and Russia, and in the early twentieth century from Japan.

This wave of immigration had two main effects. First, it swamped the southern half of the country with a white population, many of whom had become small landowners. This population formed the base of the new powerful states of the south which got wealthier as the populations settled further and further west, clearing the forest and introducing cattle and agriculture. Secondly, it boosted the production of coffee which by the end of the nineteenth century ranked first among Brazilian exports.

1.3.6 The Rubber Boom

In the meantime, the Amazon Basin was subject to an economic boom and an immigration of a different kind, namely the influx of Nordestinos who hoisted the production of rubber to rank only second in Brazilian exports after coffee.

Throughout the first two thirds of the nineteenth century, the Amazon had been unable to develop a viable economy and continued depending heavily on the rest of the country. Extractivist activities (*i.e.*, extracting products from the forest rather than growing them) maintained a high level, however. The economy of Amazonas relied principally on products such as salted freshwater fish, butter made from freshwater turtle eggs, manatee and other types of bushmeat.

[5] The disastrous war of Paraguay (1865-1870) was based on territorial claims that Paraguay had on Brazilian lands in Mato Grosso, which is why it declared war against the triple Alliance of Brazil, Argentina and Uruguay (which all had British support). The Paraguayan army was rapidly overwhelmed by the Allied forces but once defeated, Brazil continued invading Paraguay, leading to a bloodbath much criticised at the time.

One of the vegetal products extracted was rubber which was collected by bleeding or cutting rubber trees (*Hevea brasiliensis*), found growing wild in Amazonian forests. The elastic quality of rubber had long been known to indigenous societies such as the Omáguas of the Central Solimões region, but its international fame was ensured by French explorer Charles-Marie de la Condamine in the 1740s. However, it was only when Charles Goodyear invented the process of vulcanisation, whereby rubber was heated so as to retain its original elasticity without breaking, that the potential applications of this product really came to light. Within a decade of its creation, the province of Amazonas was exporting more rubber than any other product (see Figure II).

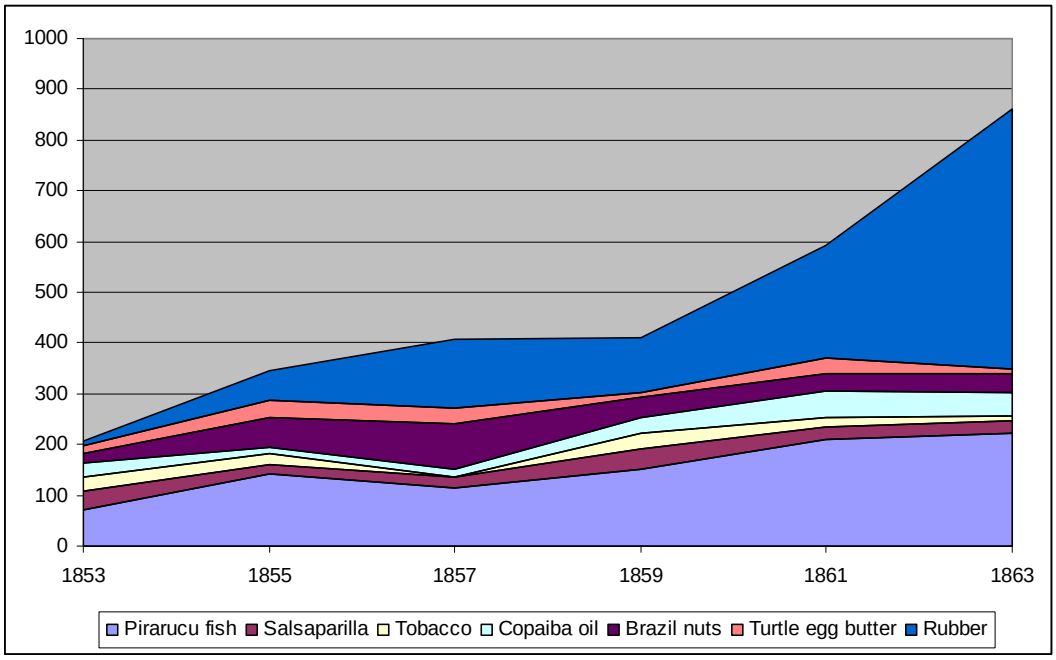

Figure II. — Main products exported from the province of Amazonas (in *contas*) between 1853 and 1863 (after data provided by Dos Santos *et al*. 2002:165).

From the 1820s, Brazil began exporting rubber. In 1845, R.W. Thomson patented the "rubber belt" (a circular inflatable tube) for stagecoaches in Britain, and in 1888 John Boyd Dunlop applied the same system to bicycles in Belfast. Whilst the adoption of the rubber belt was slow at first, it was eventually the success of the bicycle – and of the motorised car at the turn of the twentieth century – that really accounted for the massive boom in rubber consumption in Europe and North America. Much of the product was destined to a small number of companies, notably: B.F. Goodrich, Co., United States Rubber, and Firestone Tire and Rubber Co. in the United States; Dunlop Rubber Co. Ltd. in Britain; and Società Italiana Pirelli in Italy.

Of course, the sharp rise in international demand for rubber was reflected in profound social and economic changes in the makeup of the Brazilian Amazon, and especially the Province of Amazonas (State of Amazonas after the abolition of the Empire in 1889). Between 1850 and 1889, the population of Amazonas rose from 30,000 to 148,000, mostly due to immigration from Pará and Northeast Brazil. However, the Portuguese also formed a non-negligible percentage of immigrants into Amazonas, followed by the Spanish, German, Italian, Syrian and Lebanese immigrants. Migrants started arriving as early as the 1850s but peaks were

reached in the periods 1877-1879 and 1888-1889 due to famines which ravaged the provinces of the Northeast.

Until then, the vast majority of Amazonenses were of indigenous descent, but the sudden influx of Northeasterners suddenly modified the cultural makeup of Amazonas. The Portuguese language quickly replaced Nheengatú (an indigenous *lingua franca*) which was still widely spoken in the 1850s, and the foundations were laid for today's society of Amazonas.

In the early stages of rubber extraction, rubber trees were either cut down completely or scarred so deeply that they often died. It was only with time that it was learned that superficial scarification of the tree trunk was sufficient to ensure extraction of the precious milk. As a result, the highest densities of rubber trees were found in areas as yet unexplored by Brazilians, notably the southwest corner of the Brazilian Amazon – the basins of the rivers Madeira, Purus and Juruá, south of the Solimões/Amazonas. It was this region that was most affected by the rubber boom of the late nineteenth century. For decades, boats sailed up these rivers and dropped off immigrant workers by the hundreds. The lifestyle of the seringueiro and the system of aviamento is described in the section on Acre.

The forests of the Amazon were not the only places to undergo significant changes during this period. Towns sprouted up in places where rubber was extracted and Manaus consolidated its hold as the centre of all trade routes of the western Amazon. As Manaus welcomed an increasing white community that benefited from the rubber trade, the capital of Amazonas turned from a provincial and mostly indigenous town into a large, modernised Western city. Between 1850 and 1880, roads were paved, metal and stone bridges replaced wooden ones, sewers were built, streets were equipped with lighting and large public buildings were erected. Dos Santos *et al.* (2002:169) claim that it was during this period that Manaus finally "got out of Belém's shadow".

However, as the rubber trade increased, so did competition between Belém and Manaus which inevitably attracted more investment, banks, public infrastructure and consulates than Manaus as it lay nearer to the rest of the world. In order to overcome its geographical handicap, the Amazonense government decided to lower taxes on rubber exports by 5% as well as subsidise transport from Manaus to New York and Liverpool. Despite complaints by the Government of Pará to Emperor Dom Pedro II, these measures had the desired effects and attracted many large companies involved in rubber trade to Amazonas. Another significant innovation was the arrival of steamboats in the 1850s which shortened a return trip between Belém and Manaus from a staggering five months to just 22 days. The American company *Amazon Steam Navigation* quickly overtook its competitors and ruled over many of the province's waterways for several decades.

As international demand for rubber steadily increased over the years, Manaus and Belém turned into the "capitals of rubber" as their economic elites enjoyed lavish lifestyles, known as the "rubber delirium". By the late 1890s, Manaus was equipped with the country's first electric tram; it also had electric lighting throughout the city, gas, and an innovative floating port built by the British who had also imported the new customs house from London in prefabricated chunks. During this *Belle Époque* period, the wealthier inhabitants learned about British engineering whilst indulging in French culture.

Public libraries, markets and theatres were built, modelled on Parisian monuments such as *Les Halles* and *Opéra Garnier*. The Teatro Amazonas (built 1891 to 1896), which was described as "an opera in the jungle", came to symbolise this period as its interior was decorated by leading French artists and with marble imported from Italy. Large department stores called "Au bon marché", "La Ville de Paris" and "Parc Royal" sprouted around the city as the upper classes wore the latest French clothing fashions in spite of the heat of the Amazonian sun. Private *Art nouveau* mansions began lining the streets of the city centre. As Dos Santos *et al.* (2002 :213) put it, "Manaus was without doubt politically linked to Rio de Janeiro, depended commercially on London and culturally on Paris".

However, the insolent lavishness which the larger Amazonian cities bathed in was short-lived and the seeds of the rubber bust sown as soon as the boom had started. In 1876, Henry Wickham smuggled rubber tree seeds to Kew Gardens in London and by the late 1890s, the first plantations appeared in British India and Malaya, followed by the Dutch East Indies, French Indochina and Siam.

Decision-makers only anticipated the economic catastrophe it was facing a couple of years in advance. In 1910, a "Commercial, Industrial and Agricultural Congress" was held where it was decided that the only way to face Asian competition was to invest in rubber tree plantations. A couple of years later, the Brazilian Government – under pressure from those of Pará and Amazonas – launched a "Defence Plan for Rubber", reducing taxes and encouraging rubber production. However, by then it was too late and in 1913, Asian rubber production overtook that of Brazil for the first time (see Figure III), just as rubber prices reached an all-time high. From then on, as prices fell, Brazilian production began waning.

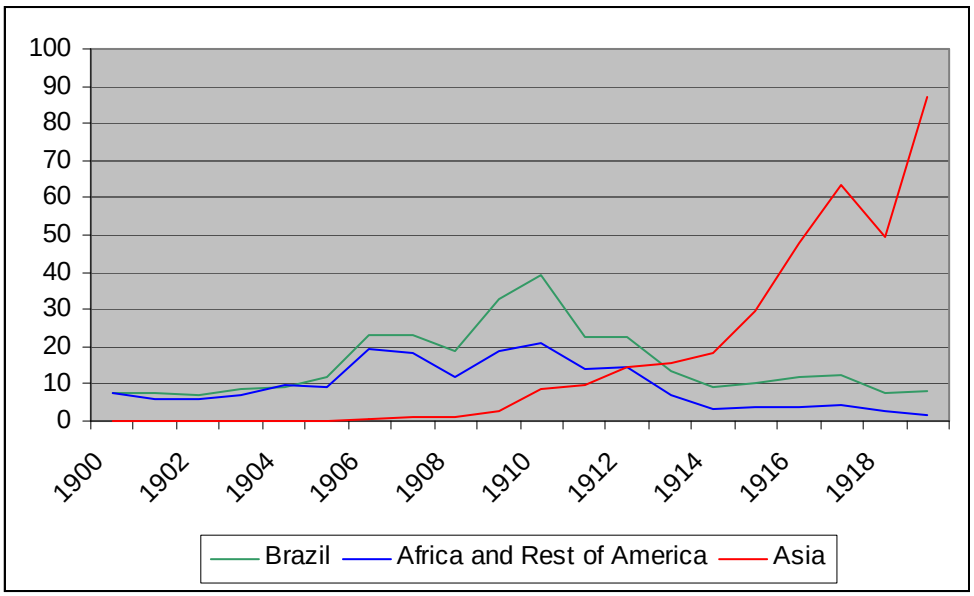

Figure III. — Revenue from rubber production by region in millions of pounds Sterling, based on production per region and international rubber prices between 1900 and 1919 (after Dos Santos *et al.* 2002:201).

Asian production was not only cheaper in terms of collecting and transporting rubber, but the quality was also better. As Asian production increased, foreign investments were suddenly pulled out of Brazil, and within a decade all that was left of the past glory of the Amazon was

rows of slowly decaying mansions. After decades of population increase both in Amazonas and Pará, the 1920s were marked by significant rural emigration and the growth of Manaus' and Belém's first slums or *favelas*.

The rubber boom also saw the birth of a new state, that of Acre, some two decades after the first Brazilian *seringueiros* – in their rush to access the forests rich in rubber trees – poured over the border into parts of northern Bolivia and eastern Peru. After several years of conflicts with the Bolivian army, Bolivia agreed to hand over part of its territory to Brazil in the 1903 Treaty of Petropolis; a separate treaty was signed with Peru in 1908 acknowledging Brazilian sovereignty over what is now western Acre. The creation of Acre is described in greater detail in the section devoted to that state.

The rubber boom period was also one of both intense scientific discovery and of increasing foreign interest in internationalising the Amazon. While an increasing number of European and North American scientists ventured into the Amazon with the help of improved local infrastructure and the invention of the steamboat, debates in the United States gradually turned towards the idea of internationalising the Amazon. As the director of the US Water Services, Matthew Maury was a main proponent of this policy which involved opening up the Amazon Basin to foreign interests and investments and getting rid of Brazilian taxes and customs duties in the region. He often compared the Amazon Basin and the Mississippi, claiming that the United States and Brazil, as sister countries each with their vast river basin, should share the goods they are home to.

Other Americans saw the internationalisation of the Amazon as an opportunity to open up a huge market for goods manufactured in the Eastern United States that would extend deep into the continent and link the North American East Coast with the Amazon but also the Andes – notably Bolivia, Peru and Ecuador. Fortunately for Dom Pedro II, the demand to internationalise the Amazon died down once the Panama Canal was opened and access to the whole of South America to the East Coast was made easy.

1.3.7 Republics and Dictatorships of the Early 20th Century

The rubber boom spanned two different political systems in Brazil. When it began, Dom Pedro II was still at the head of an empire whose economic system was based on slavery and which was divided into a number of provinces. However, by the time the boom reached its apex in the early 1900s, Brazil had already switched to a Republic with an elected president, although the level of democracy remained just as rudimentary as it had been during the empire.

Brazil thus entered the twentieth century as a republic ruled by the landed oligarchies. The declaration of the Republic in 1889 was more of a fluke than a planned change in regime, for the main instigator of the coup, Deodoro, had only intended on replacing the cabinet, but the republicans managed to seize the opportunity and declare a republic. All of the country's institutions were dissolved save the army, which began gaining power as the only long-standing national institution. The makeup of what is now known as the "Old Republic" reflected the power that the army now wielded as the military was more present in its ranks than it ever had been in Brazilian politics.

As Brazil's provinces turned to states, power was devolved and a federal system established. Despite its name, the Old Republic was no more of a democracy than the empire had been. By 1910, only 627,000 out of 22 million Brazilians could vote and in the 1920s, only 2.3 to 3.4% of the population had the right to vote. The political apparatus of the country rested on a system called *coronelismo* whereby the local landed oligarchy supported state governors who selected the president through elections.

Moreover, the balance of power between the states remained highly unequal, with the presidency oscillating between São Paulo and Minas Gerais whose economies were mainly based on coffee and beef respectively, hence the nickname of the Old Republic, *café com leite* (coffee with milk). Moreover, especially after the Amazon had lost the near-monopoly of rubber production to Southeast Asia, power resided in the Southeast which controlled coffee production which, along with Rio Grande do Sul, were home to 60% of the country's crops, 75% of its industry and 80% of its banking resources.

Brazilian economy was based on providing a small number of primary products to the industrialised world, namely rubber (until the 1910s), coffee, sugar and cotton, which meant that the income that these cash crops produced upheld the already existing economic elite. The country's dependence on imports for manufactured products kept it at bay from the industrialisation that Western Europe and North America had benefited from and prevented a middle class from emerging.

The First World War partly upset the Old Republic's political and economic balance by cutting Britain off from Brazil and stopping the import of manufactured goods. Instead, goods started being produced in Southeast Brazil, allowing a small middle class to emerge and begin challenging the established oligarchy which at the same time suffered from the fall in coffee demand. The coffee crisis continued throughout the 1920s, further weakening the country's elite and thus the political system.

In the meantime, as increased demand for protectionism fell on deaf ears, the prosperity that had spread among classes other than that of the *coronéis* (colonels) encouraged the development of trade unionism and communism with the creation of the Brazilian Communist Party in 1922. Revolts marked the 1920s and the worldwide economic depression set about by the Wall Street Crash in 1929 precipitated the downfall of coronelismo, enabling Getúlio Vargas to be elected as president in 1930.

Although this president, originally from Rio Grande do Sul, was brought to power by the bourgeoisie, he tried to conciliate demands both from the industrial bourgeoisie and the landed elite whose interests strongly diverged. In order to satisfy the former, Vargas introduced social reforms including a social welfare programme that bore strong resemblances with Franklin Roosevelt's New Deal. Throughout the depression of the 1930s, he also used interventionist policies and used tax breaks and lowered duties to encourage the expansion of the country's industrial base whilst wrapping his policies up in a strong nationalist and populist discourse.

However, Vargas also managed to rally support from the landed elite. In return for support from owners of the sugar estates of the Northeast in his election, he got the state to crush several peasant revolts in the region, collectively known as the *cangaço*, which put an end to the gradual decline of the sugar-based elite that had started in the 1870s. By the beginning of his second term in office, Vargas felt increasingly threatened by the rise in power of the

Communist party that had succeeded in rallying much of the lower classes who had initially supported him as "the father of the poor". By opposing himself to the communists, he also gained much sympathy from the landed elite, and in 1934 he equipped the country with a new constitution strongly inspired by European fascist regimes. Basing his arguments on the example of the *cangaços*, he focused his anti-communist rhetoric on the threat that communism was supposed to pose to the unity and order of Brazil.

In the search for an ideology between right and left, Vargas adopted "Integralism" which filled the ideological void that his presidency had been characterised by so far. After having cracked down on Prestes' *Aliança Nacional Libertadora* (which rallied Brazilian communists and sympathisers), he borrowed much of Nazi and Italian fascist symbolism, introducing the Roman salute and green-shirt paramilitary organisations.

Like fascist countries back in Europe, Vargas used fears over Communism to justify his dictatorship. Just before he had to hand over power in 1937 after two terms in office, the "Cohen Plan" was launched, which, Vargas claimed, was supposed to counter a Communist revolution. Shortly after that, he stated plans to assume dictatorial powers, putting an end to elections and dissolving congress. The period of the Vargas dictatorship was known as the *Estado Novo*, named after Salazar's regime back in Portugal at the time.

Brazil's *Estado Novo* witnessed a boom in industrialisation. The government announced a five-year plan to expand heavy industry, create new sources of hydroelectric power and expand the railway network. Much of this remained concentrated in the state of São Paulo which was home to 60% of the country's electricity consumption. Whilst cement production increased from 87,000 tonnes in 1930 to 700,000 in 1940, iron and steel output shot up from 90,000 tonnes in 1929 to 150,000 ten years later.

Faced with the outbreak of the Second World War, Vargas retained a highly ambiguous position until 1942 when he finally got Brazil to side with the US and Britain, and he dispatched the Brazilian Expeditionary Force to help with the invasion of Italy by the Allies the following year. The decision had not been obvious for Brazil was torn between (i) those who sympathised with Italy's fascist and Germany's Nazi regimes either because of common cultural origins or ideology, and (ii) those who argued in favour of the Allies who remained the country's main economic partners. Eventually, pragmatism dominated and Brazil sided with those who looked most likely to win the war.

1.3.8 The Second Republic

By the end of the war, however, with both the Italian and German *Estado Novo* models in tatters, Vargas found himself forced to liberalise his regime. Seizing this opportunity, Minister of War Pedro Aurelio de Gois Monteiro and Eurico Gaspar Dutra overthrew *Estado Novo* prematurely through a military coup and imposed democratic elections which brought Dutra to power from 1946 to 1951 and forced Vargas into temporary retirement.

Vargas did not stay away from power for very long. By 1950, he was running for presidency at the head of the Brazilian Labour Party (*Partido Trabalhista Brasileiro*) and the following year, he was ushered in for a five-year term. However, by 1954, Vargas was faced with strong criticism from the military and when his own bodyguards were accused of assassinating an

opposition newspaper journalist (in a crime known as *Rua Toneleiros*), his presidency was threatened. In a move that shocked the nation, Vargas shot himself, leaving a note in which he accused all his opponents of having driven him to commit suicide.

Despite having come to such an abrupt end, the Vargas era not only left a permanent mark on the Brazilian Amazon but also announced most of the policies that were to come. In 1937, Vargas delivered his speech on the crucial importance of Amazonia to the development of Brazil, known as the *Marcha Para o Oeste* ("Conquest of the West"), in which he emphasised the need to take advantage of the natural resources that the Amazon had to offer.[6] As a means of carrying this out, colonisation of the interior of the country was essential. It was during this period that Mato Grosso witnessed its first colonisation schemes, whereby *gaúchos* from southern Brazil settled all over the state *en masse*, although particularly in the southern part which was later to become Mato Grosso do Sul.

The following decade saw altogether different processes at work. The Western powers which were at war in the 1940s kick-started rubber production again as colonial Asia was under Japanese occupation and the Allies were in strong demand for an alternative source of rubber. The 1942 Washington Agreements between the United States and Brazil provided the latter with a guaranteed market for rubber until at least 1947, and Brazilian President Getúlio Vargas launched the *Batalha da Borracha* whereby between 100,000 and 150,000 Northeasterners were sent to Amazonas to collect rubber as war effort, with guaranteed wages this time.

Some institutional innovations also took place during the years of war. First, the Bank for Rubber Credit (*Banco de Crédito da Borracha*) was set up in 1942 to provide incentives for rubber production – it was renamed *Banco de Crédito da Amazônia S.A.* in 1950 and later turned into the *Banco da Amazônia* (BASA) in a different political context. Secondly, in a bid to "consolidate" Brazil's borders in times of war and ensure the presence of federal powers in the country's hinterlands, the Vargas government created three new federal territories modelled on that of Acre: Guaporé (today the state of Rondônia), Rio Branco (today the state of Roraima) and Amapá (today the state of Amapá). The first was carved out of the northwest of Mato Grosso, the second out of northern Amazonas and the third out of northeastern Pará.

The *Batalha da Borracha* came to all too soon an end for Brazil and by the early 1950s, The Amazon had resumed its slow process of economic decay. In an attempt to overcome the economic difficulties faced by the Brazilian Amazon, the Federal government created a Plan to increase the economic value of the Amazon (*Plano de valorização da Amazônia*) in 1953, which legally bound Rio to spend no less than 3% of its budget on "development" in the Amazon.

This law of the same name also defined the Plano de valorização da Amazônia as a national effort to occupy the Amazonian territory and anchor it to the rest of Brazil; it created the concept of Legal Amazonia as a territory covering some nine states; and finally, it saw the creation of the *Superintendência de Valorização da Amazônia*, better known as SPVEA,

[6] "Amazônia […] é terra do futuro, o vale da promissão na vida do Brasil de Amanhã. A marcha para o Oeste vai integrar a região no campo econômico da nação, como fator de prosperidade e energia criadora" ("The Amazon is the land of future, the valley of promise of life for tomorrow's Brazil. The Conquest of the West will integrate the region into the nation's economic heartland, as a factor of prosperity and creative energy"). Extract from Vargas' *Marcha para o Oeste* speech, 1937.

responsible for the implementation of the Plan. The basis was thus laid for the looming era of "development planning" of the 1960s, 1970s and 1980s.

President Juscelino Kubitschek (1956-1961) was elected on the slogan "50 years' development in five". Basing himself on a "developmentalist" rhetoric inspired by Vargas, he implemented an old plan that none of his predecessors had had the courage to carry out – the construction of a new capital. In four years, and although much of the city was unfinished, Brasília was unveiled to the world as a technological and architectural marvel. The city, shaped like an airplane, built by one of the world's leading architects (Oscar Niemeyer) and based on egalitarian values (there was to be no difference in the size of people's lodgings), rose out of the dusty plateau of central Brazil in a record number of years. It was supposed to reflect the modernity of Brazil to the rest of the world, but civil servants only accepted to move away from the *cidade maravilhosa* (Rio) when offered salaries two to three times as high.

The change of capital also brought about the construction of the country's first long-distance highways. Brasília was rapidly connected to São Paulo and Rio de Janeiro by road, despite distances exceeding 1,000 km, but the more ambitious connection was with Belém. For the first time, a highway was cut through the Amazon rainforest, linking the North to the rest of the country by other means than air or sea. The construction of the Belém-Brasília highway was darkened by the death of one of its main engineers in obscure circumstances, but the official story ironically attributed his death to a falling tree.

Kubitschek was followed by President Jânio Quadros (1961) who resigned only months after being elected, and who is best remembered for having banned bikinis on the beaches of Rio de Janeiro. The last democratically elected president was João Goulart, vice-president of Quadros and fiercely criticised by the military for his open sympathies with the Communist Party and workers' movements. As described in the section on agrarian reform below, the upper classes' fear of the *Ligas camponesas* (supported by the President) probably played a large role in branding Goulart as a threat to the status quo and accelerated the decision by the military to overthrow the President in March 1964.

1.3.9 The Military Regime

Unlike the military's previous interventions in Brazilian politics, after João Goulart was ousted and forced into exile, the army refused to yield power back to civilian politicians. Instead, the army chief of staff, Castelo Branco, was made president. It is unclear to what extent the United States contributed to the 1964 military coup; however, it undoubtedly provided logistical support by stationing US navy ships off the Brazilian coast in case of difficulties during the coup, and was the first country to recognise the new regime, welcoming it as a "democratic force".

Castelo Branco's time in office – and the rest of the military regime for that matter – was characterised by two antagonistic forces within the army: on the one hand, many generals believed that the army's role in governing the country should remain minimal and most of the power handed over to politicians. On the other, a group of so-called "hard-liners" argued that the army should take full control of the country's politics to reinforce nationale security and wipe out the threat of communism. Castelo Branco favoured the latter force as he granted

more powers to the president – a position controlled by the army – thus laying the basis for the authoritarian regime to come.

Castelo Branco's successors, Artur da Costa e Silva (1967-1969) and Emílio Garratazú Médici (1969-1974) are known for their authoritarian stance on opposition whose leaders, many claim, were either arrested or simply "disappeared" – although the extent of such practices remain debated. The 1964-1974 decade also saw the bulk of the changes in Amazonian policy which characterised the military regime's role in the region: revision of the Forestry Code (1965), large public and private settlement schemes, construction of long-distance highways and creation of industrial poles (early 1970s). All these measures are described below in the relevant sections.

The late 1960s and early 1970s were also characterised by an economic boom which saw spurts in GDP growth of up to 12% per annum. This economic euphoria was watered down after the 1973 world oil shock, although the effects of this event were attenuated by the government's decision to borrow massively over the following years.

The retired general Ernesto Geisel, who succeeded Médici as president (1974-1979), brought about an area of *distensão* as he declared a period of "maximum development possible with a minimum of indispensable security". In foreign policy, Geisel's period in office was marked by a clear shift away from Brazil's almost exclusive alliance with the United States, which culminated in the end of the bilateral military alliance in 1977. Instead, it shifted towards a broadening of ties with Western Europe, Portugal's newly independent former colonies of Angola and Mozambique, and with the Arab Middle East which played a vital role in providing much of the country's needs in energy.

Geisel's successor João Figueiredo (1979-1985) opted for a policy of "opening" (*abertura*), especially in the face of growing opposition to the military regime. From his beginnings in office he stated his will to bring democracy to the country and when terrorist bombs went off in the early 1980s, suspected to be planted by military "hardliners" themselves, public opinion shifted even more in favour of democratisation. The early 1980s was marred by economic stagnation and inflation, as well as growing protests from urban and rural workers.

Despite a number of measures to move towards democracy, such as the reintroduction of a multiparty system in 1980, tensions grew as strikes became commonplace in São Paulo, the industrial heartland of the country. It was also during this period that several social movements gradually developed (the landless and rural workers' movement, seringueiro movement in Acre, indigenist movement in the Amazon), all with the help of the Catholic Church (see sections on Agrarian reform, indigenist policies and Acre mainly).

By 1984, thousands of Brazilians were demonstrating in favour of democratic elections under the slogan "Direct Elections Now" (*Diretas Já!*), but instead, Congress opted for the choice of a successor to Figueiredo to be made by an electoral college. The college eventually elected Tancredo Neves (who had been prime minister during the democractic regime of the 1950s) as the country's first civilian president since the 1960s. However, Neves collapsed the evening before his inauguration and he was replaced with José Sarney, long time supporter of the military regime, who was to ensure the peaceful transition to democracy from 1985 to 1990.

1.3.10 The "Nova República"

The latter half of the 1980s was marked both by profound economic problems yet a sense of euphoria of return to democracy. Throughout Sarney's presidency, high inflation and economic stagnation remained, despite three changes of currency (cruzeiro, cruzado and cruzado novo). By the late 1980s, inflation reached double figures *per month*, which owed the party in power defeat in the 1989 elections in favour of Fernando Collor.

Despite the bleak economic situation, the period 1985-1988 witnessed a proliferation of debates on social and environmental issues and a sharp increase in the media (newpapers, radios and television channels). These debates ultimately led to the 1988 Constitution which to this day is viewed as a fundamental piece of legislation for Brazilian democracy as it underlies the country's citizens' basic democratic rights.

The Constitution also had a great impact on the environmental and indigenist debates which are discussed in the relevant sections. In terms of forest policy, the late 1980s saw a exponential growth in the environmental debate which laid the bases for much of the policies of the 1990s and their subsequent consolidation. In response to both domestic and international pressure concerning the Amazon, both Sarney and Collor undertook a series of measures to develop the country's environmental policy which until then had been dwarfed by issues other than conservation. This trend culminated in the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992.

President Collor only remained in power for two years (1990-1992), partly because he never managed to secure a strong base in Congress. His government's policies mainly focused on restoring economic growth, which he attempted to do by implementing a Plan to which he gave his name, which saw the currency change back to the cruzeiro. However, after only six months inflation picked up again and his credibility fell further when he was involved in a major corruption scandal and was impeached and forced to resign. Collor's vice-president Itamar Franco took over power until 1994 and succeeded in turning the economy round again, thanks to his Economy Minister Henrique Cardoso, who introduced the Real Plan (*Plano Real*) which include yet another change of currency (from the cruzeiro to the real).

Cardoso's success as Minister helped him get elected as President in 1994, following which he undertook an ambitious range of measures liberalising the Brazilian economy. As inflation and currency devaluation fell, a large number of companies were also privatised under the auspices of IMF-inspired plans of economic austerity. At the same time, Cardoso sought to rally the country's social movements (notably that of the landless) by speeding up the agrarian reform process and increasing the distribution of plots. His popularity got him reelected in 1998 to serve a second term in office until 2002.

After having stood at every election since the 1980s, Luis Inácio Lula da Silva, candidate of the Workers' Party (*Partido trabalhista* or PT) was elected as the first left-wing president of Brazil. His election brought both euphoria from the social and environmental movements who were only too aware of the close ties he enjoyed with them, and fear on behalf of the upper classes afraid of what the future had in store for them. However, unlike his Venezuelan counterpart Chavez, Lula mainly pursued his predecessor's economic policies and maintained strong ties with the IMF, which in turn disappointed the more radical fringes of the social

movement who had hoped for fundamental changes in the unequal distribution of resources in their country.

Lula's policies helped maintain a highly favourable economic situation throughout his first term in office and the devaluation of the real strongly encouraged the growth of exports, notably in the agricultural sector. As a result, Brazil suddenly flooded international markets with cheap products which both led analysts to predict a new economic boom for the country, and led to the expansion of fields (notably soy) in states such as Mato Grosso. In international affairs, the government assumed a more confident stance, spearheading the G20 in their opposition to developed countries over WTO negotiations.

At the time of writing, Lula had just been reelected for a second term in office despite allegations of corruption among his party. As the economic boom has slowed somewhat, the future popularity of the president remains uncertain, just like that of the country's forest policies given Lula's recent declarations that priority must be given to developing the Amazon rather than protecting it – which led to Environment Minister Marina Silva's resignation.

1.4 FEDERAL FOREST-RELATED POLICIES

Given the definition of forest policies used in this research, one may break this section down into a number of different policies relative to specific sectors, notably (i) environmental conservation policies, (ii) timber production policies, (iii) indigenist policies, (iv) agricultural policies, (v) agrarian reform policies, (vi) infrastructural policies, (vii) military policies, (viii) foreign policies and (ix) the impact of research.

Unlike other countries which also form part of this research (notably Cameroon and Indonesia), forest policies as they are defined here are not dominated by timber production and nature conservation policies. In this sense, Brazil is a rather unusual case in that policies applied to other sectors – notably agricultural, agrarian and infrastructural policies – have often been said to actually have a greater impact on forests and the Amazon Basin than forest policies *stricto sensu* (timber production and conservation).

For a long period of time, policy documents and sources for the Amazon Basin were characterised by the invisibility of forests, which may seem an aberration to Western readers to whom the Amazon is almost a synonym, or at least the archetype, of tropical rainforests. However, until the 1980s, despite a few isolated examples of timber production and conservation policies, forests were by and large *not* on the political agenda for the Amazon Basin.

Instead, the region was viewed as a potential source for (i) the development of agriculture as a source of revenue and (ii) a solution for the country's centuries-long agrarian problem, hence the importance given to both these policies and to infrastructure as a *sine qua non* condition for regional development. It was only with the emergence of environmental and social movements (notably *seringueiro* and indigenous movements) that forests actually appeared on

the political agenda in the late 1980s and policies officially geared towards managing them were set up.

1.4.1 Environmental Conservation Policies

1.4.1.1 Origins

Pádua (1996:13) argues that contrary to common belief, environmentalism did not appear in Europe and North America to spread to the rest of the world. Instead, he claims, each country developed its own "indigenous" strand of environmentalism, including Brazil, which means that this political movement was not formed by outside influences but witnessed an endogenous development. Unlike other parts of the world where ideas about conservation were developing, such as in colonial India and Africa, the Brazilian idea that the environment had to be protected arose from a reaction to colonialism. According to Pádua, the birth of the conservation movement was due to the excessive use of natural resources that Portugal had imposed on Brazil.

Throughout the nineteenth century, famous politicians made numerous speeches about the need to protect the country's forests, such as José Bonifácio, Euclides da Cunha and Alberto Torres, but the country witnessed no major change in environmental legislation. During the first half of the twentieth century, an urban movement grew in size, claiming the creation of large protected areas, as illustrated by the foundation of a number of organisations such as the Society of Friends of Trees (*Sociedade de Amigos de Árvores*) in the 1930s. In 1937, the country's first national park was created in Itatiaia, on the border between Rio de Janeiro and Minas Gerais. The 1930s also marked a major step in terms of forest legislation, especially with the 1934 Foundation of the Federal Forest Council and the establishment of the first Forst Code (see section on timber production policies).

1.4.1.2 Conservation Policies during the Military Regime

The military regime (1964-1985) is often regarded as a particularly stale period in terms of conservation policies, especially given the regime's dismal record in deforestation in the Amazon Basin. However, during this time, major changes were made both in terms of controlling forest use and the establishment of conservation units. A new Forest Code was promulgated in 1965 (Law 4771/65) which remains valid to this day and throws the bases for forest management rules and restrictions on the use and clearance of forests. Its two main legacies are (i) the obligation to produce timber within forest management plans (although in practice, this only started taking place in the 1990s),[7] and (ii) the enshrinement of the concept of Legal Reserve (*Reserva legal*).

The idea of legal reserve originated from the Second World War when, in an effort to spare timber for constructions, a restriction was placed on how much forest could be cleared on private properties. The Forest Code, however, enshrined this rule in Brazilian law and

[7] Please refer to the section on timber production policies for more information about forest management.

imposed different quotas of rights of forest clearance according to the type of vegetation found in private properties (see Table III). According to which vegetation type their land was covered with, landowners were allowed to clear only a certain percentage of their land. However, they were allowed to use the natural resources this vegetation offered, including selective logging in Atlantic and Amazonian forests.

Type of Vegetation	**Percentage of land whose natural vegetation was to be maintained**
Atlantic Forest	20%
Cerrado	35%
Amazonian Forest	50%[8]

Table III. — Percentages of Legal Reserve according to vegetation type based on the figures provided by the 1965 Forest Code.

Likewise, the 1970s saw the sharpest increase in surface area covered by conservation units that Brazil had ever witnessed. By the early 1960s, the country was home to a mere dozen national parks, and in the first half of the 1970s, the Brazilian Amazon had been identified as an area which seriously lacked conservation units (Wetterberg 1974). In contrast, Wetterberg *et al.* (1985) were to call the 1974-1984 period the "decade of progress in national parks", based on the fact that this was the period with the greatest increase in integral protection conservation units (*i.e.*, areas of indirect use).

The network of integral protection conservation units that exists today across the Brazilian Amazon is mainly the result of the ambitious Plan of the National System of Conservation Units of the Brazilian Institute of Forest Development (Ministry of Agriculture) and the Secretariat of the Environment (Ministry of the Interior) developed in the late 1970s and early 1980s (Fundação Vitória Amazônica 1998:16). One example of conservation unit created during that time is that of Jaú National Park, described in the section on Amazonas. Overall, the area covered by conservation units grew sevenfold between 1964 and 1985.

Both FAO and individual American scientists such as G.B. Wetterberg were instrumental in promoting the idea of conservation units and identifying areas for their creation. A number of international organisations such as FAO and UNDP developed programmes across South America to promote environmental conservation, such as the Regional Project on Wildlands Management and the Project for Development and Protection of Forests (*Projeto de Desenvolvimento e Proteção* Florestal or PRODEPEF). Within the framework set by such projects, these actors succeeded, through contacts at IBDF and SEMA, to extend the country's network of protected areas in an era dominated by fierce nationalistic rhetoric and development plans that seemed to favour anything save nature conservation.

Finally, changes also took place in institutional terms during the military regime. Shortly after the Stockholm Conference, the Secretariat of the Environment (*Secretaria do Meio Ambiente* or SEMA) was set up in 1973 as part of the Ministry of the Interior, although critics at the time claimed that SEMA remained powerless. Eight years later, the regime gave birth to the

[8] This figure was raised up to 80% in the late 1990s, as is explained below.

country's first official environmental policy – the *Política Nacional de Meio Ambiente* – along with the National Council for the Environment (*Conselho Nacional do Meio Ambiente* or CONAMA) which was to act as an advisory body.

1.4.1.3 The Influence of Democratisation

The decade of the 1980s, however, brought fundamental changes to environmental conservation policies and the environmentalist movement. Most analysts agree that the sudden growth of concern over environmental degradation in Brazil was the result of the democratisation process (that had begun with the creation of a multiparty system in 1980). This phenomenon brought about a number of consequences in terms of environmental policies:

1. Democratisation opened Brazil out to the rest of the world at a period marked with a sharp increase in international environmental concern: in 1983, an international organisation was created to watch over international timber trade (ITTO); in 1985, the World Resources Institute published one of the first reports on deforestation in the tropics; and that same year, a Tropical Forestry Action Plan (TFAP) was put forward to try to tackle that very issue.

   From then on, the Western media grabbed the issue and the coverage of the fate of tropical forests, the so-called "lungs of the planet", grew exponentially. All of a sudden, Brazilians were bombarded with substantial amounts of information on the fate of their own forests, much of which was seen through the eyes of the Western media: the coverage of the 1987 forest fires in the Amazon, the diffusion of the country's first official deforestation rates[9] and the death of Chico Mendes in 1988 are three such examples.

2. This sudden influx of information meant that the environmentalist movement in the 1980s was primarily a non-governmental "grassroots" movement, especially as the Federal government resisted at first in the face of international criticism on the treatment of environmental affairs. The second half of the 1980s witnessed an explosion in the number of environmental NGOs in Brazil. The first registry of "environmental NGOs", carried out in 1991, recorded a grand total of 1,533 such entities, as opposed to a mere handful only a decade earlier. However, as Klabin (1996:76) points out, by 1996 this figure had been reduced to less than 900, among which only 400 had official status.

3. Of course, the environmentalist movement was far from being the only one that developed in the 1980s. The Landless Peasants' Movement (*Movimento Sem Terra* or MST) was created in 1980, at the same time as the construction of the seringueiro movement in Acre and the indigenist movement. Most of these social movements benefited from help by members of the Catholic Church and both the MST and the seringueiro movements grew hand in hand with the Labour Party (*Partido trabalhista* or PT), founded in 1980 as soon as the multiparty system was introduced. As a consequence of this synchronic growth of environmentalist and social movements, Brazilian environmentalism built close links with

[9] In 1988, on the basis of NOAA (US National Oceanographic and Atmospheric Administration) satellite data, 1987 deforestation in Legal Amazonia was estimated at 8 million hectares. This figure soon turned out to be erroneous but had hit the headlines in such a way that it had a major impact on national and international public opinion (Kolk 1996:78-9).

a number of social movements, as witnessed by the "Alliance of Forest Peoples" in Acre.[10]

4. The Federal Government was slow at first in reacting, having adopted a position of resistance in the face of international criticism. Kolk (1996:106) claims that on various occasions, Brazil was requested to assume its responsibilities *vis-à-vis* the international community. The Sarney Government (1985-1990) rejected outright all international propositions to tackle the issue (see section on foreign policy below). However, by the late 1980s, the environmental issue started becoming a barrier to Brazilian successes in other international negotiations while the World Bank suspended loans for projects in the Amazon. At a time when Brazil was going through deep economic recession, the government could simply not afford to renounce to foreign aid.

   In the face of such international pressure but also from mounting domestic demand for radical change in the country's environmental conservation policy, the Sarney government undertook several measures. First, the government let the country's euphoric social and environmental movements play a central role in the elaboration of the 1988 Constitution in which, for the first time, contained an entire chapter on the environment.

   Secondly, in 1989, the structure of public organisations responsible for environmental matters was changed: the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) was created out of four existing organisations scattered across the institutional spectrum: the Secretariat for the Environment (SEMA), the Brazilian Institute for the Development of Forestry (IBDF), the Superintendence for Rubber (*Superintendência da Borracha* or SUDHEVEA) and the Superintendence for Fishing (*Superintendência da Pesca* or SUDEPE). The newly founded IBAMA's mission was to regulate and control all activities that could have an impact on the country's natural resources.

   Thirdly, the Sarney Government launched the country's first environmental programme – although he added a jingoistic twist to it by calling it "Our Nature" (*Nossa natureza*). Analysts claim that this programme which announced ambitious environmental projects (and that was later curtailed) was only launched to satisfy international demands and keep the flow of foreign aid coming into the country.

1.4.1.4 Conservation Policies in the 1990s

The decade of the 1990s was characterised by the consolidation of environmental actors and institutions following the period surrounding the 1992 Rio Summit that was marked by major innovations in terms of organisations, instruments and arguments.

The following federal governments adopted a position that was even more conciliatory with the international community. In what appeared like a gesture of good faith, President Fernando Collor offered in 1990 to host the international Conference on Environment and Development which was held two years later in 1992. To many around the world, this summit

[10] The study of forest policies in Acre provides an excellent illustration of the *rapprochements* between the environmentalist, seringueiro and indigenist movements, also pointing out the problems associated with such unions.

represented the apex in the rise of the environmental movement that had preceded it. However, in terms of forests, most claim the summit was a failure: despite accepting three major environmental conventions (on biodiversity, climate change and fight against desertification), no agreement was reached on a convention on forests.

The years immediately preceding and following the Rio Conference saw the establishment of a number of international NGOs (WWF, Greenpeace, The Nature Conservancy) and national NGOs in Brazil (Instituto socioambiental, IMAZON, IPAM). This period also witnessed a certain consolidation in the non-governmental landscape of the environmental sector: while many of the smaller organisations disappeared and only the larger ones remained, two initiatives were also undertaken in an attempt to bring together the non-governmental sector in all its diversity.

First, the Brazilian Forum of NGOs and Social Movements for Environment and Development (*Fórum Brasileiro de ONGs e Movimentos Sociais para o Meio Ambiente e o Desenvolvimento* or FBOMS) was created in 1990 in an attempt to coordinate the grassroots movements in anticipation for the 1992 Rio Summit. After 1992, FBOMS continued and divided its activities into a number of working groups, such as energy, Agenda 21, forests and climate change. The organisation continues to represent a major forum for discussion on environmental matters and an important collective actor in the country's environmental policies.

Secondly, a similar initiative was created for the Amazon Basin in 1992, called the Amazonian Working Group (*Grupo de Trabalho Amazônico* or GTA) that brings together over 600 NGOs, groups and other entities. Just like FBOMS, GTA aims at uniting the environmental movement with various social ones such as ribeirinhos, seringueiros, small-scale agriculturalists, fishermen, indigenous and human rights organisations.

Organisational restructuring also took place in the form of the foundation of the Ministry of the Environment (*Ministério do Meio Ambiente* or MMA) in 1992 out of the Secretariat for the Environment of the Presidency (*Secretaria do Meio Ambiente da Presidência da República* or SEMAM), founded only a few years earlier. The division of labour between MMA and IBAMA was to be as follows: IBAMA would implement the laws and policies elaborated by MMA. However, many of IBAMA still resent the fact that it was subordinated to a ministry younger than the organisation itself, and the relationship between the two organisations remains sticky on occasion.

Whereas MMA is present only in Brasília, IBAMA has the advantage of having a head office in Brasília and hundreds of offices all over the country, allowing it to be present on the ground and constitute an actor in almost every environmental issue in the country. However, as is illustrated below, IBAMA has suffered a bad reputation due to dismal records of corruption across all ranks, culminating in the 2005 Curupira Operation.

In the 1990s, comparatively little innovation took place in terms of legislation, with the notable exception of the amendment to the Legal Reserve percentages set by the 1965 Forest Code. In 1996, following the publication of the highest deforestation rates in history for 1995-1996, the government behaved in what many analysts have qualified as a knee-jerk reaction, when the Legal Reserve for Legal Amazonia was bumped up from 50 to 80%. This rule was enshrined as a provisional measure (*Medida provisória*) in 2001 (Law no. 2.166-67), which enabled it to enter into force without requiring approval by Congress.

This figure remains valid today despite never having been approved by Congress. Some of the representatives of Mato Grosso's agriculture business have decided to take the Union to court over the issue, but neither those against or those in favour of this figure have so far dared to ask the issue to be debated in Congress. Those against fear that it will be enshrined in law, whereas those in favour hope thereby to maintain the status quo.

1.4.1.5 PPG7 and the Role of the Donor Community

The main initiative of the decade other than the Rio Summit was the launching of the Pilot Programme to Conserve the Brazilian Rainforests (*Programa Piloto para a Proteção das Florestas Úmidas Brasileiras*), more commonly known as PPG7. First suggested at the 1990 G7 Summit in Houston, Texas, PPG7 is a joint initiative of the federal government, Brazilian social and environmental movements and international donor organisations aimed at the conservation of the Amazon and Atlantic rainforests of Brazil.

The Programme was officially launched in 1992 at the Rio Summit and the first projects finally approved a couple of years later. During the first phase, the main contributors of the budget of US$ 280 million were Germany, which accounted for 41%, the European Commission (23%) and the Brazilian government (15%). Other donor organisations and especially the World Bank played a crucial role in providing the programme with "intellectual leadership".

PPG7's first phase is divided into 26 subprogrammes and projects that have concentrated on the following objectives: (i) creating new ways of protecting rainforests and using them sustainably, (ii) conserving Brazil's forest resources, (iii) helping consolidate the organisational structure of the Brazilian environmental sector, (iv) promote scientific research and (v) generate and disseminate strategic lesions aimed at conserving the country's forests.

The various components of PPG7 have produced a large number of local results, many of which are mainly of environmental scope. These include the use of innovative ways to monitor environmental change and deforestation, the development of satellite surveillance, the Ecological Corridors Project and the Project for the Management of Natural Resources of the Flood Plains (*Projeto Manejo dos Recursos Naturais da Várzea* or Provárzea).

A large number of projects with mixed social and environmental components were also undertaken, such as the Integrated Project for Protection of Indigenous Peoples and Lands of Legal Amazonia (*Projeto Integrado de Proteção às Populações e Terras Indígenas da Amazônia Legal* or PPTAL), which supervised the demarcation of over 30 million hectares of indigenous lands, and the promotion of "sustainable logging" practices in several extractivist reserves (examples are provided in the section on Acre).

Thirdly, much "institutional strengthening" was carried out as part of PPG7. All nine Amazonian states were equipped with state secretariats for the environment (SEMAs) and state-of-the-art means of regulating activities with potential impacts on the environment. Moreover, funds were also made available at the federal level for the Ministry of the Environment and IBAMA to establish "environmental battalions" (*batalhões ambientais*) to tackle deforestation.

By the turn of the twenty first century, however, PPG7 appeared to run out of steam. Since 1999, ongoing talks have focused on the implementation of the programme's second phase which still had not been launched by 2006. Analysts now suspect that the programme will be discreetly wound down in the years to come, coming to an end before 2010. Many actors have put the blame for this apparent failure on several accounts: international donors have accused the Ministry of the Environment (MMA) of leaving the management of the programme to donors, although it was set out to be a programme under the responsibility of the Brazilian government.

Some also criticise PPG7 for having tried to bring together too many actors with differing views; according to them, discussions were always mired by disagreements between specific donors as well as between donors on the one hand, and the Brazilian government on the other. Others still point out that PPG7 was unable to keep up with changes in people's perceptions of solutions to deforestation that have shifted from conservationist measures to focusing on "sustainable logging" activities.

Many have claimed nevertheless that PPG7 was a success in that it represented a major breakthrough in the way the Brazilian government related to the international donor community. Until the 1990s, the federal government had consistently refused to discuss environmental and forest issues with international donors, and the subject remained a taboo throughout the 1980s. However, the advent of PPG7 marked the point when these issues started being discussed and tackled openly and institutionalised cooperation between the government and international donors.

The reason why the donor community structured itself in such a way in Brazil and not elsewhere is simple. The channelling of international funds for the environment through a single programme managed in theory by the Brazilian government had been a pre-condition set by the government for international organisations to get involved with forest conservation in Brazil. However, it also gave donor organisations the opportunity to focus on their primary focus in Brazil since the 1980s, namely environmental degradation and especially the Amazon forest.

Since the unofficial winding down of PPG7, donor organisations have started focusing on alternative projects. The German cooperation agency (*Gesellschaft für Zusammenarbeit* or GTZ) remains the country's largest donor in terms of funds and continues to focus on environmental matters. Instead of PPG7, however, most of the agency's funds go towards programmes such as the Amazonian Programme for Protected Areas (*Programa Áreas Protegidas da* Amazônia or ARPA) and support for the newly created National Forest Service (see below). Likewise, other large donors such as USAID have focused on funding "consortia" or large-scale initiatives undertaken by groups of actors, such as:

1. The *Projeto Diálogos*, led by WWF, CIRAD, CDS (Centre for Sustainable Development), IPAM (a Belém-based NGO) and ICV (a Cuiabá-based NGO) that was built around the paving programme of the BR 163 (see section on infrastructural policies in Mato Grosso); and

2. The *Consórcio Amazoniar*, which brings together FSC, WWF, CTA and SOS Amazônia (two Acrean NGOs) over environmental issues in the southwestern Amazon (described in greater detail in the section on Acre).

1.4.1.6 Environmental Conservation Policies in the 2000s

The first half of the 2000s has been characterised by a widening of the environmental debate to include issues such as infrastructure and timber production.

The turn of the century was marked by a major piece of legislation – Law no. 9.985, approved in July 2000 and commonly known as the National System of Conservation Units (*Sistema Nacional de Unidades de Conservação* or SNUC). Until then, Brazil was home to a plethora of different types of conservation units, many of which had arisen in local contexts and therefore were not recognised nationwide, such as Sustainable Development Reserves in Amazonas. After eight years of debates, Congress approved a large number of these categories (listed in Figure IV and detailed in Table IV) and tried to label specific purposes to each of them, although the difference between some of them reflects their political history more than genuine differences in their management.

Two such examples are given here. First, many have argued that the difference between ecological stations (*estações ecológicas* or ESECs) and biological reserves (*reservas biológicas* or REBIOs) need not exist. However, SNUC acknowledged the existence of both types because of a lack of agreement between members of IBAMA who originated from SEMA and championed ESECs, and members of IBAMA who came from IBDF and staunchly defended the category of REBIOs. Likewise, Chaves Gonçalves (2004) points out that the difference between sustainable development reserves (*reserves de desenvolvimento sustentável* or RDSs) and extractivist reserves (*reserves extrativistas* or RESEXs) has more to do with disagreements between IBAMA and IPAAM (the rough equivalent of IBAMA at the level of the state of Amazonas) than any objective criteria. The differences between RDSs and RESEXs is described in greater detail in the section on Amazonas.

As a result of such debates, SNUC approved the existence of a total of 12 different categories, divided into two main classes, namely “integral protection” and “sustainable use” conservation units (Table IV). This dichotomy is witness to the broadening of the notion of conservation unit from an original “hands-off”, “preservationist” concept to one that allows “sustainable use”, notably the existence of “traditional populations” (*e.g.*, RDS and RESEX) but also larger-scale economic activities such as logging (*e.g.*, FLONAs). Considering that each category can be managed by federal, state or municipal organisations, many claim that there are actually 36 different types of conservation units.

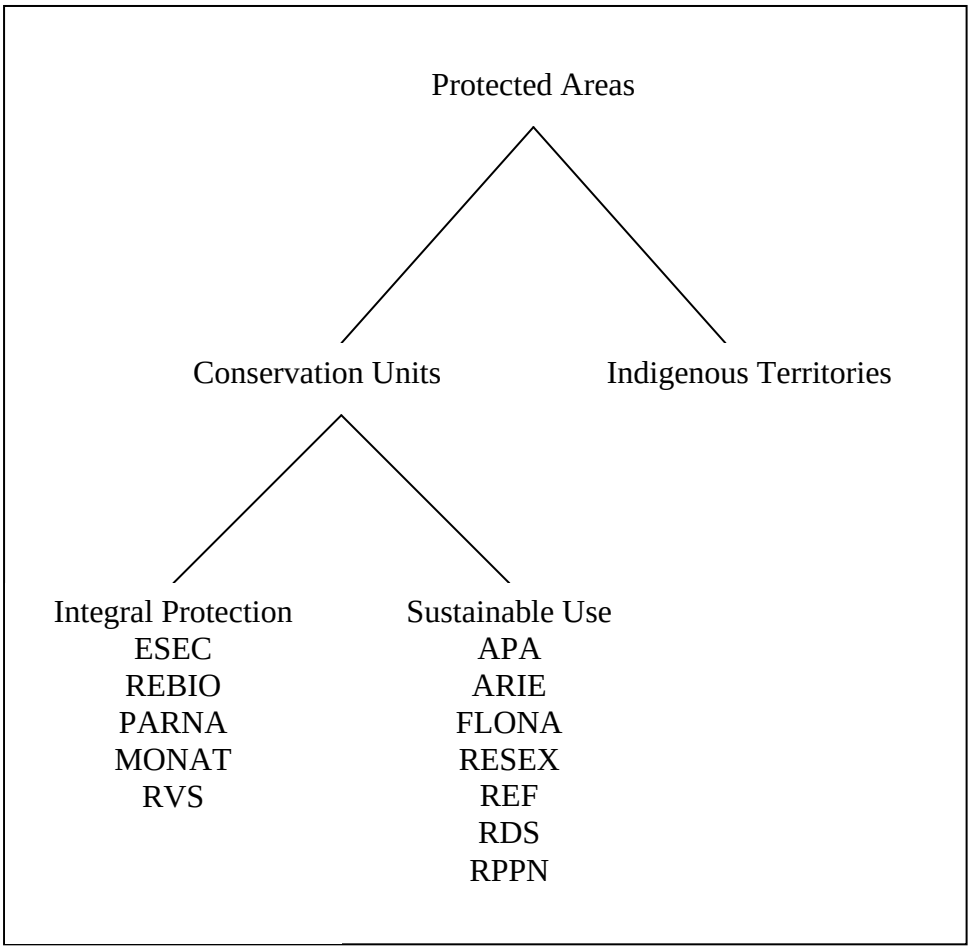

Figure IV. — Categorisation of Brazil's protected areas. Note that indigenous territories are considered to be protected areas, which raises the sensitive issue of the intersection between indigenous and environmentalist movments (described in greater detail in the section on indigenous policies).

Group	Category	Description
Integral Protection	Estação ecológica (ESEC)	Main objective: scientific research. All visits to ESECs are forbidden except for educational purposes. Its lands need to be dispossessed, and vegetation alteration is only allowed (i) to restore natural vegetation cover and (ii) for scientific purposes (maximum 3% and 1,500 ha of the total area).
	Reserva biológica (REBIO)	Main objective: integral preservation of nature with no human interference. No modification is allowed except for restoration of vegetation. Its lands need to be dispossessed. No human visits are allowed except for education purposes.
	Parque nacional (PARNA)	Main objective: preservation of natural ecosystems and scenic beauty. Scientific research, educational and recreational visits as well as ecotourism are allowed. Its lands need to be dispossessed. State and municipal equivalents of this category are called state and municipal parks.
	Monumento natural (MONAT)	Main objective: preservation of rare or unusual natural sites of scenic beauty. As long as this objective is met, its lands need not be dispossessed.
	Refúgio de vida silvestre (RVS)	Main objective: protection of natural environments that ensure the survival and reproduction of species or communities of flora and fauna, including migratory species. As long as this objective is met, its lands need not be dispossessed.
Sustainable Use	Área de proteção ambiental (APA)	Main objectives: protection of biological diversity, structuring the process of human occupation and ensuring the sustainable use of natural resources. APAs are generally large areas with a certain degree of human occupation and are home to specific natural attributes that are important for the well-being of their human inhabitants.
	Área de relevante interesse biológico (ARIE)	Main objectives: maintain natural ecosystems of regional or national importance and regulate the use of these areas so as to ensure their conservation. ARIEs are generally small areas with low human densities with “extraordinary natural characteristics”.
	Floresta nacional (FLONA)	Main objectives: multiple and sustainable use of forest resources and scientific research with an emphasis on sustainable logging of natural forests. A FLONA is an area with extensive forest cover which is often home to human populations so long as they were “created” there and keep to the management plan. Its lands need to be dispossessed.
	Reserva extrativista (RESEX)	Main objectives: protect the lifestyle and culture of traditional populations and ensure the sustainable use of natural resources. A RESEX is an area used by traditional extractivist populations where hunting and mineral extraction are forbidden, and where timber production is allowed on sustainable bases only. Its lands need to be dispossessed.
	Reserva de Fauna (REF)	Main objective: conservation of native animal species whether resident or migratory. Human populations may reside so long as they keep to sustainable management of the area’s resources. Hunting is prohibited. Its lands need to be dispossessed.
	Reserva de desenvolvimento sustentável (RDS)	Main objective: preservation of the natural environment and ensuring that the conditions are met for the reproduction and improvement of lifestyle and quality of its traditional human populations. Sustainable use of natural resources is allowed. An RDS is a natural area that is home to traditional populations that base their existence on sustainable systems of natural resource use, developed generation after generation and adapted to local ecological conditions.
	Reserva particular do Patrimônio natural (RPPN)	Main objective: conservation of biological diversity. An RPPN is an area listed for perpetuity that is of general public interest. Only scientific research and recreative, educational and tourist visits are allowed.

Table IV. — Categories of conservation units in Brazil as defined by the 2000 SNUC Law (after Instituto socioambiental 2004).

As the discussion in the section on Amazonas shows, the sustainable use categories of conservation units have been the most popular in recent years, as opposed to the 1970s and 1980s which witnessed a sharp rise in the creation of integral protection units. Among the latest conservation units created, RDSs and FLONAs are the most common, thus illustrating the recent widening of conservation policies to include social and economic objectives.

The FLONA category deserves special attention here as it has been subject to both considerable research and debates. As Hummel (2004:161) points out, the first forest to be declared FLONA was that of Araripe in 1946, with the aim of conserving the area's hydrological processes. As this category was applied over the decades to other forests, the objectives of FLONAs evolved from watershed protection (1940s) to timber production and silvicultural research (1960s) and even national security (*e.g.*, FLONAs created in the northwestern tip of the Brazilian Amazon as part of the Calha Norte Programme).

Today, 99.4% of Brazil's FLONAs are found in Legal Amazonia (totalling 17 million hectares) and among these, the most famous one is undoubtedly that of Tapajós in southwestern Pará, in the vicinity of the BR163. Founded in 1961, Tapajós has been turned into *the* pilot site for experimenting with sustainable forest management and timber production. As the debate over sustainable timber production as a means of conservation emerged in the late 1990s and culminated with the 2006 Public Forest Management Law (see next section), the FLONA category – and especially the case of Tapajós – came to the forefront of discussions. In recent years, Tapajós has thus been branded by the proponents of the 2006 Law as an example illustrating the success of timber production as a form of forest conservation.

The arrival of the Lula government in 2003 only confirmed this trend towards conservation inclusive of social and economic objectives. First, most of the MMA's higher posts were given to prominent NGO leaders, Marina Silva (formerly at CTA) as Minister of the Environment, Mary Allegretti (formerly at CTA) and later Muriel Saragoussi (former director of Fundação Vitória Amazônica) as Secretary of Coordination of Amazonia, and João Paulo Capobianco (formerly at Instituto socioambiental) as the secretary of biodiversity and forests. Whilst MMA is now often dubbed as "the only governmental NGO", it has given the NGO sector a certain *malaise* as they find it difficult to criticise governmental policies that emanate from individuals most of them once worked under.

Secondly, in its first year in office, the Lula government launched the Sustainable Amazon Plan (*Plano Amazônia Sustentável* or PAS) with the aim of conciliating environmental and development objectives in Legal Amazonia, following a meeting with all the governors of the region. The process of elaboration of the PAS involved a large number of participants, including several ministries, and included many public consultations. The final document included five main axes: (i) sustainable production, innovation and competitiveness; (ii) environmental and land management; (iii) social inclusion and citizenship; (iv) infrastructure for development; and (v) new financing models.

As the contents of the plan illustrate, this initiative was a clear shift away from the conservation-focused activities characteristic of previous initiatives such as PPG7. However, it also constituted a major sticking point which eventually led to the suspension of the plan. In particular, the plan included the rehabilitation and paving of the BR 319 road running between Manaus and Porto Velho, which environmental NGOs were staunchly opposed to but which

the Minister of Transport (himself originally from Amazonas) upheld as a major component of the plan. Eventually, the plan was abandoned although the government picked it up again in 2006, with further consultations to take place in the near future (Governo Federal 2006).

Thirdly, it has been during Lula's presidency that most states of Legal Amazonia have got round to creating their Ecological-Economic Zoning (*Zoneamento econômico-ecológico* or ZEE). This instrument was actually created with the 1990 Presidential Decree no. 99.540, whereby all of the country's states – and of Legal Amazonia particularly – were meant to elaborate a precise zoning of their state according to the type of land use. This map would then be used to direct policies on land use in the future.

During the 1990s, most states never went beyond initial stages but the process was picked up again in the early 2000s, possibly because by then it corresponded more with the prevalent view that environmental measures needed to be placed in a wider social, economic and developmental context. The process is a lengthy one as it involves numerous public consultations and several phases which each result in a ZEE map with an increasingly smaller scale. Rondônia was the first Amazonian state to complete its ZEE; that of the vast majority of other states is currently well underway, including in Mato Grosso, Acre and Amazonas. The national ZEE programme is housed at the Secretariat for Sustainable Development at MMA.

Beside these all-inclusive, "pro-sustainable" measures, the Lula presidency has also been marred by a new peak in deforestation figures which many have attributed to the sudden boom in soy production, especially in the state of Mato Grosso. Encouraged by recent currency devaluation and growing international demand for soy, especially from China, Mato-grossense farmers increased their soy fields in 2003, the same year that vast expanses of forest were cleared in the same state.

By early 2004, ahead of the yearly publications in September, rumours had already spread that deforestation had reached a new high. The Lula government pre-empted the crisis by launching a "Plan of action for the prevention and control of deforestation in the Amazon" (*Plano de ação para a prevenção e o controle do desmatamento na Amazônia*) in March 2004. The plan was composed of three main axes: (i) ordering the land tenure system which many claim is one of the main causes of deforestation as nobody knows who the land belongs to,[11] (ii) monitoring and controlling deforestation through the provision of equipment such as helicopters and paramilitary operations, and (iii) promotion of sustainable initiatives such as the elaboration of sustainable forest management plans.

This plan seasonally provides IBAMA with substantial resources (helicopters and extra staff) in the dry season – when most forest fires take place – that many claim are effective means of reducing deforestation rates. Ever since the implementation of this plan, deforestation rates have dropped year after year, but a Greenpeace report published in 2005, based on an evaluation of the Plan, claims that much remains to be done (Marquesini *et al.* 2005). In particular, the authors point out that at the time of writing, Brazil was still not equipped with a centralised land registry that clearly indicated land ownership, and that only R$60 million out of the R$82 million promised in 2004 was ever disbursed, R$20 million of which was made available well into the wet season, just two days before the end of the year.

[11] The land tenure issue is described in greater detail in Box II below.

Upstream from this Plan of Action, a separate initiative was also set up recently known as the Amazon Protection System (*Sistema de proteção da Amazônia* or SIPAM) whose aim is to compile *all* the data on Legal Amazonia based on satellite imagery and information provided by a large number of terminals set up across the Amazon Basin to enable all citizens to communicate directly with the SIPAM centre in Belém. SIPAM thus manages information on denunciations, deforestation but also sensitive information about the whereabouts of the Brazilian military and cross-border activities, notably on the borders with Peru and Colombia. The creation of SIPAM hit an old vein with certain Brazilians afraid of the threat of internationalisation as it initially benefited from support by NASA and US satellite imagery; however, criticisms have now died down, although results have yet to be published on the impact of SIPAM on the management of Legal Amazonia.

The government's third recent measure to prevent deforestation has focused on stopping the advance of the "deforestation front" (especially in northern Mato Grosso) by establishing a geographical strip of protected areas. The idea that protected areas could stop the moving front is mainly based on evidence showing that despite minor incursions, the mere nomination of protected areas by and large prevents *grilagem* (illegal appropriation of lands) and thus deforestation. Over the past decade, therefore, southern Amazonas – especially the area along the border with Mato Grosso and Rondônia – has seen the gradual consolidation of an entire strip of protected areas (RESEXs, indigenous territories, and state and national parks), of which the Juruena National Park (in the northern tip of Mato Grosso) is the latest addition.

* * *

In summary, three main trends characterise the profound changes that Brazil's environmental conservation policies have undergone in the past three decades:

1. The past thirty years have witnessed an exponential increase in the number of actors involved in environmental policies, from a centralised government and a handful of national NGOs in the 1970s and 1980s to a complex array of public organisations, national and international NGOs and international donors in the 1990s and 2000s. The main period of change was the late 1980s and early 1990s, after which the number of actors and networks consolidated;

2. The range of instruments has also greatly diversified, from a small number of integral protection conservation unit categories in the 1970s to a large number of different types as defined in the 2000 SNUC law, along with various plans to promote sustainable development and fight deforestation in Legal Amazonia;

3. Finally, the most recent trend has been a widening of the scope of environmental policies that has shifted away from a purely conservation approach based on protecting natural habitats to including the relationship between natural resources and social and economic activities.

The following section confirms this last trend as it shows that Brazil's timber production policies partly stem from the inclusion of economic objectives in the country's environmental conservation policies.

1.4.2 Timber Production Policies

Most countries in the tropics already have a long history of timber production policies, such as in Indonesia, where elaborate policies have existed at least since the 1960s, and Cameroon, where a complex concession-based system was first put in place during German colonial rule in the 1890s. However, despite attempts to regulate timber production in Brazil since the early seventeenth century, it was not until the 1990s that a timber production policy *per se* was constructed, based on more than a handful of regulations that so far had consistently failed to be applied.

1.4.2.1 The timber industry in Legal Amazonia: an Overview

Ever since the Portuguese colony swapped its Christian name for that of a timber species (*Pau-Brasil*), timber has played an important part in the economy of the Brazilian Amazon. According to Lentini *et al.* (2005:40-43), in 2004 the timber industry consisted of some 124,000 direct and a further 108,000 indirect jobs, totalling nearly a quarter of a million jobs across Legal Amazonia. That same year, more than 24 million cubic metres of logs were consumed and over 10 million cubic metres of wood processed in the region.[12]

The timber industry remains unequally distributed across Legal Amazonia, so much so that Lentini *et al.* (2005:37) have identified four types of "frontiers" where timber production and transformation is located:

(i) An old frontier, where the timber industry has been concentrated for 30 years or more, runs from southern Rondônia through central Mato Grosso and eastern Pará;

(ii) An intermediary frontier where the age of most timber companies ranges between 10 and 30 years and which runs from eastern Acre through southern Amazonas, northern Rondônia and northern Mato Grosso, central Pará and stretches northwest to Manaus and Roraima;

(iii) A new frontier with companies younger than ten years of age, running from western Acre through southern Amazonas to southwestern Pará; and

(iv) An estuarine frontier which concentrates processing plants, located on the mouth of the Amazonas around Belém.

Several remarks can be made about these findings. First, they are corroborated by quantitative data that show that Mato Grosso, Pará and Rondônia concentrate the overwhelming majority of timber production in Legal Amazonia, as shown in Figures V and VI. Secondly, the geographical distribution of these "frontiers" very much coincides with the "deforestation front" described in great detail by French geographers such as Théry and Droulers (see Box IV in the section on Mato Grosso). Finally, Lentini *et al.*'s data appear to contradict

[12] Unlike the rest of the country where the proportions work the other way round, the vast majority of timber produced in Legal Amazonia comes from natural forests. In the rest of Brazil, timber production is dominated by plantations which are concentrated in coastal states and especially Paraná. Most of these plantations are foreign species and especially eucalyptus.

Becker's claims (2004:73) that the frontier has stabilised and is no longer moving: on the contrary, these findings show a gradual shift in a north westerly direction of the region's timber industries.

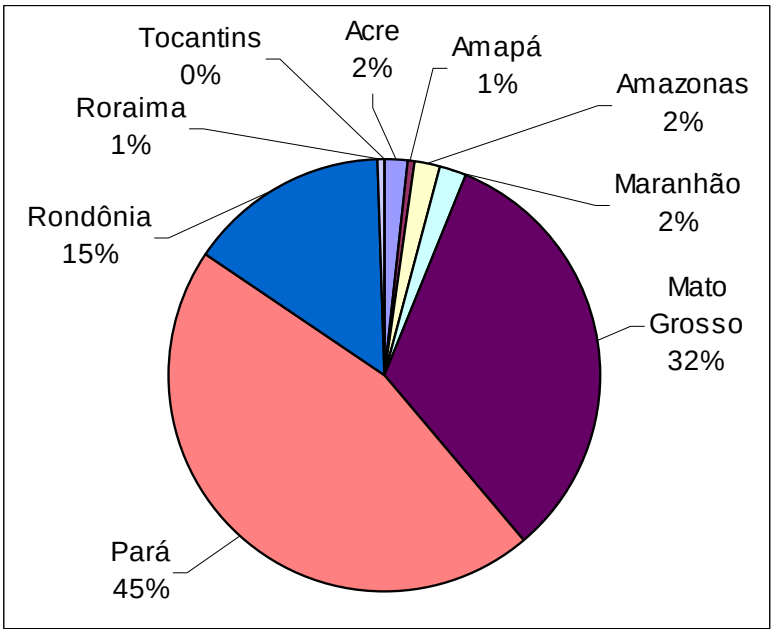

Figure V. — Log consumption in thousands of m^3 (2004) based on Lentini *et al.* (2005:64).

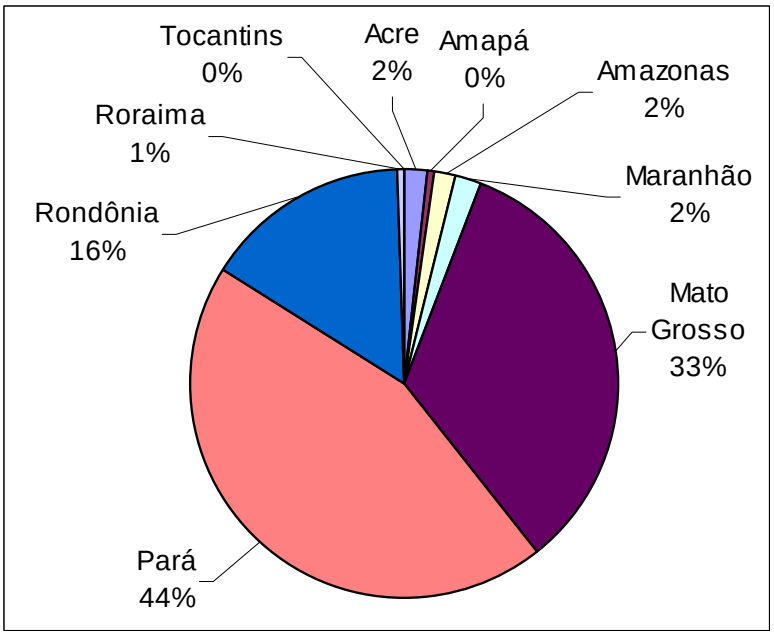

Figure VI. — Processed timber in thousands of m^3 (2004) based on Lentini *et al.* (2005:64).

Over the past decade, however, the timber industry output has fallen slightly, unlike the rest of the region's economy: whereas some 28.3 million m^3 of logs were consumed in 1998; this figure in 2004 had dropped to 24.5 million. Even processed timber fell slightly during the same period from 10.8 to 10.4 million m^3, leading to a corresponding drop in the gross yield

of the industry from € 1.96 to € 1.81 billion. Possible explanations for these trends are provided below.

Although a majority of timber produced in Legal Amazonia is consumed domestically, a growing proportion is being exported: whereas the gross yield of the industry fell by some 7.6% between 1998 and 2004, the value of exports of timber products grew by almost 250% during the same time (Lentini *et al.* 2005:96), although admittedly the devaluation of the *real* might partially account for this figure. Figure VII shows the destination of timber processed in Legal Amazonia by region and Figure VIII shows the main foreign consumers of timber from Legal Amazonia in 2004. Table V lists the main species used by the timber industry.

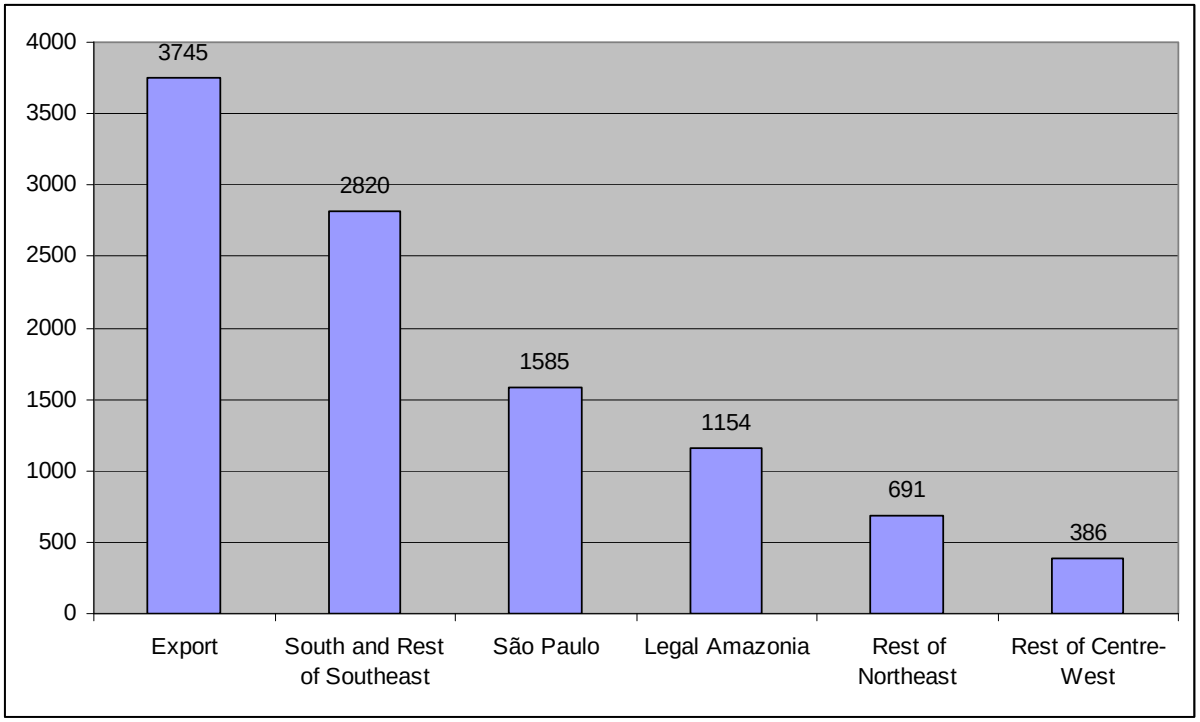

Figure VII. — Destination of timber processed in Legal Amazonia (2004) after Lentini *et al.* (2005:93) (in thousands of m^3).

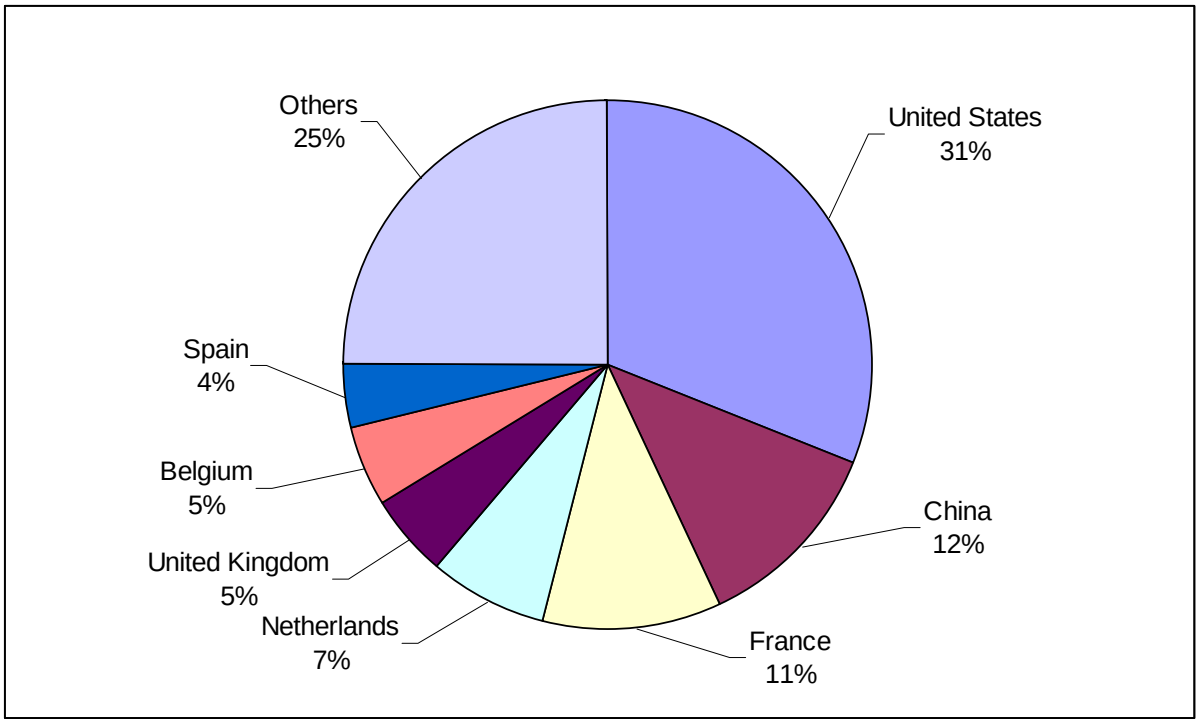

Figure VIII. — Main importing countries of timber from Legal Amazonia (2004) after Lentini et al. (2005:99).

Vernacular name	Scientific name
Mogno (mahogany)	*Swietiena macrophylla*
Cedro vermelho (red cedar)	*Cedrela* sp.
Ipê	*Cordia* sp.
Freijó	*Torresia acreana*
Cerejeira	*Sextonia rubra*
Louro Vermelho	*Carapa guianensis*
Angelim Pedra	*Hymenolobium* sp.
Angelim Vermelho	*Dinizia excelsa*
Cabreúva	*Myroxylon peruiferum*
Cedrinho	*Scleronema micranthum*
Cedrorana	*Cedrelinga catenaeformis*
Cumaru	*Dipteryx odorata*
Cupiúba	*Goupia glabra*
Garapeira	*Apuleia* sp.
Jatobá	*Hymenaea courbaril*
Maçaranduba	*Manilkara* sp.
Muiracatiara	*Astronium lecointei*
Peroba	*Aspidosperma* sp.
Piquiá	*Caryocar villosum*
Roxinho	*Peltogyne* sp.
Sucupira	*Bowdichia* sp.
Tatajuba	*Bagassa guianensis*
Tauari	*Couratari* sp.

Table V. — Vernacular and scientific names of the main species used by the timber industry in Legal Amazonia (after Lentini *et al.* 2005:102).

The procedure for producing timber in Brazil is as follows (prior to the implementation of the 2006 Public Forest Management Law): a timber company has to either own land or sign a contract with a landowner (*e.g.*, a cattle rancher) to carry out selective logging on privately owned land. The company then has to submit a forest management plan to the relevant environmental authority (IBAMA before decentralisation, state-level environmental authority after decentralisation) which has to abide by all the rules set by IBAMA before being approved. Upon approval, the company is allowed to log for five years (with authorisations for the transport of forest products [ATPFs] given out accordingly by the relevant authority) but has to submit a demand for authorisation renewal every year.

An alternative source of timber is from legal deforestation, which is allowed to take place within the limit set by the Legal Reserve – for instance, 20% of private land can be deforested in Legal Amazonia. Again, an authorisation needs to be issued by the relevant environmental authority. Some claim that the fact that these authorities have often been inefficient in delivering such authorisations has led (i) timber companies to operate without licenses and (ii) cattle ranchers to clear land without getting a company to remove commercially valuable timber beforehand.

1.4.2.2 Timber Production Policies: the Stick

Throughout the centuries, the rules and norms concerning timber production in Brazil retained a heterogeneous and piecemeal quality. 1934 brought the first major change in the field, with the foundation of the Federal Forest Council (*Conselho Federal Florestal*) and more importantly the establishment of the first Forest Code (*Código florestal*), described above. It was replaced in 1965 with a new Code (Law 4771/65) which remains valid to this day. Apart from enshrining the concept of legal reserve in law, the 1965 Forest Code also imposed the obligation to carry out logging under strict management plans, although the management rules were not set and in practice, timber production continued much as before.

It was only shortly after the Rio Summit that new rules were introduced, beginning with a decree in 1994 regulating the Forest Code. A year later, IBAMA partially regulated logging activities and although it had begun approving management plans back in 1989, until 2000 small and medium-sized areas did not need to be submitted to approval for a management plan. In 1998, the category of simplified management plans was created and the classification of management plans was further detailed by MMA in 2002 with a Normative Instruction (*Instrução normativa*) listing three types: large-scale industrial plans, small-scale industrial plans and community management plans.

That same year, IBAMA imposed further restrictions on management plans by requiring land ownership titles to the areas under management, rather than a mere title of *posse*.[13] That and the 2001 ban on the production and sale of Amazonian mahogany (*Swietenia macrophylla*)[14] were denounced by the timber industry as a form of persecution. At the time, many companies bitterly complained that the legal web woven around their activities had got so tight that it would drive them out of business – and the figures provided above showing a drop in production appear to confirm this.

Why were so many tight regulations imposed on the timber industry whereas it could not have escaped decision-makers that this was going to have a strong negative impact on the sector? Many claimed that the timber industry was bluffing when it said that the new regulations were driving it out of business, but others have since said that the timber industry as a whole was not sustainable and that it needed to be reduced. The rationale behind this reasoning is based on the idea that the timber industry is at least partly responsible for forest degradation and deforestation – a reasoning based on the fact that the geographical shifts of timber production coincide with the deforestation front. The timber industry as it stood needed to be kept on a leash, and the increasing number of regulations appeared to do the job.

It is considered that by the early 2000s, many companies had given up on trying to keep up with the increasing number of legal restrictions imposed by IBAMA on timber production activities, and that many sought ways round it to survive. One strategy was to ignore all regulations, but this option proved dangerous as IBAMA increased the level of its controls and visits to the field (*vistorias*), resulting in hefty fines that forced more than one company out of business. The other strategy was to settle with local IBAMA staff so that they would approve management plans and hand out transport authorisations of timber products

[13] *Posse* is a concept which legally recognises the right of individuals to access and occupy land and cultivate it without actually owning it.
[14] Following CITES classification of this species in Appendix II.

(*autorizações de transporte de produtos florestais* or ATPFs) without following regulations imposed from the top.

History proved the second strategy to be extremely popular. By 2005, it was a secret for nobody that such goings on were common practice throughout IBAMA in most regions of Legal Amazonia. The federal government resorted to three measures to put a break on "corrupt" practices within IBAMA. First, a secret federal police investigation called *Operação Curupira* was carried out within IBAMA concerning allegations of corruption and collusion with members of the timber industry. Throughout the 1990s and 2000s, IBAMA has constantly suffered from a reputation as a corrupt and inefficient organisation. When the operation came to a dramatic end in early 2005, several hundred members of IBAMA – particularly in Mato Grosso – were arrested on charges of corruption.

In brief, the Operation – which even resulted in the temporary arrest of the Forestry Director of IBAMA[15] – brought the legal part of the timber industry to a complete standstill. IBAMA staff who had survived the raid feared losing their jobs if they were to approve forest management plans with even the slightest error, and as a result, not a single plan was approved for over a year. Even FSC-certified companies were forced to stop their activities and bitterly complained that the system had acted against those supporting legality, thus favouring companies carrying out non-legal logging (which effectively were the only ones who could carry on their activities). In 2005 and early 2006, timber production plummeted as the only source of timber was non-legal. *Operação Curupira* and its consequences are described in greater detail in the section on Mato Grosso.

Secondly, a longer term measure to tackle the issue of corruption in IBAMA has been to promote decentralisation through a programme launched in 2006 that would enable state-level environmental organs (*Órgão estadual do meio ambiente* or OEMA) to share at least some of the responsibilities of IBAMA in terms of control of forest-based activities. In many states of Legal Amazonia, this measure had been anticipated through bilateral agreements between IBAMA and IPAAM (Amazonas), IMAC (Acre) and SEMA (Mato Grosso).

In these agreements, IBAMA handed over the control of the flux of timber products, registration of companies with forest-based activities, authorisation of management plans and forest clearance authorisations (*autorizações de desmatamento* within the rules of the Legal Reserve) to the OEMAs. IBAMA would merely remain with inspection and monitoring activities. As a result, the latter suddenly had to equip themselves with a large number of foresters to approve management plans and undergo profound restructuring, which further delayed the approval of management plans and thus hampered timber production.

Thirdly, conscious of the fact that most of the corruption allegations focused on the illegal production of ATPFs, IBAMA created a new electronic system to control the transport of timber products, known as Documents of Forest Origin (*Documento de Origem Florestal* or DOF). Transporters of timber products are now given a paper DOF which is checked with its equivalent online at every Federal police checkpoint on the route. Unless the states have introduced alternative means of controlling transport (as in Mato Grosso where *guias florestais* have been working since early 2006), the DOF system was brought in by default.

[15] Antônio Hummel, Forestry Director of IBAMA was the most senior position to be affected by the scandal, although accusations against him proved unfounded (many suspect that the timber industry had tried to seek revenge) and he was freed within a week.

However, in an article published in June 2006, Greenpeace denounced both these measures (decentralisation and DOFs) as "passing the packet" (*empurrando o mico*), claiming that they would decentralise corruption rather than get rid of it. To prove their point, the NGO actually purchased a stock of timber produced in Rondônia outside forest management regulations and managed to transport it all the way to São Paulo before handing it over to the Federal Police.

Brazil thus appears to have equipped itself with a state-of-the-art system of control of the timber industry. Not enough time has passed by yet to evaluate the success of such measures, but many involved are confident that these reforms will force the timber industry into legality.

1.4.2.3 Timber Production Policies: the Carrot

Whilst regulations imposed on the timber industry have some sort of historical depth – at least on paper – governmental policies that seek to encourage timber production only reach back as far as 1996. It must be pointed out that the policies implemented since then officially aim at promoting "sustainable forest management" (which one should understand as timber production with a certain number of regulations that limit its impact on the structure of forests and their biodiversity) rather than timber production *per se*.

In 1996, as a project carried out within PPG7, the Support Project for Sustainable Forest Management in the Amazon (*Projeto de Apoio ao Manejo Florestal Sustentável na Amazônia* or PROMANEJO) was launched under the responsibility of MMA and IBAMA. Its objective is to support the development and adoption of sustainable systems of forest management in the Amazon with an emphasis on timber products, and focuses on demonstrative and experimental projects. PROMANEJO was initially supposed to last until 2004 but has been extended to 2007.

The FLONA Tapajós, located in southwestern Pará between the Rio Tapajós and the BR 163 road that runs between Cuiabá and Santarém, has been one of PROMANEJO's main areas of focus. This forest was first declared a FLONA back in 1974 and has since been the focus on numerous studies on subjects as diverse as community forest management, control and surveillance of forest-based activities and environmental education. In many ways, Tapajós has been a pioneer site in terms of innovation in forest management and logging methods. However, it is most famous for championing the conservation unit category of FLONA as a means of conciliating forest "conservation" with logging through the identification of low-impact timber production methods and the application of the concept of "sustainable forest management".

From the late 1990s onwards, the idea of promoting sustainable forest management as a means of limiting deforestation gained pace, as witnessed by the growing number of policy programmes undertaken in this field. In 2000, Decree no. 3.420 announced the creation of the National Forest Programme (*Programa nacional de florestas* or PNF) with the aim of articulating public policies so as to promote the conciliation of the use and conservation of Brazil's forests.

This programme brings together ten different ministries and is managed by MMA. The National Forest Commission (*Comissão nacional de florestas* or CONAFLOR), composed of 20 governmental and 19 non-governmental ("civil society") representatives, plays an important advisory role in the programme's implementation. Funding from the programme is

provided by PPG7, ITTO and GEF. Its numerous instruments include rural extension and training, research, monitoring and control of forest-based activities; in this sense, it anchors initiatives brought about by PROMANEJO into the national institutional context by involving a large number of ministries and other governmental bodies.

However, the main *pièce de résistance* of incentives to "sustainable forest management" was delivered by Congress in February 2006 in the form of Law no. 11.284 called the Public Forest Management Law (*Lei de gestão de florestas públicas*) but commonly known as the Forest Concession Law (*Lei das concessões florestais*). This law is the result of endless debates that have been raging for years in Brazilian forestry circles about the role that the timber industry should play in the management of the country's forests.

In fact, against initial expectations, the main proponents of this law were environmental NGOs, notably IMAZON,[16] Friends of the Earth (*Amigos da Terra*) and IMAFLORA.[17] One of the main architects of the bill, Tasso Azevedo, was himself a former member of IMAFLORA. As early as 1974, forestry expert Clara Pandolfo (SUDAM)[18] had suggested introducing concessions and supporting the concept of FLONAs such as that of Tapajós. Her voice remained unheard until the mid-1990s when PPG7 picked up the idea again and focused on Tapajós as an experimental site to implement "sustainable forest management". According to representatives of *Amigos da Terra*, the main reason why few decision-makers paid attention to this question prior to 1996 was due to the general view that Brazilian forests were "endless expanses that did not need to be managed".

In fact, back in 1990 IMAZON had already begun reaching out to private timber companies and collaborating in the elaboration of forest management plans such as in a 200 ha plot in Paragominas (Pará). Throughout the 1990s, IMAZON considered the concept of FLONAs as an essential tool to promote "sustainable forest management". Once PPG7 had started supporting the concept through the work it funded at Tapajós, *Amigos da Terra* picked up the idea and collaborated with the Fernando Henrique Cardoso government over a law that would enable timber production in all FLONAs through the allocation of land by concessions.

However, the Cardoso government eventually refused to take the project further as they claimed it would not be approved. However, once the Lula government got to power, the idea was picked up again in December 2003 and amplified to all publicly-owned forests (not only FLONAs) as the government began undertaking a number of public consultations over the issue. The debate was very much a heated one as many NGOs were initially opposed to the project due to several factors. First, some (such as representatives of IPAM)[19] claimed that this bill only helped large timber companies and did not solve the issue of rural poverty or help local populations in their "search for a sustainable lifestyle". Secondly, many NGOs were reluctant to support a bill which appeared to promote logging rather than put a stop to it.

[16] IMAZON is the abbreviation of an NGO called the Institute for Man and the Environment in the Amazon (*Instituto do Homem e Meio Ambiente da Amazônia*), based in Belém and founded in 1990.
[17] IMAFLORA stands for Institute for Management and Forest and Agriculture Certification (*Instituto de manejo e de certificação florestal e agrícola*), a Brazilian NGO created in 1995 and which has since become on of the main FSC certifiers in the country.
[18] SUDAM was the Superintendence for Development in the Amazon, created in 1967 by the military regime. SUDAM is described in greater detail in the section on infrastructure policies.
[19] IPAM, which stands for the Institute of Environmental Research in the Amazon (*Instituto de pesquisa ambiental da Amazônia*) is a Belém-based NGO created in 1995.

However, by 2004, the government had rallied the vast majority of NGOs, including Greenpeace which had initially shown to be hostile to the bill. The reasons given for non-governmental support to the bill were twofold: first, publicly-owned lands in the Amazon have long been notorious for their "lawlessness" since many have considered that lands owned by the Union (*terras da União*) were equivalent to vacant lands up for grabs, which explains why these lands are riddled with *grilagem* (illicit appropriation of lands by individuals). *Grilagem*, in turn, along with other land tenure problems, has often been perceived as one of the major causes of deforestation (see Box II). Passing a law that would create concessions on these lands was thus seen as a potential solution to these issues as it would introduce a certain number of rules to places characterised by a vacuum of public authority.

Box II
The Land Tenure Nightmare

Much if not most of the Amazon Basin is subject to general confusion regarding the issue of land ownership. In many cases, land ownership is clearly stated – for example, vast areas of northern Mato Grosso were officially sold off by the Union to a number of colonising companies (mostly from the Brazilian South) which divided up the land and sold it onto individuals, thus turning the land into private property. However, in certain cases, the limits of properties are not clearly set out in the ownership titles (*escrituras*) that define them. It is only when conflicts arise, when satellite images are published or landowners require the approval of a forest management plan (where the limits of the privately owned land need to be clearly set out) that confusion appears.

However, problems of another order arise when fake land ownership titles are produced in a process known as *grilagem*. This term etymologically refers to the procedure whereby fake titles are enclosed in a box with crickets which partially eat through the paper, giving it an aged (and therefore more authentic) look. Throughout the 1970s to the 2000s, large numbers of immigrants have resolved to the *grilagem* (illegal appropriation) of lands generally in the public domain – either officially belonging to the state or the Union. These lands, known as *terras devolutas* (devolved lands) are often considered as belonging to nobody, especially as in practice nobody exists to claim them, thus making their appropriation easy. Fake *escrituras* are thus established before the land is sold onto a third party who believes the land was acquired legally, which further contributes to the complexity of trying to solve the *grilagem* issue.

Moreover, ownership is not the only means of access to land. Throughout the history of Brazil, people have occupied and cultivated land without owning it. In order to recognise this type of right to the land in legal terms, the concept of *posse* (land occupation) was created, which refers to the right of individuals to occupy the land *if they cultivate it*. After one year of cultivation and in the absence of any conflict with eventual landowners, the right of *posse* may be recognised; after ten years and in the absence of any conflict with eventual landowners, the land "occupant" may ask for fully-fledged land ownership through the law known as *uso capião*.

Many have taken advantage of these laws to get some sort of regular title of access to land. Landless movements have often encouraged their members to settle on unused land whether these be privately owned or part of the public domain, as a means of getting INCRA to recognise their rights. After a number of years' pressure, INCRA generally recognises this right and legalises the occupation by declaring the land an *assentamento*. Through this process, the occupiers become *posseiros* (owners of a *posse*) and are ultimately able to ask for land ownership.

However, the problem is that INCRA's land registry does not always agree with those of other organisations and in some cases, *assentamentos* overlap with other types of land use or ownership. For instance, in northern Mato Grosso, some tracts of land are considered by IBAMA and SEMA (Mato Grosso's Secretariat for the Environment) as part of the State Park of Cristalino, whereas according to INCRA they are part of *assentamentos*. Add to this the fact that some consider the same land as their own property, allegedly acquired legally, and the fact that the border between the state of Mato Grosso and Pará remains disputed, and the result is a total land tenure nightmare.

Hence the extremely complex issues of land tenure common throughout the Amazon Basin but especially typical of the so-called "Arc of Deforestation" where many resort to physical violence to solve their problems.

According to Théry (2002:2), in 2002 Legal Amazonia was home to 61% of the country's murders related to land tenure issues. Even when actors attempt to solve such issues using more peaceful means, official maps contradict each other and many private landowners have stopped trusting satellite imagery, turning instead to maps established by the RADAM (*Radar Amazônia*) Project of the 1970s.

The second reason why the non-governmental sector finally supported the bill was probably due to a change in attitudes towards the timber industry. Perceptions appeared to shift from of the timber industry being perceived as one of the causes of deforestation to a situation where, through "sustainable forest management", they could actually help to value forests economically and thus be a solution in the fight against deforestation. Given that the main sticking point since 2002 in the approval of management plans was the failure to provide land ownership titles, this law would enable companies to circumvent this rule and resume their activities within a legal framework.

As a result of both governmental and non-governmental support for the bill, the Public Forest Management Law was approved relatively easily in February 2006. The official objectives of this law are as follows:

1. Regulation of forest management in publicly-owned lands, whether these be in the hands of municipalities, states or the Union. These lands can be subject to one of three type of management: (i) creation of conservation units that would allow sustainable timber production (*e.g.*, FLONAs); (ii) creation of community forest management plans, RESEXs, *quilombos*[20] or Sustainable Development Projects (PDS);[21] and (iii) failing the first two options, the areas will be turned into forest concessions for timber production. The choice of companies operating in these concessions will be based on two main criteria, namely the price offered for the concession and the environmental impact of the proposed management plan on public forests. In order to enter the public competition process, these companies would need to have their headquarters based in Brazil.

2. Creation of the Brazilian Forestry Service (*Serviço Florestal Brasileiro* or SFB), the first governmental organisation that will promote sustainable forest management. SFB's three main functions are (i) to act as the governmental body in charge of the management of public forests, (ii) to encourage "sustainable forest development" in Brazil (MMA 2005:2) and (iii) manage the National Fund for Forestry Development (see below). SFB is tied to the MMA and stands as a distinct organisation from IBAMA. Many people at IBAMA were hostile to the idea of creating an additional organisation which they perceived would only compete with them. However, the proposition remained as, government claimed, having IBAMA carry out control and monitoring *as well as* allocating concessions to companies would constitute a conflict of interest.

3. Creation of the National Fund for Forestry Development (*Fundo nacional de Desenvolvimento Florestal* or FNDF). The main aim of the FNDF will be to provide funding to promote technological development of "sustainable forest-based activities" as

[20] Quilombos are historically areas where escaped slaves of African origin sought refuge from their masters. Many of them still exist and have received official status as "traditional populations" with the recognition of rights to their lands. Most of them are found in states where slavery was most practiced, notably in Rio de Janeiro, Bahia, Goiás, Mato Grosso and Minas Gerais.

[21] Sustainable Development Projects (*Projetos de desenvolvimento sustentável* or PDS) are a new form of assentamento which is further described in the section below on agrarian reform.

well as forest monitoring. FNDF will also fund both IBAMA and SFB for the management of public forests, as well as states and municipalities wishing to invest in "sustainable forestry development".

Within 10 years, government announced that this law would enable to expand community-managed forests by 25 million hectares and create some 13 million hectares of forest concessions (roughly 3% of the surface area of Legal Amazonia). Obviously, the law was implemented too short a while ago for evaluations to be carried out on its implementation but many are confident that the law will solve numerous problems related to deforestation. The most optimistic base their hopes on the success of the concession system in countries such as Guatemala, whereas those more sceptical evoke the mitigated results of concessions in Central Africa and Indonesia. Again, the consequences of this law remain to be seen in the near future.

1.4.2.4 Forest certification

In many ways, forest certification represents the "market-based" equivalent of all the governmental policies and programmes described above. Both types of policy share two elements in common: (i) "sustainable forest management" as their primary official objective and (ii) a very recent history of rapid growth and development.

To this day, FSC (Forest Stewardship Council) remains the main certifier of forest products both internationally and in Brazil. FSC was founded in 1993 after several NGOs, including WWF, had "realised that boycotting timber products was no answer to stopping deforestation". The rationale behind FSC was that the timber industry and other forest-based industries would be forced into managing forests "sustainably" through the labelling of products which originated from properly managed forests. Informed and environmentally aware consumer choice would do the rest – it was believed that markets for "non-sustainable" forest products would eventually dwindle in the face of the growing FSC market.

Worldwide, FSC has had mitigated results; this has led many observers (such as Smouts 2001:297) to claim that since FSC has had much more difficulty being accepted in tropical forests than temperate ones, it still amounts in practice to a tropical timber boycott. In Brazil, FSC has also had difficulty taking off. First introduced in 1996 as a working group, the Brazilian Council for Forest Management (*Conselho Brasileiro de Manejo Florestal*, also known as FSC Brasil) was formally accredited as an FSC National Initiative in 2002. FSC Brasil is financially independent from the FSC International Centre and its representatives claim that it is mainly responsible for articulating networks and putting the private sector in contact with one of the country's three main FSC certifiers – SGS, IMAFLORA/Smartwood and SCS.

FSC Brasil is managed by a board of nine councillors (three from each "chamber – social, economic and environmental) from the following organisations: Greenpeace, WWF, SOS Mata Atlântica, GTA, COIAB, CPI-São Paulo, PFCA (Certified Forest Producers of the Amazon), CIKEL and SUZANO (a certified timber and paper company respectively). In other words, it brings together a wide array of private actors and both social and environmental NGOs.

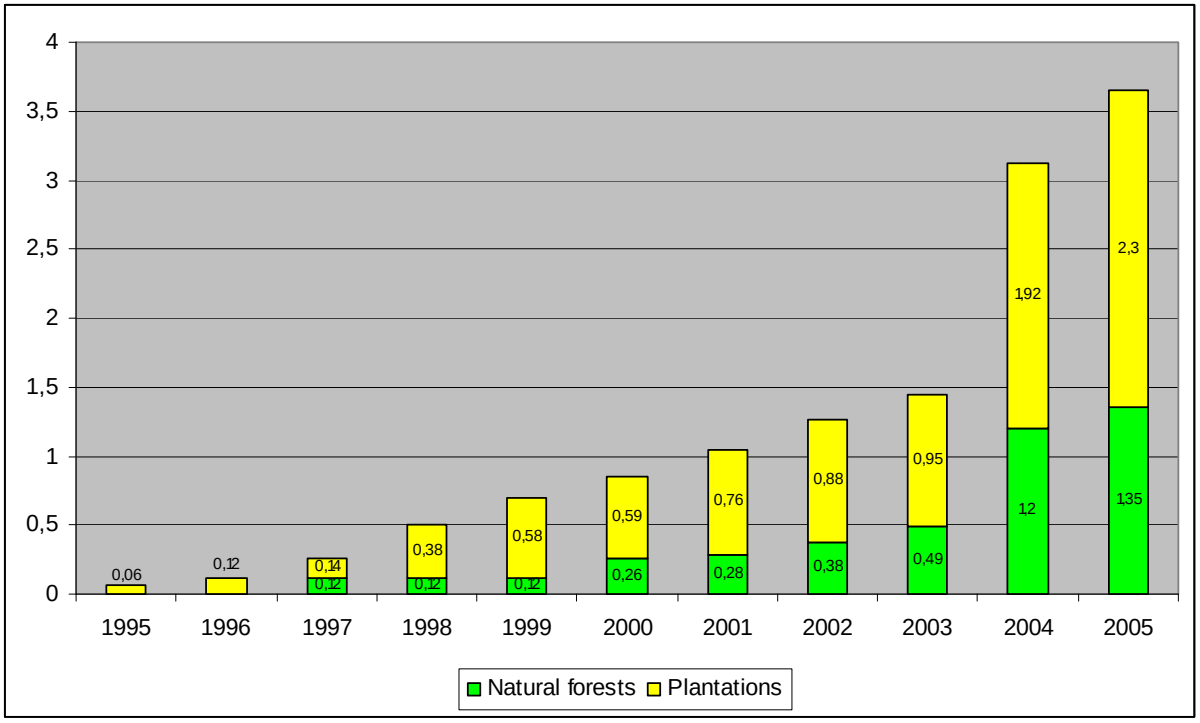

Figure IX. — Certified area by forest type, 1996-2005 (after FSC 2005:26) (in millions of hectares).

Figure IX shows the sharp increase that FSC has enjoyed in the surface area certified in the past ten years. However, these figures should not be misleading: first, FSC representatives have humbly attributed the recent spurt to two single initiatives, one of the ORSA group (2004) and one of the certification of some 1.5 million hectares of indigenous territories (2005). Secondly, the 3.65 million hectares certified in 2005 remain little more than a drop in the ocean of Brazil's forests which total some 550 million hectares. Out of this, the percentage of certified plantations is disproportionately high in relation to that of natural forests: 40% of Brazil's plantations are certified as opposed to a mere 0.25% of the country's natural forests. Likewise, community-managed areas represent just 1.1% of Brazil's certified forests (FSC Brasil 2005:26-7).

Despite this, FSC Brasil appears to be set on tracks that should keep it developing at least in the near future. It has greatly benefited from two FSC fairs held so far in São Paulo where potential buyers meet producers, thus consolidating the market for FSC products. More importantly, it has received financial support from international donors such as WWF, GEF and USAID. Finally, it has gained much political support from MMA and the governments of states such as Acre and Amazonas which have sought to link FSC to the development of community-based and small-scale timber production initiatives.

FSC Brasil is not the only certification initiative for forest products. Before FSC even came into existence internationally, the Brazilian Society for Silviculture (*Sociedade brasileira de Silvicultura* or SBS) had already launched its own certification label in 1991, known as CERFLOR, launched at the 10th World Forestry Congress in Paris. Ten years later, the Brazilian Association of Technical Norms (*Associação brasileira de normas técnicas* or ABNT) signed an agreement over CERFLOR to define principles, criteria and indicators of sustainable forest management. CERFLOR also achieved international visibility by associating itself with the Pan-European Forest Certification initiative or PEFC.

As of yet, CERFLOR has not certified any forests in Brazil, but many have underlined its advantages over FSC, notably the fact that it is not submitted to worldwide norms of forest management, thus giving it the ability to adapt to a national context. However, in a comparison that it carried out between CERFLOR and FSC in 2002, Greenpeace concluded on a number of weaknesses that hamper the national initiative. In particular, it was considered that unlike FSC, CERFLOR includes only a minority of representatives of the social and environmental movements in its decision-making and imposes less stringent rules on forest management. This latter point and the fact that CERFLOR accepts genetically modified organisms could lead to a rejection of its products by the consumer, Greenpeace claims (2002:25-7).

* * *

Both types of "carrot" that promote "sustainable forest management", whether governmental or market-based, are thus still in their infancy. The Brazilian case contrasts sharply with other tropical countries which have a long history of regulating timber production, although in recent years, the country has caught up – at least in legislative terms. Observers have often claimed that this was due to the low density of commercially valuable trees in the Amazon (3 to 6 trees per hectare, as opposed to 8 to 10 in Southeast Asia). However, this argument does not stand when one considers that this figure stands as low as 1 to 2 in Africa, where forests have been subjected to a long history of logging going back to colonial times.

Instead, two factors might account for the difference observed between Brazil and other tropical countries: first, the traditional view of endless forests and their lack of economic viability could have led forestry actors to underestimate the need to regulate the timber industry historically, opting instead for land conversion as a more reliable source of income. Secondly, the sudden appearance of timber production policies seems to stem more from environmental concerns than the idea that the timber industry could be a source of income and thus development – which was the case in Cameroon and Indonesia.

1.4.3 Territorial Infrastructure and Industrial Policies

Most analysts of Amazonian policies in the past half century have tended to fuse territorial with infrastructure, industrial and colonisation policies. The reason for this is simple: all these types of policies were integrated in the 1960s, 1970s and early 1980s in vastly ambitious regional development plans where colonisation and infrastructure/industry were the two main components of the federal government's territorial policies. However, in this research, territorial and infrastructure policies have been dissociated from colonisation which is described in greater detail in the section on agricultural policies. Although these policies were presented as different sides of the one and same coin during the military regime, they have been treated separately since the advent of the New Republic in 1985. The associations that the military regime imposed between different sectors has thus not survived the test of time.

1.4.3.1 First Steps towards an Amazonian Territorial Policy

Barbosa argues that much of the federal government's major policies for the Amazon in the past half century has been dominated by the fact that the Amazon has played a significant role in Brazil's "image of the future". According to this author, Brazilians have viewed expanding West as a necessary step for the future development and integration of their country. The fact that the bulk of the population lived along the coast was seen as dangerous by Brazil's leaders because the emptiness of the Amazon posed a threat to national security. "Thus, Amazonia has been a key element of the "image of the future" Brazilians have of their country. If only it could be populated, the resources it contained would make Brazil a rich country. This "manifest destiny" meant that despite the decline of the rubber industry Amazonia would continue to play an important role in the future development plans of Brazilian leaders" (Barbosa 2000:31).

As early as 1891, the Brazilian Constitution legally embodied a new concept – the third article mandated the transfer of the national capital from the coast to the Centre-West region of the country. One must bear in mind that at that time, the eighteenth century gold rush had only just been replaced with the rubber boom, so the resources of the vast interior must have looked like an untouched bounty in the eyes of many.

Throughout the first half of the twentieth century, however, the construction of a new capital was deemed unfeasible. The Vargas period nevertheless saw some changes in Amazonian policies with the creation of additional federal territories on the edges of Brazil's territory (Guaporé, Rio Branco and Amapá), the *Batalha da Borracha* and the creation of the SPVEA and the concept of Legal Amazonia in 1953. The reasons given for these policies – apart from that of the *Batalha* which remained pretty much circumstantial – were based on a strong national development rhetoric as witnessed in his famous "Marcha para o Oeste" (1937) and "Rio Amazonas" (1940) speeches.[22] Back in the 1910s, Alberto Torres[23] had warned of the dangers of the "internationalisation" of the Brazilian economy by claiming that if Brazil handed over the region's resources to foreign companies or governments, the country would be deprived of its riches.

Vargas, in a period marked by the rise of protectionism, picked up Torres' arguments in the 1930s and nationalised much of the country's economy, but he also extended the idea to the ownership of the natural resources of Brazil's interior. In order to ensure the presence of the federal government on the borders of the country's territory, he claimed, three additional federal territories needed to be created. Likewise, the SPVEA was founded a decade later.

When democratically elected President Juscelino Kubitschek came to power in 1956 with the slogan "Fifty years in five", he undertook to bring together the promise of the 1891 Constitution and the "need to develop the interior". In other words, not only did he have the country's new capital Brasília built and opened by 1961, but he also linked it to Rio, São Paulo and Belém, thus constructing the first link by land between South and North.

[22] "Vim para ver e observar, de perto, as condições de realização do plano de reerguimento da Amazônia. Todo o Brasil tem os olhos voltados para o Norte, com o desejo patriótico de auxiliar o surto do seu desenvolvimento. E não somente os Brasileiros; também os estrangeiros, técnicos e homems de negócios, virão colaborar nessa obra, aplicando-lhe a sua experiência e os seus capitais, com o objetivo de aumentar o comércio e as indústrias e não, como acontecia antes, visando formar latifúndios e absorver a posse da terra, qua legitimamente pretence ao caboclo brasileiro". Excerpt of Vargas' *Discurso do Rio Amazonas*, quoted in Oyama Homma (2003:100).
[23] Torres, A. (1914). *O Problema Nacional Brasileiro*.

In doing so, Kubitschek's territorial policy marked a major breakthrough in that public infrastructure now became the main instrument for the development of the interior and especially the Amazon Basin. Infrastructure was thus viewed as a backbone of development as it would "naturally" attract people, agriculture and industry. Although Brasília lay outside Legal Amazonia, its construction had a major impact on the region because of the construction of Brazil's first interregional road, the BR 010 or Belém-Brasília Highway. The highway cut right through the eastern Amazon forest, down eastern Pará through virtually the whole of Goiás (of which part is now Tocantins).

1.4.3.2 The Military Regime

The road was now paved (although not literally) for the extension of the country's infrastructure into the Amazon Basin. The arrival of the military regime in 1964 greatly intensified the policy set by Kubitschek but ultimately submitted it to little change. In 1967, the SPVEA was replaced with SUDAM (the Superintendence of Development of the Amazon) which overlooked what would become some of Brazil's greatest "pharaonic works", and BASA (Bank of the Amazon) was created from the Credit Bank for Rubber (*Banco de crédito da borracha*) whilst loans and subsidies were redirected from rubber production to agriculture. The role and importance of the Manaus Free Zone was also increased, as described in the section on Amazonas.

From then on, the military regime elaborated ambitious five-year national development plans which included Amazonian Development Plans (*Planos de Desenvolvimento da Amazônia* or PDAs) which SUDAM was officially responsible for. Throughout the military regime, the ultimate objectives of these plans remained the same, but the means to reach them changed with each arrival of new development theories in fashion at the time.

The objectives of Amazonian development plans were always based on nationalistic rhetoric but by the time the military regime came to power, they had multiplied. As Le Borgne-David (1998:61) points out, these plans very clearly referred to a Brazilian patriotic feeling and anybody who expressed disagreement was suspected of being non-Brazilian. The Amazon basin was not only a vast territory of untapped resources that would kick-start the country into an economic boom, but it was also a region increasingly threatened by foreign forces on two fronts: (i) economic forces from developed countries and especially the United States in the form of private companies, and (ii) communist guerrilla forces which sprouted near Brazil's Amazonian borders, such as the Shining Path (*Sendero luminoso*) in Peru and FARC in Colombia.

Given these two views on the Amazon Basin, the following solutions were proposed: (i) provide the region with sufficient infrastructure as a backbone to its development; (ii) promote the development of Legal Amazonia whether through improving the lifestyles of the poor or encouraging large companies to set up their agricultural or industrial activities; (iii) populate what was regarded as a demographically empty region so as to integrate it into the rest of the country (and by the same token solve the country's landless problem, as is described in the section on agrarian reform); and (iv) ensure military presence along the country's borders. The much-repeated slogans of the military regime are witnesses to the hammering of these objectives into the people's national conscience: *integrar para não entregar* (integrate the Amazon to avoid handing it over) and *a terra sem homem para o homem sem terra* (people-less land for landless people).

From the late 1960s to the early 1980s, therefore, a number of development programmes were undertaken:

1. The programmes of the 1960s were characterised by the appearance of strong incentives for large cattle ranches to settle in the Amazon (discussed further in the section on agriculture);

2. In the early 1970s, emphasis was placed on the construction of roads across the Amazon Basin;

3. By the mid-1970s, road-building had fallen out of fashion and was replaced with the creation of "development poles", some of which reached the status of programmes in and of themselves (*e.g.*, Carajás); and

4. In the mid-1980s, the "consolidation" of Brazil's frontier areas became a priority with the *Projeto Calha Norte*.

The main projects that the Amazon Basin was submitted to by SUDAM and the federal government in the 1960s, 1970s and 1980s are summarised in Table VI. The most important infrastructural works undertaken during this period are described in Table VII.

	Operação Amazônia	**PIN**	**Poloamazônia**	**Projeto Grande Carajás**	**Polonoroeste**	**Calha Norte**
Dates	1966-1970	1970-1974	1975-1979	1974-1984	1981-1985	1985-1990
Objectives	National sovereignty	National integration	Economic development poles	Economic development pole	Land tenure reform and development of agriculture	Defence of the northern border
Main instrument	Cattle ranches (*e.g.*, Jari)	Road-building and assentamentos	Economic poles	Iron-ore mine, aluminium plants and Tucuruí dam	Roads and assentamentos	Military presence
Location	Pará, Mato Grosso	Trans-amazonian Highway	15 poles	Pará	Rondônia	Amazonas, Roraima, Amapá
Organisations responsible	SUDAM, BASA	INCRA, RADAM	SUDAM, BASA, CVRD, SUFRAMA	SUDAM, BASA	INCRA, SUDECO, BIRD	Armed Forces
Key mechanism	Fiscal incentives	Rural settlements	Fiscal incentives	Fiscal incentives	Rural settlements	Border battalions

Table VI. – Main programmes undertaken in Legal Amazonia, 1966-1990 (after Droulers 2004).

Type of infrastructure	Name	Description
Roads	BR 010	Belém-Brasília Highway, opened in 1956 and paved in 1974. This was the pioneering road, linking the Amazon to the industrial heart of the country for the first time. Its conception goes back to the Rebouças Plan of 1874.
	BR 364	Cuiabá-Porto Velho Highway, opened in 1959 and paved in 1981 during the Polonoroeste Programme. It was extended to Rio Branco and eventually to Cruzeiro do Sul. See section on Acre for more details.
	BR 230	The Transamazonian Highway was the *pièce de résistance* of the first National Integration Programme (*Plano de Integração Nacional* or PIN). Opened in 1972, it was never paved and was dubbed *Transamargura* ("Transbitterness") due to the failed colonisation attempts along the road.
	BR 163	The Cuiabá-Santarém road was opened in 1975 and goes through the Xingú area, famous for its Kayapó Indians. Its paving was planned in the Avança Brasil programme during the Cardoso Presidency and was finally approved during Lula's first term in office in the form of the "Sustainable BR 163 programme". Please refer to the section on Mato Grosso for further details.
	BR 319	The Porto Velho – Manaus Highway was opened in the early 1970s and its paving was approved in the mid-2000s following the creation of a programme similar to that of the BR 163. Please refer to the section on Amazonas for further details.
	BR 174	The Manaus-Boa Vista Highway, built in the early 1970s, was extended to the border with Venezuela and now links Manaus to Caracas on a road paved in 2000. The section on Amazonas provides details about the conflicts surrounding its construction.
	BR 210	The *Perimetral Norte* that was supposed to link Bogotá (Colombia) to the federal territory of Amapá was never completed, and only a few stretches were ever built.
Mine	Carajás iron-ore mine	The opening of a massive iron-ore mine was part of the Grande Carajás Project (PGC) which covered some 900,000 km². It benefited from over US$1 billion from the EEC (its first funding project outside of Europe), Japan and the World Bank and was run as a joint venture by US Steel and the Brazilian *Companhia do Vale do Rio Doce* so as to prevent accusations of "internationalisation". In 1985 a 900 km railway linked it with São Luis and mines were built nearby to tap into the world's largest bauxite reserves.
Dams	Tucuruí Dam	This dam was also built as part of the PGC in 1984 but by then, the "mood" for large-scale projects had changed and the World Bank refused to fund it because of environmental concerns and the fact that it implied flooding land occupied by the Parakanã Indians. Moreover, only 5% of the vegetation was cleared before flooding, which led to anaerobic decomposition, clogging up of the turbines with dead vegetation and the formation of acid waters. A total of 35,000 people were displaced. Tucuruí now provides much of the eastern Amazon with energy.
	Balbina Dam	The works on Balbina Dam in northern Amazonas began in 1987 but following the controversies stirred up by Tucuruí, special care was taken to compensate local communities (namely the Waimiri-Atroari Indians) for environmental damage caused to their lands. The construction of the Balbina Dam is described in greater detail in the section on Amazonas.

Table VII. — Main works of infrastructure built in Legal Amazonia between 1959 and 1990 (mainly based on data provided by Droulers 2004 and Barbosa 2000).

As part of the colonisation process described in the section on Agrarian reform, many of the road projects did not only involve a main axis but also included large numbers of side-roads (*vicinais*) which from the sky looked like fish bones. Several other road projects were in the

pipeline in the 1980s but they never got carried out, such as the Rio Branco to Tabatinga road that would have cut through southwest Amazonas, now mainly covered in protected areas. By the mid-1980s, the wave of "pharaonic" works described in Table VII had been suspended (mainly due to growing environmental concerns), with the exception of the Balbina Dam.

However, the concept of National Development Programmes was revived during the Cardoso Presidencies (1995-1998 and 1999-2002) with the launching of new programmes with encouraging names such as *Brasil em Ação* (Brazil in Action) and *Avança Brasil* (Move Forward Brazil). Accordingly, projects of building new infrastructure – or at least consolidating the existing one – sparked a new wave of protests from environmentalists and international observers concerned with what they saw as a regression in terms of Amazonian policies (Aparecida de Mello 2002, Smeraldi & Carvalho 2003, Kohlhepp *et al.* 2001).

Lula, who got to power in 2003, presented his government as environmentally aware and eager to promote "sustainable development" in the Amazon. Yet in essence, his first multiple year plan (*Plano Plurianual* or PPA) for the period 2003 to 2007 borrowed many of the objectives that the Cardoso plans had set but not met (they were repeated in the *Plano Amazônia Sustentável* which was abandoned as a result), such as the following:

- The paving of the BR 163 (Cuiabá-Santarém) in order to meet the demands by agriculturalists in Mato Grosso to provide a way of evacuating produce, notably soy (which at the time was in full boom);

- The paving of the BR 319 (Manaus-Porto Velho) which had been one of the electoral promises of Lula's Minister of Transport, himself from the state of Amazonas;

- The opening of the first transoceanic road through Acre with the building of the international bridge linking Peru to Brazil at Assis Brasil; and

- The construction of a gas pipeline from Coari to Manaus (Amazonas), although the plans to build another one to Porto Velho were abandoned.

In this respect, Lula succeeded where Cardoso had failed. For the BR 163 in particular, Lula launched an ambitious programme known as "BR 163 Sustentável" (Sustainable BR 163) which focused on associating major works of infrastructure (namely the paving of the BR 163) with measures to mitigate the environmental impact of making this road practicable throughout the year. Over several years, much of the environmental movement and parts of several social movements along with academia were mobilised in regular public consultations that ultimately resulted in the approval of the programme.

The BR 163 was to be paved but along the road, local populations would benefit from social programmes such as health care and education, and a number of conservation units (*e.g.*, FLONAs) would be created to prevent environmental degradation along the route. Even a multi-donor, multi-NGO consortium was set up, known as *Projeto Diálogos*, to tackle issues surrounding the environmental impact of the BR 163 and bring actors together to discuss potential solutions for the region's environment and development. All the other projects mentioned above have also been approved or already carried out, each of them "wrapped" in its own cover of mitigating social and environmental measures. Greater detail is provided on each of these cases in the relevant sections (Mato Grosso, Acre and Amazonas).

Two major trends thus emerge from this rapid overview of the evolution of infrastructure policies in Legal Amazonia in the past half century. First, whereas actors in the 1960s and 1970s focused on *creating* new infrastructure in the Amazon Basin, policies in the 1990s and 2000s have focused on *consolidating* existing infrastructure, mainly by paving existing roads (with the notable exception of the Coari-Manaus gas pipeline). This could be defined as a shift in policy, although one could also argue that it merely represents a "natural" evolution in infrastructure policies in that construction and consolidation are two phases of any infrastructure policy.

Secondly and more importantly, infrastructure policies since the late 1980s and especially the 2000s have been delivered wrapped up in a number of mitigating measures to tackle demands posed by social and environmental movements. These policies, once regarded as environmental disasters, are now labelled as examples of "sustainable development", as illustrated by names given to recent projects such as *BR 163 Sustentável* and *Programa de desenvolvimento sustentável do gasoduto Coari-Manaus*. The decision-making process is also elaborated so as to show that it includes everybody's concerns through extended public consultation processes and increased participation. As a result, environmental concerns are met mainly through the creation of conservation units along the works, and social demands are tackled through provision of education and health care.

The turning point in this second trend is situated somewhere between 1984 and 1987, *i.e.*, after the construction of Tucuruí Dam and prior to building the Balbina Dam. It is probable that the outcry at the way the Tucuruí project was undertaken, with little environmental and social considerations, as well as the refusal by the World Bank to fund the project, created a precedent which planners of the Balbina project were keen to avoid.

Box III
Mining in the Amazon Basin

Ever since Sir Walter Raleigh placed the *El Dorado* legend in the Amazon, people have been digging for gold in the Brazilian interior. Brazil has a long history of exploration of minerals, especially gold and precious stones which kept the Portuguese empire afloat throughout the eighteenth century. During the twentieth century, several large-scale projects have been undertaken in the Amazon, such as the Carajás iron-ore and bauxite mines and the more recent gas pipeline between Coari and Manaus, in the state of Amazonas. However, a non-negligible proportion of minerals are extracted not by large enterprises but in small-scale activities known in Brazil as *garimpo*.

In 1958, *garimpeiros* (individual gold prospectors) first appeared on the rio Tapajós, in Pará, setting a precedent in the way *garimpo* would operate in the Brazilian Amazon. The period of the 1970s was a watershed for this activity in the region as the new road network suddenly provided potential prospectors with the means to access areas which the RADAM Project (see section on research) had identified as rich in minerals and especially gold. From then on, the region was submitted to a number of small-scale "gold rushes", where individual men – usually from the Northeast, fairly young and with basic education – would suddenly invade an area known for being rich in gold. There they would set camp, clear the vegetation and open up extensive areas to find a few grams of the precious metal.

In the late 1970s, the region of Alta Floresta in northern Mato Grosso became the scene of such an invasion and within no time its small airport became one of the busiest in the country in terms of number of flights. In 1980, when gold was announced in Carajás, *garimpeiros* shifted there instead, before the Rio Tapajós became the scene of intense prospecting in 1986-1989 and the Yanomami lands, notoriously rich in minerals, were invaded by tens of thousands of *garimpeiros*. As might be expected, the longer-term residents of these areas do not take very kindly to such "rushes" which are likened to a plague of locusts. *Garimpeiros* have a reputation of being attracted to the idea of making easy and quick money, which many have associated to the fact that prostitution

and physical violence are rife in these "temporary societies". Moreover, *garimpo* is linked to a number of serious public health and environmental issues. In recent years, observers have noted an evolution in the structure of *garimpo*, whereby instead of foraging on their own, *garimpeiros* now work in small groups which allows them to invest in more machinery.

Despite this trend, working methods have remained very rudimentary and the use of soap and mercury to separate the gold from the soil remains extremely frequent, leading to serious water poisoning problems downstream. Moreover, whether they operate in rivers (*e.g.*, in southwestern Amazonas) or on land (*e.g.*, in northwestern Mato Grosso), much of the topsoil gets eroded, clouding up the streams and making water undrinkable. Finally, rivers are often diverted and holes dug in the ground, leading to pools of stagnant water that favour mosquito reproduction and the transmission of infectious diseases such as malaria, without mentioning the proliferation of sexually transmitted infections due to prostitution. *Garimpo* thus constitutes a serious threat that extends well beyond the mere area cleared for prospection (Meirelles 2004:205; Oití Berbert & Araújo Neto 1993:236).

According to MMA (1997:6), *garimpo* was practised by some 300,000 people across the country in the mid-1990s. However, it only represented 9% of Brazil's mineral production, which in turn hovered between 2 and 3% of the country's GDP. While of relatively little economic significance compared to the large-scale mining sector which tends to distinguish itself from it, *garimpo* has attracted much concern from environmentalists given its impact and its widespread character.

Brazil's mining policy is under the responsibility of the Ministry of Mines and Energy, created in 1960, and which is home to a Secretariat for Geology, Mining and Mineral Transformation. The sector theoretically regulated by a number of pieces of legislation, notably several articles in the 1988 Constitution, the 1967 Mining Code and an elaborate form of licensing, all of which spell out environmental mitigation measures for any mining activity. However, *garimpo* activities fall outside virtually every law of the country and are notoriously difficult to regulate given that they are particularly mobile and temporary, and that *garimpeiro* settlements are characterised by a general situation of lawlessness.

As a result, MMA has involved itself in the sector by emitting a number of directives and suggested regulations to control the activity of *garimpeiros* (MMA 1997). IBAMA's increasingly stringent control of these activities has resulted in hundreds of arrests across the Amazon in *garimpeiro* settlements, and some instances (such as the case of the Vale do Amanhecer in Juruena, Mato Grosso) have required help from the Federal Police. However, despite the attempts to establish an institutional link between mining and the environment, *garimpo* remains largely outside any type of governmental regulations and impacts on the environment continue being observed across the Amazon Basin.

1.4.4 Agricultural Policies

In Brazil, governmental, non-governmental and private actors alike distinguish between policies directed towards commercial agriculture (the *economic* function of agriculture) and those more commonly known as "agrarian reform" which are specifically aimed at redistributing land to the rural poor (the *social* function of agriculture). The next two sections (1.4.4 and 1.4.5) are thus structured in a way that acknowledges this traditional divide.

Until the 1960s, Brazil's agricultural and cattle sector had largely remained outside of Legal Amazonia, with the exception of a few projects such as the culture of jute promoted by Japanese immigrants in the 1930s. The first step towards the larger scale development of agriculture in the region was made by Getúlio Vargas, who in 1940 created the Agronomy Institute of the North (*Instituto Agronômico do Norte*). However, it was the military regime that launched the first large-scale projects of commercial agriculture in the Amazon Basin with *Operação Amazônia* (1966-1970). Throughout the late 1960s and 1970s, the federal

government sold off public lands in Legal Amazonia at very low prices to agricultural investors, most of whom were from southern and southeastern Brazil.

In fact, the military regime had made agriculture one of the key strategic elements for the country's economic development. Massive programmes were launched to promote modernisation of agriculture outside the Amazon, notably in the productive South, notably through the wide distribution of credit to landowners. The late 1960s and 1970s were thus characterised by loans at a 15% rate – a negative rate when one considers that inflation rates varied between 30 and 77% throughout the 1970s (Le Borgne-David 1998:42). Naturally, the Amazon Basin, as a key geographical area of economic development for Brazil, was not left out of the government's large-scale agricultural schemes. In the Amazon, the government not only handed out generous loans but also encounraged specific projets.

One of the largest such projects was Jari, an area covering 1.6 million hectares and which was sold to an American investor, Daniel Ludwig, who had the forest cover burned before rice and plantations were grown in the area. Foreseeing a shortage of paper by increased demand brought about by the spread of literacy, Ludwig's plan was to plant trees and process them into paper pulp. However, Amazonian soils did not respond as expected and despite investing some US$ 1.5 billion in the project, Ludwig found the average tree yields to be between 40 and 75% off target. He finally unloaded the project to a Brazilian consortium in 1982, after sparking strong xenophobic fears among Brazilians that the government was losing control of the Amazon to foreign interests.

1.4.4.1 The Growth of Cattle Ranching

This project, however, was not typical of the agricultural patterns that developed elsewhere in the Amazon Basin. The typical scenario was as follows: once the federal government had opened up a new road, land on either side would be divided up into lots of various sizes and sold off to investors, either directly (public colonisation) or through real estate companies (private colonisation).[24] Through a system of strong incentives which included subsidies and advantageous loans by BASA, the cattle ranching sector developed at a tremendous rate, especially in areas such as northern Mato Grosso, southeastern Pará, Rondônia and eastern Acre.

The introduction of white zebus of the Nelore race, which is both resistant to tropical parasites and withstands high temperatures and the strong Amazonian sun, greatly contributed to the success of this sector in the region. In fact, this race is said to reproduce at faster rates in the Amazon than anywhere else in Brazil. Moreover, the relative ease with which cattle is reared and sold off at good prices strongly encouraged many people to pick the activity up despite having little previous experience in the field. However, many of those involved in cattle ranching in the Amazon are recent migrants from the southern states of Brazil (Rio Grande do Sul, Santa Catarina and Paraná) where the populations of recent European origin have been rearing cattle for over a century. This cultural preference for this type of activity might also account for its success and is described in the section on Mato Grosso.

Ultimately, the only major investment in the cattle industry in the Amazon Basin was the creation of pastures, which were easily obtained by clearing land – generally well beyond the

[24] Public and private colonisation schemes are described in greater detail in the section on Mato Grosso.

50% Legal Reserve limit fixed at the time by the 1965 Forest Code. In fact, to this day Amazonian cattle is so pasture-hungry that in Mato Grosso, for example, which ranks top in production of grain in Brazil, pastures occupy a staggering 80% of the state's agricultural land. This is due to the fact that cattle densities remain extremely low and turn around 0.6 cows per hectare of pasture; barely a sixth of Mato Grosso's pastures were home to over 1 individual per hectare (Droulers 2004:108). Likewise, cattle ranching demands very little human labour and even less skilled labour, resulting in disproportionately low employment rates in the cattle industry.

The growth of cattle ranching did not stop with the end of the military regime. The ease with which ranches are managed, the security of this activity as an investment, the favourable loan policy that BASA has maintained for this sector and the growing wealth status associated to owning cattle all account for the fact that despite the fact that public lands are no longer sold off, the industry has carried on growing. Moreover, as Piketty *et al.* (2005:92) point out, there will always be a market for bovine products, both in Brazil and abroad: the average consumption of beef in Brazil has grown from 25 to 41 kg per head per year between 1970 and 2000, and foreign demand has also been on the increase during the same period (Droulers 2004:112), despite a recent dip due to foot and mouth disease.

As a result, cattle ranching has grown exponentially over the past four decades, especially across Pará, Mato Grosso, southern Amazonas, Rondônia and eastern Acre. Both Rondônia and northern Mato Grosso have witnessed the sharpest increases in cattle ranching in the past decade. According to an article by Kaimowitz *et al.* (2003:2) entitled "The Hamburger Connection", cattle expansion in the Amazon in the 1990s and early 2000s has been phenomenal, with the number of cattle shooting up from 26 million in 1990 to 57 million in 2002. In the process, they add, Amazonian cattle has gone from representing 17.8% of Brazil's total cattle herd to almost a third during the same dates. Moreover, the creation of pastures consistently ranks as the primary cause of deforestation in Legal Amazonia (Braga de Souza 2006, Kaimowitz *et al.* 2003:2, Margulis 2004:29, Piketty *et al.* 2005:90) and has been said to account for a total clearance of 610,000 km² of forests (Meirelles 2004:152).

During the 1970s, governmental policies played a large role in kick-starting the growth of cattle ranching in the region through the sale of public lands and several different types of incentives. However, despite BASA's continued loan policy which favours the cattle industry, and a few tax exemptions (Margulis 2004:30), this sector has been characterised in recent years by the relative absence of governmental policies. The continued growth of the sector has therefore largely been due to both market-based and cultural factors, and has contributed to the country ranking second in the world in terms of livestock, with a size of 167 million heads in 2003 (Becker 2004:81).

1.4.4.2 The Soy Boom and the Conflict with the Environmental Sector

The environmental impact of the development of cattle ranching in the Amazon of course did not go unnoticed, but it is only in recent years that the agricultural and environmental movements have come to loggerheads.

On the agricultural side, producers of Legal Amazonia are politically structured into rural syndicates which are members of state-based federations that in turn are represented by the National Confederation of Agriculture and Cattle (*Confederação Nacional de Agricultura e*

Pecuária or CNA). The CNA enjoys close ties with the Brazilian Ministry of Agriculture and Cattle (*Ministério da Agricultura, Pecuária e Abastecimento* or MAPA). Moreover, both have ensured that the agricultural sector is well-represented in national politics with the creation of an official lobbying organisation, the Brazilian Agrobusiness Association (*Associação Brasileira de Agrobusiness* or ABAG) and a Parliamentary Front for Agriculture (*Frente Parlamentar da Agricultura*), made up of some 150 members of Federal Congress.

Despite this imposing political complex in favour of the development of Brazilian agriculture, few agricultural policies have ever been carried out to mitigate the impacts of this sector on the environment. Instead, IBAMA has been the main governmental organisation in charge of attempting to regulate agriculture in the Amazon by enforcing rules such as the Legal Reserve and the maintenance of Permanent Protection Areas (*Áreas de preservação permanente*). Given its means and the problems described in the section on timber production policies, enforcing these rules has produced few results.

Two main factors in the early 2000s encouraged the escalation of the conflict between the agricultural and environmental sectors. The first of these was the passing of a new law on "biosecurity" (*Lei da Biosegurança*) in 2003, which was to replace the 1995 law on the control of genetically modified organisms (GMOs). From the outset, MMA had been opposed to allowing GMO cultures on Brazilian soil on the grounds that the environmental consequences remained unknown and that such a decision would close Brazilian access to European markets. However, MAPA, CNA and ABAG had openly supported it, claiming that the use of GMOs could only contribute to the country's development and boost the Brazilian economy. At the end of a long series of bitter debates between both ministries which very much represented the mood on either side of the sectorial divide, the law was approved in late 2003.

One factor which contributed to tipping the balance of Congress and Government in favour of the agricultural sector in this debate was the latter's economic weight and the importance that Brazil now enjoyed in the international stage thanks to its agriculture. Although throughout the 1980s and early 1990s, agricultural production had grown across all types of produce, one type of grain and one state embodied the agricultural boom of the early 2000s – that of soy in Mato Grosso.

Over the past decade (1996-2005), the area planted with soy in Mato Grosso has doubled and by the mid 2000s, the state accounted for a third of the country's production. Large Brazilian and American companies such as Bunge, Cargill and Amaggi – owned by the governor of Mato Grosso himself – expanded their fields of soy and took advantage of the 2003 law on "biosecurity" to boost their productivity. The devaluation of the early 2000s greatly contributed to such a sharp increase in Brazil's agricultural exports – with soy leading the trend – that newspapers worldwide started dubbing the country "the world's farm".[25]

In fact, the economic boom that Brazil enjoyed in the early 2000s was mostly due to its agricultural exports that soy now came to symbolise, as the world media began focusing on Mato Grosso as the engine of Brazil's development. As Brazil came to rank world's first producer of soy, sugar, chicken, coffee, tobacco and beef, it came to play an increasingly important role in international negotiations such as at WTO where the G20 was set up to struggle against the protectionist policies of the developed world. Accordingly, the

[25] Title of an article by Laurence Caramel in the French newspaper *Le Monde*, dated 23 May 2005.

agricultural sector enjoyed an increasingly powerful status in Brazilian politics as a MAPA representative accompanied Brazilian delegations in most of the government's visits abroad.

On a domestic level, agricultural producers of Mato Grosso demanded an improvement in means of communication, especially that of roads which would help them evacuate their produce and access foreign markets more easily. Partly as a result of these demands, the BR 364 (linking Cuiabá to Peru and the Pacific) was sealed and the "BR 163 Sustentável" was launched to allow agricultural products to reach the Amazonas at Santarém, where they would eventually be exported to Europe and North America.[26] During a short period of time, the soy industry also benefited from close collaboration with international organisations such as the World Bank which provided the *Grupo André Maggi* (or Amaggi, the largest soy producer in Brazil) with a US$ 30 million loan in 2003 (Greenpeace 2006:18).

By 2003-2004, agricultural production had reached a peak, as witnessed by figure of soy production in Mato Grosso, but also by an apex in deforestation rates (especially in Mato Grosso) for the same period. The publication of the 2003-2004 deforestation rates acted as a trigger for the environmental outcry against the agricultural boom of Mato Grosso. Representatives of the agricultural sector retaliated immediately by claiming that soy fields were not being extended over recently cleared land. However, it quickly became clear that in the case of Mato Grosso, the extension of soy fields had taken place at the expense of pastures of northern Mato Grosso which had simply shifted their production northwards, thus clearing additional forest fragments to compensate for their loss of land. In fact, Greenpeace report, published in 2006, actually claims that soy fields were actually directly extended onto forest lands (Greenpeace 2006:13).

Within months, due to intense environmental campaigning, the media shifted from brandishing the Brazilian agricultural boom as an economic success to an environmental disaster. The agricultural sector was swift in reacting as it adopted an openly hostile stance to criticisms of the sector's impact on the environment. Its main representatives – MAPA, ABAG and the governor of Mato Grosso, Blairo Maggi – took up a new version of an old argument that had been developed during the military regime.

Back in the 1970s, the military regime, through slogans such as *integrar para não entregar*, implicitly referred to the internationalisation of the Amazon as a major threat to Brazil's security and development. Since the regime actually often took advantage of foreign investments in its Amazonian Development Plans, fingers were never pointed at any country, foreign companies or individuals in particular.

During the 1980s, however, as both the environmental and indigenist movements gained strength, their main actors soon came to embody this foreign enemy that the military regime had never designated. The connections of the indigenist and environmental movements with international organisations became the proof of an international conspiracy whereby foreign interests, dressed up as NGOs, were trying to prevent the Amazon from "developing" by calling for forests and indigenous territories to be protected. Even the Catholic Church through CIMI (International Council of Indigenist Missionaries) and MEBs (Basic Education

[26] The BR 163 has also acted as a vector for the expansion of soy fields as production of soy has recently boomed in the Santarém region (Pará), notably due to the construction of processing plants such as that of Cargill (Greenpeace 2006:37).

Movements) was also accused of being involved in this international conspiracy,[27] as well as prominent Jewish members of the environmental movement such as José Lutzenberger.

This type of argumentation was embodied in two books entitled *Mafia Verde: o Ambientalismo a Serviço do Governo Mundial*, published in 2001, and *Mafia Verde 2: Ambientalismo, Novo Colonialismo*[28], published in 2005. In both books, the environmental and indigenist movements are meticulously deconstructed and links established between NGOs on the ground and international sources of funding. The authors also denounce the "environmentalist-indigenist movement" as an "anti-human and anti-developmentalist" international instrument composed of NGO networks and international organisations controlled by financial funds from developed countries. According to them, these networks represent a "genuine neo-colonial war machine against progress":

> The environmental movement is not a spontaneous sociological phenomenon that arises out of growing awareness about the real needs to reconcile human activities with respect for the environment in which they are inserted. Instead, the movement is an ideological and political construction, specifically and carefully planned, created and maintained by powerful internationalist hegemonic groups with the aim of preventing the expansion of the profits made by the industrial-technological societies from reaching certain peoples and parts of the world so as to keep the development process under their own control.[29]
>
> Lino *et al.* (2005:11)

Armed with such arguments and unlike most actors in other sectors, many representatives of the agricultural sector rejected a rhetoric based on environmentally-friendly concepts such as conservation and sustainable development. Instead, they adopted an openly hostile discourse, as witnessed by Mato Grosso Governor Blairo Maggi who made himself internationally famous when, in answer to accusations that he was promoting deforestation, replied "I don't feel the slightest guilt over what we are doing here (…). It's no secret that I want to build roads and expand agricultural production" (Greenpeace 2006:19).

Such a posture did not last very long. By 2005, the Brazilian currency not only stabilised but began gaining value again, pushing the international prices of Brazilian agricultural products up again and thus reducing their competitiveness. Moreover, the publicity among western media about the link between soy and deforestation in Mato Grosso struck a blow to Brazilian agriculture as a whole, and within a year the production of soy and other products fell by 5 to 10%.

As a result, representatives of the agricultural sector shifted their discourse to a more conciliatory position with the environmental sector, and in 2006 a few hesitant hands were actually seen to reach out across the divide. In Mato Grosso, the Agriculture Federation (FAMATO) initiated cooperation projects with The Nature Conservancy, WWF and Instituto Socioambiental. Later that year, Greenpeace declared that it had reached an agreement with

[27] The section on Acre provides greater detail about CIMI, MEBs and the role of the Catholic Church in social movements in the Amazon in the 1970s and 1980s.

[28] "Green Mafia: Environmentalism at the Service of World Government" and "Green Mafia II: Environmentalism, Neo-Colonialism".

[29] "O movimento ambientalista não é um fenômeno sociológico espontâneo, decorrente de uma conscientização sobre as necessidades reais de compatibilização das atividades humanas com certos requisitos de respeito ao meio ambiente no qual elas se inserem. Na verdade, trata-se de um engendro ideológico e político, específica e habilmente planejado, criado e mantido por poderosos grupos hegemônicos internacionalistas, com o propósito de conter a expansão dos benefícios das sociedade industrial-tecnológica a todos os povos e países do planeta e manter o processo de desenvolvimento sob o seu controle."

the country's largest producers of soy to place a moratorium on the expansion of soy fields into the Amazonian biome. MAPA even made a mention of "Sustainable Development" in its Strategic Priorities Report for 2005 and 2006, although the Ministry limits its aims to ones such as "increasing awareness of the concept of sustainable development" and "creating a pilot programme for sustainable development of agro-energy" (AGE 2005:41).

* * *

Among all the sectors of Brazilian forest policies, those of the agricultural sector have doubtlessly been the most resistant to any type of change, which has resulted in open confrontation with the growing environmental sector. Unlike other sectors which sought to incorporate certain elements of the environmental sector such as its argumentation, actors in the agricultural sector have largely retained a hostile position to this day. The latest developments which suggest a *rapprochement* between the two sectors might be the initial signs of some change, but only time can tell whether the relationship between the two sectors will effectively evolve.

1.4.5 Agrarian Reform

1.4.5.1 The Construction of the Issue

Throughout its history, Brazil has been characterised by extreme skewness in terms of land distribution. From 1511, when the Portuguese King used an old Portuguese law, the *Lei das Sesmarias*, and divided his colony into a number of *capitanias* to be owned by just a dozen men, the large majority of the country's lands have been the property of a mere handful of owners. Today, 47% of the country's land is owned by just 1% of its population.

The issue of land distribution has long been regarded as a political problem – some even claim that "agrarian reform is to the Republic what slavery was to the monarchy" (Veja undated). In 1850, the *Lei das Terras* allowed land to be purchased for the first time, rather than just being inherited, but since the vast majority of the population was unable to afford to buy land, it remained concentrated in the hands of a few. This economic elite went onto playing a major role in Brazil's first Republic as they were the one who benefited most from the coffee and sugar exports that propped the country's economy up until the 1930s. Whilst in Europe and North America, land ownership was dominated by a family-based system where little use was made of non-family labour, in much of the country land belonged to a minority which depended on labour for its cultivation.

During the first half of the twentieth century and like much of the previous century, the landless peasants who did not work on large *fazendas* often occupied land without benefiting from any legal recognition, which often resulted in violent expulsions. However, with the rise of Communism in the 1930s, the issue gradually came to be perceived as a class struggle between a landed elite and the rural proletariat.

The end of the Second World War marked the beginning of large-scale social movements in favour of land distribution so as to solve both poverty and famines which still struck the arid

Northeast every few years. Their rise was greatly encouraged by the arrival of democracy in 1945 and the end of Vargas' Estado Novo. These movements, known as Peasant Leagues (*Ligas camponesas*), were strongly influenced both by Communist ideals and the rise in popularity of the Brazilian Communist Party in the 1930s. The rural workers thus took on a new political image as their leaders were seen to be increasingly closer to Communist Party officials throughout the 1950s until the latter officially became the spokesmen of the *Ligas camponesas*.

In 1961, a massive rally was organised in Belo Horizonte (Minas Gerais) where it was declared that amounted to demands for a radical agrarian reform: *latifúndios* would be liquidated and divided up into small lots before being sold off at reduced prices to those wishing to cultivate the land. The owners would be compensated with Agrarian Debt titles based on the fiscal value of the land which owners knew had always underestimated the market value of their land. Throughout the early 1960s, conflicts multiplied between *fazendeiros* and the landless poor who increasingly demonstrated and occupied lands whilst on either side violence escalated and assassinations of political leaders took place. The *latifúndio* was increasingly stigmatised as the social movement gained pace and rallied more and more support.

Of course, these trends worried the economic elite which very much feared that the 1961 Belo Horizonte Declaration would be executed as planned, especially in the political context of the regime at the time. Democratically elected president João Goulart was known to have left-wing sympathies and despite demands, the *Ligas camponesas* were never repressed. This fear of change probably played an important role in the support by the landed elite of the 1964 military coup.

The new military regime put an abrupt end to the landless social movements by outlawing the *Ligas Camponesas* and arresting their leaders. However, in an apparently paradoxical move, President Castelo Branco, who himself had grown up among the rural poor of the Northeast of the country, promulgated the Land Statute (*Estatuto da Terra*, Law no. 4504) as soon as he got to power in 1964. The law acknowledged many of the concepts that the *Ligas Camponesas* had upheld, such as that of the need for an "agrarian reform" through land redistribution, that of "latifúndio", defined as an excessively large property with aims other than cultivation (*e.g.*, land speculation) and "módulo rural" or a plot of land sufficiently large to sustain a nuclear family. In many ways this law laid the foundations of what was to come *after* the end of the military regime as it was never actually implemented by any of the military presidents.

1.4.5.2 Agrarian Reform Meets the Amazon

The issue of land redistribution was not dropped. However, instead of focusing on existing *fazendas* as sources of land for the rural poor, the military regime turned to the Amazon and by the early 1970s, land redistribution and Amazonian colonisation policies merged. The Amazon Basin was an empty region, the military governments claimed, that needed to be populated; and in contrast, the south and northeast of the country were not home to enough land for everybody: it was thus decided that the Amazon would be "the people-less land for the landless people" (*a terra sem homem para o homem sem terra*). In 1970, The National Institute for Colonisation and Agrarian Reform (*Instituto Nacional de Colonização e Reforma*

Agrária or INCRA) was founded with the creation of *assentamentos* (agrarian settlements) as its main policy instrument.

This theory was applied as early as the first National Development Plan which saw the construction of the 4,960 km-long Transamazonian Highway (BR 230), completed in 1972. Once the success of the previous operation based on colonisation by cattle ranches had been deemed mitigated, the military regime turned instead to the rural poor of the rest of Brazil as key in the development of the Amazon Basin. As soon as the Transamazonian Highway was opened up, 10 km on each side were to be reserved for colonisation schemes and divided into lots of 100 ha for distribution to incoming settlers. These lots could be purchased for US$ 700 payable over 20 years with a four-year grace period. For an additional $100, a four bedroom wooden house could be bought and each family was given $30 a month of salary plus food subsidies.

Every 50 km or so, *assentamento* settlements known as *agrovilas* were opened up on either side of the Highway. Along a main perpendicular side-road (*vicinal*), the land was divided into strips of 1 by 10 km where INCRA settled Northeasterners on one side and Southerners (*gaúchos*) on the other. The *vicinal* eventually led to large 3000 ha plots which were sold off to wealthier cattle ranchers. Due to the Legal Reserve rule, the *assentados* were not allowed to clear more than 50% of their land – the other half of which they were allowed to log selectively.

This ambitious plan never took off – only a small number of landless got round to moving to these new towns along the Highway, and out of those who actually settled only few remained. Barbosa (2000:51) provides several reasons for this: (i) very little research on the fertility of the soils along the road had been carried out, giving the false impression that agriculture would be easy; (ii) malaria was made more prevalent with changes in the environment; (iii) the upland rice promoted by the government could not be grown; (iv) the colonisation projects were too far from markets; (v) fertilisers and pesticides were out of geographical reach; (vi) despite the low prices offered for the land, many *assentados* never tried to obtain credit because of the complex bureaucratic obstacles; and (vii) Nordestinos were reluctant to move into the Amazon after the tales they had heard from people returning. Only the settlements outside of INCRA control (such as Repartimento and Pacajá) or the older, already existing settlements (*e.g.*, Marabá and Altamira) flourished.

Even those who had participated in planning colonisation schemes along the Transamazonian now consider it a fiasco. Some of them recall how studies planned by INCRA to improve agriculture and prevent malaria and other diseases got pushed aside by the government which was keen on obtaining short-term results. In the face of such failure, the colonisation model for developing the Amazon Basin was dropped for a few years while a new model based on "development poles" was implemented, such as that of Carajás.

However, the colonisation scheme was revived with the POLONOROESTE programme which focused on developing colonisation schemes in the state of Rondônia and which have been described in great detail by French geographer Hervé Théry. Within two decades, Rondônia was profoundly affected by national colonisation schemes spearheaded by INCRA which applied the same model as that developed along the Transamazonian Highway.

The BR 364 opened up the then Federal Territory to colonisation which had three major impacts on the region, according to Théry (1997): (i) the population of the state grew from

110,000 in 1970 to over 500,000 in 1980 and currently stands at over 1.5 million, according to latest IBGE figures; (ii) the road network multiplied from two major BR axes in the 1970s to a complex network of fractal-like side-roads reminiscent of fish bones when viewed from the air; and (iii) the state of Rondônia has consistently ranked first in deforestation rates relative to state size.

By promulgating the *Estatuto da Terra* in 1964 and carrying out ambitious colonisation schemes in the Amazon Basin, the federal governments of the military regime thus succeeded in taking over the responsibility for agrarian reform that the non-governmental social movements had championed in the 1950s and early 1960s. Despite the failures of many of the colonisation schemes undertaken, overall over 100,000 families ultimately settled in the Amazon Basin during the military regime.

1.4.5.3 The Rebirth of the Social Movement

The sector of agrarian reform in the 1980s was marked by the rise of the Movement of Landless Rural Workers (*Movimento dos Trabalhadores Rurais Sem Terra* or MST). Created in 1979 among the *favelas* of southern cities which had grown with immigration from rural surroundings, this social movement filled the vacuum left by the disappearance of the *Ligas camponesas* at a time when the move to democracy was only just starting again. In its first five years of existence, MST spread rapidly from city to city across the country and along with democratic movements, it grew to reach national proportions by the mid-1980s.

The rise of the MST did not always happen peacefully, as illustrated by the arrests of many of its leaders in the early 1980s and the clashes that opposed Church and federal government – including a war of words encouraged by Brasília. Even at the beginning of the New Republic, the first democratically elected president, José Sarney, remained a fierce critic of MST and it was during his presidency that the Ruralist Democratic Union (*União Democrática Ruralista* or UDR) gained strength, bringing together *fazendeiros* and other landowners to counter MST's actions. The conflicts reached a peak in the late 1980s with a total of 640 land tenure-related deaths between 1985 and 1989.

Governmental responses to the rise of the landless movement did little to help. After having created the country's first Ministry of Agrarian Reform and Agricultural Development (*Ministério da reforma agrarian e do desenvolvimento agrícola* or MIRAD) in 1985, the first civilian government also set up a National Agrarian Reform Plan (*Plano nacional da reforma agrária* or PNRA) the following year. In the meantime, the number of *assentamentos* grew faster than it had ever before, but despite such measures, conflicts escalated such as in the notorious area of the "Parrot's beak" (*bico do papagaio*) in northern Goiás.

In fact, the rapid growth of MST owes much to various other actors, notably rural syndicates created by the military regime in the 1970s and swelled the ranks of the organisation; and urban syndicates which in sympathy with what they considered as a sister social movement provided their full support. However, the strongest support was provided for by the Catholic Church in a period characterised by the popularity of Liberation Theology among South American clerics. As in other types of social movements, notably *seringueiro* and indigenist ones, the Church created Basic Education Movements (MEBs) which contributed to strengthening the political organisation of the landless movement, notably through education.

The role of the Church in social movements in the 1970s and 1980s is further described in the section on Acre.

MST has since imposed itself as *the* political reference in terms of agrarian reform in Brazil. Its main instrument has been to put direct pressure on large landowners and state governments to speed up land redistribution. It has carried out numerous direct actions to date, which mainly focus on occupying uncultivated private land and creating *assentamentos* which, after varying amounts of time, are generally legalised and regulated by INCRA. It has consistently adopted a critical stance *vis-à-vis* the federal government, even during the presidency of Fernando Henrique Cardoso who redistributed vast areas of land to satisfy MST demands. Even Cardoso's own *fazenda* was temporarily occupied by MST campaigners in 2000.

In fact, Cardoso attempted to correct the view of the agrarian reform as a failure and the description of INCRA as *O Instituto que Nada Conseguiu Realisar na Amazônia* (the Institute that never managed to carry out anything in the Amazon). From 1996 onwards, he picked up agrarian reform where the military regime had left it and began by pulling INCRA out of the Ministry of Agriculture to place it under the responsibility of the newly created Ministry for Agrarian Development (*Ministério do Desenvolvimento Agrário* or MDA). In terms of ministerial organisation, the creation of this new ministry represented a benchmark in that two ministries stood side by side, each with its own "function" (social versus economic) of the agricultural sector.

The MDA was created with the aim of providing the agrarian reform with more instruments than mere land distribution – which admittedly most actors took as an indicator of the reform's success. Various initiatives were set up, notably the National Programme to Strengthen Family-Based Agriculture (*Programa nacional de fortalecimento da agricultura familiar* or PRONAF), which has benefited of an entire secretariat of its own, that of family-based agriculture (*Secretaria de agricultura familiar* or SAF).

While some 400 invasions of large properties took place in 1996 upon MST's instigation, Cardoso also launched a programme which in five years resulted in the creation of 350,000 lots in new *assentamentos*, of which 60% (or 75% in terms of surface area) were located in the Amazon Basin (Droulers 2004:105). Even Lula has not succeeded in keeping up with the land distribution that Cardoso undertook, despite providing the movement with great hope when he got to power. Indeed, Lula – a former urban trade union leader – had enjoyed close ties with MST in the 1980s and 1990s, and when he got to power he nominated Miguel Rossetto as Minister for Agrarian Development, who had been a long-term supporter of MST's direct actions on private property.

1.4.5.4 The Environmental Component of Agrarian Policies

Unlike its agricultural "counterpart", the agrarian reform sector has made a number of moves to promote dialogue with the environmental sector, although in many ways the relationship has remained uneasy. Throughout the 1980s, the agrarian reform and environmental movements each battled for the creation of different types of areas, namely *assentamentos* and conservation units respectively.

The first concrete encounter between both movements took place in Acre around the claims by rubber tappers (*seringueiros*) to the official recognition of the lands they used. In 1985, the

National Council of Seringueiros (*Conselho nacional de seringueiros* or CNS) was founded in Brasília and by the late 1980s the *seringueiro* movement had achieved international visibility.[30] In the eyes of the agrarian reform movement, the struggle of the *seringueiros* was pretty much identical to those of other rural workers across the country, who all claimed for official access to land. In the eyes of environmentalists, *seringueiros* constituted an ally who was also struggling to maintain forests standing in the face of the expansion of cattle ranches – the main enemy identified by both movements.

This *rapprochement* by default created bridges between the two sectors whose main governmental representatives – INCRA, IBAMA and later MDA and MMA – sought to consolidate over the 1990s. First, in the mid-1990s the MMA signed with the then Extraordinary Ministry for Land Tenure Policy (*Ministério extraordinário de Política Fundiária*) a Protocol of Intentions. In this document known as "Environmental Agenda", INCRA committed itself to (i) recognising only plots of less than 100 ha in Legal Amazonia and (ii) limiting the creation of *assentamentos* in areas still occupied by forests. INCRA also accepted to create an environmental management unit (*Gerência ambiental*) within its structure so as to incorporate the environmental dimension into its daily activities (Schweickardt 2003:84).

Secondly, the agrarian reform sector was involved in PPG7 through its Natural Resource Policy Sub-Programme (*Sub-programa de Política de Recursos Naturais* or SPRN). In this respect, (i) the Integrated Environmental Management Project (*Projeto de gestão integrada* or PGAI) was implemented in the state of Amazonas and (ii) the Amazonian Demonstrative Project (*Projeto demonstrativo da Amazônia* or PDA) was carried out with MMA to promote production alternatives and agroforestry in *assentamentos*.

Thirdly, and most importantly, INCRA created new types of *assentamentos* that were officially aimed at incorporating the specificities of the Amazon Basin. The first of these was the Agro-extractivist *Assentamento* Project (*Projeto de Assentamento Agro-extrativista* or PAE) created in 1996 and which, modelled on IBAMA's RESEXs, has gained considerable fame, mainly through the pioneering PAE Chico Mendes in Acre. This model not only incorporated the successful *seringueiro* movement into the sector of agrarian reform but also recognised its specificities by imposing strict environmental restrictions on the use of land within PAEs.

In 1999, the category of Sustainable Development Project (*Projeto de desenvolvimento sustentável*) was created through an internal regulation at INCRA, allowing *assentamentos* to be created inside forests. These would be based on "sustainable" extraction of forest products (just like PAEs) but which would be populated by rural workers who did not necessarily have any prior experience of the forested environment. Most recently, a third category of forest based *assentamento* was created in 2004, known as Forest *Assentamento* Project (*Projeto de Assentamento Florestal* of PAF).

In many ways, however, these new measures have only had very minor influences on the way MDA and INCRA have operated. By 2006, 32 PAEs, 19 PDSs and 5 PAFs had been created, but these figures were still dwarfed by the number of "traditional" *assentamento* projects

[30] On Chico Mendes' funeral in December 1988, rural worker leaders got a red MST flag to be placed over the coffin, although Mendes himself had never been a member of the organisation. The case of the *seringueiro* movement and in particular its association with the environmental movement is described in greater detail in the section on Acre.

which numbered over 7,000. Likewise, in 2003, the environmental management unit was upgraded to a coordination which by 2006 had not yet been officially recognised by the organisation. The staff at the coordination complained that relations with the other structures of INCRA remained difficult and that many still considered them as "a flying saucer from MMA that had landed at INCRA".

* * *

Both MDA and INCRA defend their environmental record and claim that their practices have changed in the face of concern over deforestation and forest degradation, especially over the past 15 years. Their representatives base their arguments (i) on the 1988 Constitution which stipulates that care must be taken in *assentamentos* to use natural resources "adequately" and "preserve the environment" and (ii) on a myriad measures taken by both organisations to incorporate environmental elements into their rural extension activities.

However, several factors have prevented them from moving any closer to the environmental movement. Their dismal environmental record in the 1970s and 1980s partly remains to blame. Yet many other elements (such as the unease felt by members of INCRA's environmental coordination) suggest that in spite of changes in discourse, instruments and even organisation, the staff at INCRA and MDA continues to view growing environmental regulations as a trend that must be resisted.

1.4.6 Military Policies

The military sector has played a large role in Amazonian policies since 1964 for two main reasons: (i) the very nature of the military regime (1964-1985) included the territorial army in much of the federal governments operations in the Amazon Basin during that period, and (ii) the long-standing fear of "internationalisation" of the region that the military regime upheld as one of the main reasons to develop Legal Amazonia.

In 1959, five years before the military coup, the Amazon saw the creation of the *Comando Militar da Amazônia* or CMA in Belém, which moved to Manaus in 1967, eventually taking control of all the armies in Legal Amazonia except for Mato Grosso. During the 1960s and 1970s, however, the Territorial Army only participated in the implementation policies insofar as it provided labour for the construction of large-scale infrastructure such as roads.[31] In times of conflict such as with the Waimiri-Atroari Indians during the construction of the BR 174 road between Manaus and Boa Vista, the Army also intervened to quell any conflicts that arose. The role of the Army in this particular case is described in the section on Amazonas.

Between 1950 and 1986, the size of the Army stationed in Legal Amazonia grew from 1,000 to 6,000, but paradoxically, it was not until the end of the military regime that construction of military infrastructure in the Amazon Basin really picked up speed. In 1985, President José Sarney launched the *Calha Norte* Programme. This programme differed from the others in

[31] See section on Mato Grosso which describes the role of the army in the construction of the BR 163 in the early 1970s.

that it was claimed that it addressed military rather than civilian concerns about the vulnerability of the northern frontier.

The programme covered a 6,500 km long frontier from Colombia to Suriname, thus including almost a quarter of Legal Amazonia. The first attempt to develop the area had taken place when President Emilio Garrastazu Médici initiated the Northern Perimeter Highway in 1973 linking Amapá to Bogotá, but the project was later abandoned for financial and technical reasons.

Both the fears of communist infiltration from countries such as Suriname and the possible creation of a Yanomami nation are said to have reignited the military regime's desire to develop the region. The project proposal was presented to President José Sarney (who himself had emerged from military ranks to become the first democratically elected president) on 15 June 1985 by a working group under strict secrecy. Under the guise of national security the Brazilian people were kept uninformed and the project classified as top secret, although missionaries had already leaked the story. Even Congress was only officially informed of the Programme in 1987 (Barbosa 2000).

Anthropologist Bruce Albert actually interprets the project as an attempt by the military to redefine Indian policy in Brazil in favour of economic interests, especially mining interests. The project was proposed using both environmental and nationalistic arguments but Albert claims that a closer look shows that the project was aimed at reducing the size of the proposed Yanomami reservation: it included provisions that classified Indian lands near frontier areas as a special case due to national security.

According to Albert, the programme overlapped Yanomami lands with "conservation areas"; inter-ministerial directives 160 and 250 which called for the demarcation of Yanomami lands made the status of the reservations ambiguous and thus subject to future invasions by prospecting mining companies. In other words, about 50% of Yanomami lands could thus be opened up *ex officio* to mining companies directly with IBAMA or FUNAI's consent. Albert then accused the programme of giving legitimacy to the invasion of Yanomami lands by thousands of small gold prospectors, whilst mixing Yanomami lands with FLONAs gave the impression that the Yanomami reservation was bigger than it was. The secrecy with which Calha Norte was carried out probably favoured such conspiracy theories which nevertheless remain unproven.

Despite such criticisms, the *Calha Norte* Programme was revived in 2000 after having been gradually set aside in the 1990s, as witnessed by the reduction in funding for the project. It was also extended southwards to include all of the border areas of Amapá, Pará, Roraima, Amazonas, Acre and Rondônia. This time, a much more civilian tone was given to the project which was certainly aimed at "increasing the presence of public authorities in the Calha Norte region, thus contributing to national defence, [but also] providing assistance to the region's populations and consolidating the presence of Man along the borders of Brazil" (Ministério da Defesa 2005:1).

The Ministry of Defence[32] advertised the new programme as promoting development in the border regions of the Brazilian Amazon by supporting local communities in healthcare and education initiatives, as well as maintaining airstrips and roads, distributing basic material and

[32] It was only in 1999 that the three Ministries of the Territorial Army, the Navy and the Air Force merged to form the Ministry of Defence that Brazil is equipped with to this day.

equipment to indigenous communities. In brief, *Calha Norte* was put forward as an initiative to protect Brazil's borders by providing humanitarian aid to local populations – a far cry from the anti-Indian accusations it had had to contend with in the 1980s.

However, the advertising of *Calha Norte* also differed from the arguments that CMA representatives have provided to account for the continued growth of army staff in the Amazon in the 1990s and 2000s. Between 1986 and 2004, the number of army personnel stationed in the region shot up from 5,000 to 22,000, and the arrival of an additional 3,000 is planned by 2007.

A quick overview of recent speeches made by General Figueiredo (head of CMA) shows that arguments justifying the existence of CMA still revolve around the fear of internationalisation of the Amazon. Two sets of concrete elements have allowed General Figueiredo and other decision-makers to support their claims. First, the Brazilian Amazon is home to some 11,000 km of borders with eight different countries, *i.e.*, over half of all of Brazil's borders. The lands close to these borders are home to major natural resources that need to be protected, both above land (forests and biodiversity) and beneath it (minerals). This is where the environmental component of the discourse is incorporated, as the army claims that by securing Brazil's borders, it is protecting the forest against destruction.[33] Yet, according to the CMA's arguments, this wealth is not guarded as the Brazilian Amazon is characterised by a "demographic vacuum", notably due to the existence of large indigenous territories. The CMA thus justifies its presence as a protector of the region's resources and thus the country's wealth.

Secondly, a number of potential threats have been identified in CMA's arguments, although admittedly they are either highly diffuse or very localised. On a regional scale, drug trafficking, it is claimed, poses a major security risk; most of South America's drugs that transit through Brazil do indeed take Amazonian routes – via Acre, the Solimões and the Dog's Head (*Cabeça do Cachorro*) and out through Belém or Guyana. The threat posed by the *Fuerzas Armadas Revolucionárias de Colombia* or FARC in the Dog's Head region is a genuine national security problem given that they have been known to carry out activities in Brazilian territory in recent years.

However, the more "diffuse" threats of internationalisation are what have retained the CMA's attention, notably in the form of a number of speeches made by prominent politicians of developed countries in the last two decades. At a time when western politicians tried to show concern about deforestation in the Amazon, French President François Mitterrand was heard to say in 1989, "Brazil needs to accept relative sovereignty over the Amazon"; Michail Gorbachev claimed in 1992 that "Brazil must delegate some of its rights over the Amazon to competent international organisations" and Pascal Lamy declared in 2005 that "The Amazon and other tropical forests of the world ought to be considered world public goods and submitted to collective management or placed under the responsibility of the international community".

No later than in early Otctober, the *Daily Telegraph* claimed that David Miliband (DEFRA, UK) had put forward a proposal for funding a project which would involve buying off large areas of the Brazilian Amazon to protect them – the latest of speeches made by politicians of

[33] Although when Peruvian loggers have been known to cross the border into Acre and remove trees from the Serra do Divisor National Park in 2006, the CMA refused to provide any assistance to IBAMA.

developed countries which did not go down too well back in Brazil. As General Figueiredo put it,

> Today, the world is witnessing the end of bipolarity. The new predominant world order has shifted the axis of strategic confrontation. This is the era of globalisation. The current tendency is one of armed conflicts with or without the support of the United Nations, and which is at the service of the world's greatest powers. These interventions could take place based on the following justifications: drug trafficking, tropical deforestation, illegal immigration, international terrorism, protection of ethnic minorities. International cupidity and interference – mere rhetoric or reality?[34]
>
> General Figueiredo (2005:4)

* * *

As the public authority with the greatest number of staff stationed in Legal Amazonia, the armed forces have become an unavoidable actor in Amazonian policies, especially in the more remote areas such as along borders. Unlike most sectors, however, the army has witnessed very little change over the past few decades, if at all – although their role in infrastructural policies was stopped with the end of the era of "pharaonic works". Numbers have grown and projects have been undertaken; yet in its organisation (CMA), its instruments (stationing personnel along the borders and the *Calha Norte* project) and its arguments, the military sector has very much kept on the tracks that it had set itself back in the 1970s and 1980s.

1.4.7 Indigenist Policies

1.4.7.1 Context

As several specialists of this field have pointed out in the past, it is important to distinguish between the terms "indigenous" and "indigenist". Since "indigenous" refers to everything that relates to or belongs to the first peoples of Brazil (in the current case), "indigenous policies" should be defined as policies elaborated *by* indigenous peoples themselves, as opposed to "indigenist policies" which are elaborated *for* indigenous peoples, their lifestyles and everything indigenous.

In turn, the concept of "indigenous peoples" has been defined in many different ways; however, in order to cut the debate short, the definition retained here is the most frequently used one among indigenist actors in Brazil, namely that of *self-identification*. In other words, an indigenous society may be defined as

> (...) a group of people that identifies itself as a collectivity distinct from the rest of national society in virtue of its historical links with populations of pre-colombian

[34] "Atualmente o mundo vive o fim da bipolaridade. Está predominando uma nova ordem mundial com desvio do eixo de confrontação estratégica. É a era da globalização. A tendência atual é de intervenções armadas com ou sem o patrocínio da Onu, que está a serviço dos interesses das grandes potências. Essas intervenções poderiam acontecer com as seguintes justificativas: narcotráfico, destruição das florestas tropicais, imigração ilegal, terrorismo internacional, proteção de minorias étnicas. A cobiça e ingerências internacionais são uma retórica ou uma realidade?"

> origins (before Christopher Columbus arrived in the Americas). Any individual who recognises him or herself as part of a group with these characteristics and is recognised as such by the group can be considered an Indian (*Índio*).[35]
>
> Instituto socioambiental 2006

Just as the very definition of an indigenous society remains subject to debate, so does the count of indigenous societies within Brazil. It is generally acknowledged that the country is home to some 220 distinct indigenous societies, the main criteria for differentiation being self-identification and language. Borderline cases such as the Yanomami are defined as a single society, despite the considerable cultural differences between groups. Brazilian indigenous societies fall into two main linguistic families – the Tupi (*e.g.*, Tupi Guarani, Mondê, Munduruku) and the Macro-Jê (*e.g.*, Rikbaktsa, Bororo). Some indigenous societies only speak Portuguese due to cultural loss or the re-emergence of ethnic identities – one example of which, the Nawa, is described in the section on Acre.

Whilst it is now believed that upon arrival of the Portuguese in Brazil in 1500 there were probably between 2 and 4 million people already living in Brazil, latest censuses place the number around 370,000 some five centuries later, which represents about 0.2% of the country's population. However, this includes the recent population growth that indigenous groups have enjoyed in the past decade or so. These figures are based on estimations provided by FUNAI and CIMI (*Conselho Indigenista missionário*) rather than an actual census which does not exist in Brazil for indigenous populations specifically. Most indigenous societies are extremely small as over 50% of registered "peoples" (*povos*) are represented by fewer than 500 individuals (see Figure X).

[35] "(...) um grupo de pessoas que se identifica como coletividade distinta do conjunto da sociedade nacional em virtude de seus vínculos históricos com populações de origem pré-colombiana (antes que Cristóvão Colombo chegasse à América). Todo indivíduo que se reconhece como parte de um grupo com essas características e é pelo grupo reconhecido como tal pode ser considerado um índio."

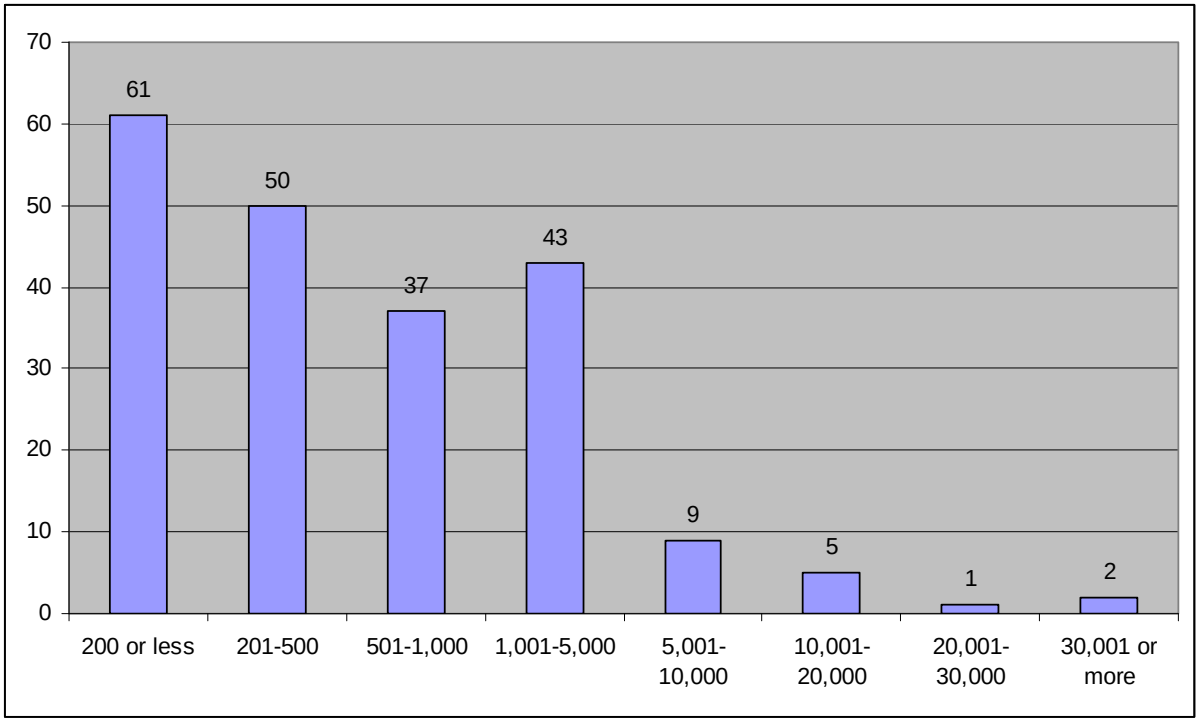

Figure X. — Indigenous societies (*povos indigenas*) by number of people per society (after Instituto socioambiental 2006).

In 2004, indigenous territories occupied almost 105 million hectares (over a million km², roughly twice the size of Spain or 12% of Brazilian territory) – by comparison, conservation units "only" covered some 67 million hectares (Bensusan 2004:69). The overwhelming majority of indigenous territories are located in Legal Amazonia (97% in terms of surface area), although most recent trends have seen an increase in the number of indigenous territories in the rest of Brazil.

1.4.7.2 Indians and Colonial Brazil

The history of contacts between Portuguese immigrants and indigenous peoples of Brazil is characteristic of the colonisation of the Americas, where – apart from a few regions such as the Andes and Central America – the indigenous population was decimated by wars, diseases and exhaustion through slavery, resulting in the near-complete substitution of the indigenous by the immigrant population.

In legal terms, the situation of indigenous societies oscillated between various statuses – from that of slaves to free men equal to immigrants or occupying a specific category in and of themselves. In 1500, all the lands of Brazil officially belonged to the crown, but in 1680, Portugal recognised the right of Indians to their lands. However, in 1808, the situation reverted again as a *Carta Régia* stipulated that all lands taken from the Indians in "just wars" should be labelled as *terras devolutas* (public lands) – at the time perceived as a temporary status before privatisation.

However, the relationship between Indians and non-Indians in practice remained much more constant and resulted in the gradual decimation of the indigenous populations. Whether the

relations were friendly or not at first mattered little as immigrants generally ended up confiscating land and resources from indigenous populations – generally by force as the Indians often resisted to such incursions.

In this process, the Church plays a role that many observers today consider ambiguous. As soon as the Americas were "discovered" by the Iberian powers, the Church considered that Indians were not animals but human beings endowed with a soul, and that therefore they could be subjects of Christ. However, as heathens they should be considered as children who needed to receive the wisdom and education of the Church to "grow up" to be true Christians.

The mission of converting the indigenous "heathens" was undertaken by a number of religious orders, notably the Franciscans, Jesuites, Carmelites and Mercedarians which all settled in the Amazon Basin at the beginning of the 17th century. In order to spread the word of faith, they encouraged Indians to settle in villages (*aldeias*) in a process known as *aldeamento*, which many today consider as one of the primary causes of "acculturation" or loss of indigenous identity. There, the Indians learned Portuguese and about Catholicism and many swapped their nomadic, hunting and gathering lifestyle for a sedentary one based on agriculture. During this process of cultural change, they also learned that European society and technology was "superior" to their own (Ribeiro 1970[2004]:47).

However beneficial the missionaries actually thought they were being by catalysing this social change, it is understood that their actions were based on the underlying belief that indigenous society was only a transient social state and that Indians had to be helped into adopting the same lifestyle, language, religion and set of values as the European settlers. In other words, the "savage" state of indigenous societies was compared to some sort of societal infancy and that eventually Indians would grow up and reach a "civilised" state where they would fully integrate Brazil's immigrant society.

Despite these views that many today consider colonialist and even racist, missionaries also undoubtedly played a major role in the survival of Indians – not necessarily as societies but as individuals. In the face of *bandeirantes* and other types of slave and Indian hunters, missionaries – as the leaders of indigenous *aldeias* – often defended Indians against attacks, massacres and slavery, claiming their status as free men. On more than one occasion the Church successfully opposed those who saw Indians merely as a brake to the expansion of the country or who believed that the world would be better off without them. This of course created important conflicts between the Church and the State and ultimately played a large part in the expulsion of the Jesuits from Brazil in the late eighteenth century.

1.4.7.3 Indians and Independent Brazil

The nineteenth century brought little change to the fate of Indians in Brazil. The 1850 Land Law (*Lei das Terras*) did recognise the rights of Indians to lands, but Emperor Pedro II then pretty much revoked it as Indian lands were then considered *terras devolutas*. In practice, the century was largely characterised by the fall in the number of missionaries in the Amazon Basin and the opening up of new frontiers in the southwestern Amazon with the rubber boom – which inevitably resulted in a *débâcle* among Indian populations including massacres and epidemics, as is described in the section on Acre.

Faced with the decimation of newly contacted populations due to the rubber boom, a few philanthropists showed their concern about the fate of Indians, notably that of Marechal Cândido Rondon, himself of indigenous descent and who knew the "interior" well.[36] He is widely credited for having almost single-handedly created the first governmental organisation to attend indigenous populations and issues specifically – the Service of Protection of Indians and Localisation of National Workers (*Serviço de Proteção aos Índios e Localização de Trabalhadores Nacionais* or SPILTN), in 1910, which was shortened to SPI in 1930.

Ribeiro (1970[2004]:149) describes the atmosphere at the time as one of heated debate between (i) those who retained an "assimilationist" view of Indians as children that had to be "civilised" and (ii) those, such as evolutionary scientist Hermann von Ihering, who believed that like species that cannot compete successfully, Indians had to die out. In fact, this view was so horrific in the eyes of many that it was in reaction to such arguments that the SPI was finally founded. Among "assimilationists", some saw the Church as the only way of "civilising" Indians, hence the revival of missionaries such as Salesians in northern Amazonas in the 1910s. Others believed that the only way to civilisation was tutelage by the State, hence the creation of the SPI.

However, the aims of SPI as its staff set it turned out to be different. Ribeiro notes (1970[2004]:158) that a number of SPI staff saw indigenous societies not as a transient phase but as a permanent state that – unlike von Ihering's claims – was not doomed to die out. Hence, they succeeded in including in the 1911 Law on the creation of the SPI the idea that indigenous "tribes" had the right to "be themselves", *i.e.*, retain their own beliefs and live the unique lifestyle that only they were capable of maintaining. Dismembering indigenous families was banned and the status of indigenous lands as collective and unalienable was recognised.

In practice, the SPI succeeded in "pacifying" (*i.e.*, establishing peaceful relationships with) all indigenous groups who remained at war with the State, but beyond building a bridge between indigenous societies and the State, the responsibilities of the SPI was limited. For example, the SPI played no role in creating indigenous territories which remained in the hands of state and municipal governments (who obviously had little interest in creating such territories). Throughout the 1910s to the 1930s, the SPI suffered from regular budget cuts that often did not even allow it to pay its own staff, and in 1930, the SPI lost its autonomy as it was attached to the Ministry of Labour.

According to Ribeiro, the fact that SPI did not simply disappear was merely due to the status that Marechal Rondon enjoyed as a popular politician throughout the first half of the century. During Vargas' presidency and *Estado Novo*, the SPI suffered further setbacks as measures were taken in 1936 "to nationalise the forest dwellers [as they were known as at the time] with the aim of incorporating them into Brazilian society" ("*para nacionalização dos silvícolas, com objetivo de sua incorporação à sociedade brasileira*") (quoted in Dos Santos *et al.* 2002:227).

Brazil's indigenist policies underwent little change in the years following the Second World War, with the notable exception of the creation of the Xingú National Park in 1961. This park, situated on the border between Pará and Mato Grosso, resulted from demands made by a number of famous individuals such as anthropologist Darcy Ribeiro and the Villa-Bôas

[36] The section on the indigenous issue in the chapter on Mato Grosso describes the ethics and works of Marechal Rondon in greater detail.

brothers. The aims of this park were both to preserve the environment – an objective faithful to the original concept of national park which had been shipped over from the United States – and to protect the indigenous people living on these lands (Araújo 2004:28).

This event is crucial in two aspects. First, it contributed to imposing the view that indigenous societies not only had rights to the lands which they lived on, but that they were there to stay. In a sense, the creation of such a large indigenous territory (despite the fact that it eventually turned out to be less than half the proposed size) amounted to recognising that Indians could retain their traditional lifestyle as long as they wished. Secondly, it played a fundamental role in shaping the main demand of the growing indigenist movement a couple of decades later, namely the right to land and the demarcation of indigenous territories.

1.4.7.4 The Military Regime

The plans that the military regime had in reserve for the Amazon inevitably had a great impact on indigenist policies – both in Brasília and on the ground. Just like the 1964 Estatuto da Terra had brought hopes to those in favour of an agrarian reform, the 1967 Constitution – or rather the 1969 amendments brought to it – sounded promising to those in favour of granting lands to indigenous societies. According to the amendments, all indigenous lands were to be handed over to the Union, thus centralising all indigenist policies at federal level. Moreover, Indians were recognised the right of exclusive usufruct of natural resources on their lands, and projects to compensate individuals who owned land on indigenous territories were nullified (Araújo 2004:28). 1967 also saw the replacement of the SPI, riddled with allegations of corruption, with the National Indian Foundation (*Fundação Nacional do Índio* or FUNAI) that took over as "tutor" of the country's indigenous societies.

However, what better reflects the mood of the military regime was the promulgation in 1973 of Law no. 6001, better known as the "Indian Statute" (*Estatuto do Índio*), which remains in vigour to this day. The main idea of the law is given by its first article, which stipulates that Indians must be integrated into Brazilian society by assimilating them harmoniously and progressively. It also states that as "forest dwellers" are "relatively incapable" (*relativamente incapazes*),[37] decisions regarding them should be taken by FUNAI rather than by Indians themselves. The *Estatuto do Índio* also divided the concept of indigenous lands into five different categories according to the state of "integration" of the Indians who lived in them (Araújo 2004:29-30):

1. Lands occupied traditionally (*Terras ocupadas tradicionalmente*) was the implementation of the concept of indigenous territories as they stood in the 1967/1969 Constitution;

2. Reserved Lands (*Terras reservadas*) were lands recognising indigenous *posse* but not for an indefinite amount of time;

3. Indigenous Dominion Lands (*Terras de Domínio dos Índios*) were lands that could be bought or sold by FUNAI;

[37] *Relativamente incapaz* is a legal category which Indians shared (as a result of the 1916 Civil Code and until the 1988 Constitution) with people between the ages of 16 and 18, the partially mentally deficient, "drunkards" (*ébrios habituais*) and drug addicts (*viciados em tóxicos*). It is opposed to *absolutamente incapaz* which includes the fully mentally deficient, people under the age of 16 and those unable to express their will.

4. Indigenous Agricultural Colonies (*Colônias Agrícolas Indígenas*) apparently betrayed the wishful thinking by the military regime that Indians would contribute to the efforts to expand agriculture in the Amazon by settling down with non-Indians into colonies to practice agriculture; and

5. Indigenous parks (*Parques indígenas*) seem to be based on a single case, that of Xingú National Park.

The *Estatuto do Índio* also stipulated that indigenous territories could only be recognised upon approval of the executive power.

Examples abound throughout the 1970s where indigenous groups were pushed aside to make way for public infrastructure works. Possibly the most emblematic example is that of the Panará Indians who were relocated by force to Xingú Indigenous Park (formerly known as Xingú National Park) to make way for the construction of the BR 163 between Cuiabá and Santarém in 1975. It is believed that the operation killed more than half of the Panará population; they were later invited to take over part of their "ancestral lands" in the 1990s as partial compensation.

Another example was that of the Waimiri-Atroari who voiced their opposition in the early 1970s to the construction of the BR 174 (Manaus-Boa Vista) through the lands they occupied. During the period of construction, entire villages disappeared and the decree enabling their land to be recognised was repealed. This particular case is described in the section on Amazonas.

The military government tried to ensure full cooperation from FUNAI, even in such difficult cases, by placing military men as heads of the organisation. However, it was soon realised that FUNAI staff – most of whom were anthropologists – refused to go along with the decisions the government took on indigenous issues. In 1983, a decree was released whereby any proposal of creation of an indigenous territory had to be submitted to a working group composed of various ministries and governmental bodies. Even president José Sarney – who was known for his sympathy for the previous military regime – deemed this insufficient as he forced FUNAI to share its responsibility over drawing indigenous territory boundaries with INCRA and the relevant state authority responsible for land tenure issues.

1.4.7.5 The Rise of the Indigenist Movement and the 1988 Constitution

In the late 1970s and 1980s, a small number of local initiatives took shape to represent indigenous societies in political spheres and call for the recognition of indigenous rights. Just like with other social movements during the period of gradual democratisation, the Catholic Church played a fundamental role through its Indigenist Missionary Council (*Conselho indigenista missionário* or CIMI) which was strongly influenced by Liberation Theology. The period also saw the creation of the country's first indigenist NGOs, such as the *Comissão Pro-Índio* (CPI) which still operates today, mostly in Acre.

At the same time, the United Nations was also giving birth to its own indigenist policies. In 1971, the UN Social and Economic Council resolved to authorise the preparation of a study on the living conditions of indigenous societies across the world – a task which took 12 years

to complete but involved, among others, ambassador Martinez Cobo – and in 1982, the UN created a Working Group on indigenous societies. CIMI, which benefited from connections with international actors through the Church, took advantage of these changes at the international level to encourage the rise of indigenous leaders in Brazil from the mid-1980s.

The burgeoning Brazilian indigenist movement played an active role in the elaboration of the 1988 Constitution which devoted an entire chapter to the indigenous question and turned out to be a watershed in terms of indigenous rights. Araújo (2004:31-2) lists the innovations of the new Constitution as follows:

- Recognition of the right of Indians to their specific social organisation, customs, languages, beliefs and traditions:
- Recognition of the original and unalienable right to lands traditionally occupied by Indians;
- Obligation of the Union to demarcate indigenous territories, protect and get everybody to respect the goods within them;
- Recognition of the right of Indians to permanent *posse* (right to use their land);
- Banning of any relocation of Indians, except in cases of natural catastrophes or epidemics;
- Recognition of the exclusive right of usufruct to the wealth of the soil, rivers and lakes within indigenous territories;
- Recognition of the use of mother tongues in indigenous education; and
- Protection of indigenous cultural manifestations, which are considered part of Brazilian cultural heritage.

The Constitution also provided the following definition of indigenous territory:

> [Indigenous territories] are lands traditionally occupied by Indians, inhabited by them on a permanent basis, used by them for productive activities, indispensable for the preservation of the environmental resources necessary to their well-being and necessary to their physical and cultural reproduction, according to their uses, customs and traditions.[38]
>
> First Paragraph of Article 231 of the 1988 Federal Constitution

In 1996, a decree was issued (no. 1.775) giving body to the process of land demarcation which by then was running at full steam. In particular, it divided the procedure in six different steps: identification (carried out by an anthropologist with the Indians concerned), contradictions (giving the opportunity for anybody to voice their disagreement over the project), declaration of limits, physical demarcation, homologation (ratification by the President of the Republic), and registration (with the Service of the Union's Heritage [*Serviço de Patrimônio da União* or SPU]).

The emphasis that the Constitution and the 1996 Decree placed on indigenous territories is not random, as it represented the main focus of the indigenist movement's demands from the government. The fact that indigenist organisations concentrated on a single demand doubtlessly played an important role in the growth of the network as a successful united movement, in spite of the tremendous cultural diversity of the indigenous societies they attempted to represent.

[38] "São terras tradicionalmente ocupadas pelos índios as por eles habitadas em caráter permanente, as utilizadas para suas atividades productivas, as imprescindíveis à preservação dos recursos ambientais necessários a seu bem-estar e as necessárias a sua reprodução física e cultural, segundo seus usos, costumes e tradições."

Indigenist movements have also attempted to get a law voted implementing rules set by the 1988 Constitution since the early 1990s, notably to make the 1973 *Estatuto do Índio* obsolete. However, debates still go on concerning certain points of bill as it get regularly blocked by certain members of Congress.

It was especially after the 1988 Constitution that the indigenist movement gained pace and organisations started multiplying. Anthropologist Bruce Albert (2000) notes that in 1988, there were fewer than ten indigenous organisations in the Northern Region of Brazil, but by 2000 this figure had risen to approximately 180 and probably over 300 for the whole of Legal Amazonia. Several reasons might explain this explosion of the indigenist movement into a constellation of actors.

First, article 232 of the Constitution legalised the creation of such organisations. Secondly, and more importantly, the late 1980s witnessed a weakening of the role of the State in indigenist policies. FUNAI, whose budget was already limited and had restrictions placed on creating new indigenous territories (see above), also saw its responsibilities concerning indigenous education and health handed over to different ministries. Albert claims that this retraction of the State that the military regime had developed in the indigenist sector strongly encouraged the proliferation of non-governmental organisations in this particular sector.

Thirdly, the rise of international concern about indigenous societies worldwide and the organisation of the Rio Summit in 1992 both encouraged international actors to focus on the indigenous question in Brazil. As a consequence, funding from donor organisations grew substantially in this particular sector, which injected financial and technical capital into the Brazilian indigenist movement which developed rapidly over the 1990s.

As a result, a number of fundamental changes have operated within the non-governmental indigenist sector. Albert (2000) argues that indigenous organisations created in the 1980s were characteristically informal associations, politically active and based on territorial demands for indigenous societies. However, by the late 1990s, most of these organisations had some sort of legal recognition with an official status and a bank account and worked on projects related to healthcare and education.

Likewise, whilst the main organisations in the 1980s were directed towards the State, they turned first to each other in the 1990s, organising themselves hierarchically and forming federations, but also increasingly to national and international NGOs and donor organisations. In parallel, the political leadership construction of indigenous organisations shifted from a concentration on a handful of charismatic leaders (such as Ropni and Bepkoroti for the Kayapó who had a great impact on the media) to a phase of "routinisation" of the ethnic discourse increasingly held by young individuals oriented towards international sources of funding.

Albert argues that the 1990s witnessed the beginning of a new political era shaped by the "projects market". In other words, indigenous organisations have increasingly turned towards and shaped their identity, political organisation and collective activities as a function of the conditions set by international donor organisations to release funding. José Pimenta (2006) provides a compelling case of the "coevolution" between indigenous leadership and project funding among the Ashaninka of western Acre, as described in the section devoted to that state.

Indigenous organisations have thus had to find a balance between protest actions to obtain concessions from the State on the one hand, and the promotion of participation which in turn attracts national or international funding. These organisations have benefited from much greater legitimacy thanks to a range of partnerships that many have succeeded in securing: (i) with intergovernmental organisations (European Commission, World Bank) and bilateral donors (GTZ), (ii) with various NGOs (Greenpeace, Instituto socioambiental), (iii) "fair trade" companies such as the Body Shop or Guayapi Tropical, (iv) municipal or state organs to collaborate over healthcare or education projects, and (v) a number of Brazilian or multinational companies (Eletronorte, Vale do Rio Doce) which provide funds for small-scale projects.

As was mentioned, the growth and consolidation of the indigenist movement took place around one central demand – the recognition and demarcation of indigenous territories, initiated in the 1970s in the context of the military regime's infrastructure works. The creation of indigenous territories reached its peak in the 1990s and it is now considered that by 2000 over three quarters of indigenous lands had some sort of legal status. Table VIII provides a summary of the status of indigenous lands in November 2006 (after Instituto socioambiental 2006). Despite the fact that most lands are now demarcated, many issues still remain concerning indigenous territories, notably the problem of "invasions" by non-Indians to extract natural resources (mainly timber, minerals and fish).

However, by the early 2000s, in the absence of a focus demand such as demarcation, the indigenist movement had to start looking for alternative challenges as its *raison d'être* and in order to attract international funding. Thanks to the *rapprochement* between the indigenist and environmentalist movements, many indigenous organisations have thus turned towards environmental and sustainable development projects instead.

1.4.7.6 Indigenist and Environmental Movements: An Uneasy Marriage

Contrary to common belief, the relationship between the indigenist and environmental movements is not a "natural" one as it stems more from the arrival of concepts such as sustainable development than from some inherent "knack" that Indians would have as conservationists. In fact, back in the 1980s, conservationists, who demanded the creation of conservation units free of humans, were often diametrically opposed to indigenists who struggled for the creation of areas where Indians could live.

The literature shows a certain level of animosity in this respect: for example, writing in the early 1990s, Andrew Gray claims that the Tropical Forestry Action Plan (the first major international initiative to fight against deforestation) was carried out without any consultation with the indigenist movement (1995:113). Likewise, he points out that "indigenous" societies were expelled from national parks no later than in 1988 in Tanzania, thus further emphasising the deep ethical divide between the two movements.

However, at the time of his writing, new ideas – catalysed by the arrival of "sustainable development" – were spreading like fire among social and environmentalist movements, both in Brazil and internationally. In Brazil, the collaboration between the environmentalist and *seringueiro* movements had created a precedent showing that (at least in appearance) social and environmental movements could work hand in hand. Chico Mendes' "Alliance of Forest

Peoples" appeared to have sealed for the very first time the union between *seringueiro*, indigenist and environmentalist movements.

The two movements got even closer to each other in the case of the Kayapó in the late 1980s. The Kayapó had already attracted considerable attention from international media when they successfully expelled hundreds of gold prospectors from their Xingu territory and had gained support from a number of high profile anthropologists such as Darell Posey and Janet Chernela.

The collaboration between the Kayapó and the environmentalist movement reached a peak at the famous pan-indigenous meeting held in 1989 in Altamira (Pará), where Kayapó leaders met up with 24 representatives of different ethnic groups as well as a number of environmental NGOs to voice their discontent at the dam project. Images from this event were beamed around the world and in November that year, Kayapó leader Bepkoroti (a.k.a. Paulinho Payakã) was rewarded with a medal from the Better World Society. In the early 1990s, he even formed an alliance with British pop singer Sting, which brought him more fame than any other Indian in Brazil had ever had.

In this context, Indians and the indigenist movement were increasingly seen as political allies for the environmentalist movement given the points both sectors shared in common and their apparent complementarity. First, both struggled to have land set aside against the advancing tide of deforestation, especially in the Amazon; they thus shared a common "enemy", namely cattle ranchers and the timber industry. The fact that indigenous territories are labelled as "protected areas" in Brazil is quite telling in this respect (as shown in Figure IV).

Secondly, and as a result of this, Indians gradually became nature's "stewards" in the eyes of environmentalist organisations: thanks to a perpetuation of their "traditional lifestyles", they would maintain the forest standing. Moreover, their extensive "traditional knowledge" about the environment they lived in would further contribute to the biological sciences – the discipline which lies at the basis of the nature conservation movement (Gray 1995:118). To this day, both movements continue to uphold this vision of indigenous societies, basing their arguments on two main facts:

(i) The relationship between indigenous societies and their forested environment has been described time and time again by anthropologists as one between two equals. Not only does the forest play a fundamental role in the cosmology of most of these societies, but it is also peopled with spirits and other living entities that constitute the crux of many indigenous types of animism. Moreover, indigenous societies of the Amazon have lived for many generations within a forested environment, and therefore know much more about it than non-Indians do (Posey 1993:150). In such a cultural and evolutionary context, anthropologists argue, indigenous groups are much less inclined to carry out deforestation or forest degradation than non-Indians.

(ii) Physical evidence does exist to prove this idea: satellite images of the Amazon consistently show indigenous territories as islands of forests in a sea of deforestation. This is especially the case in areas along the "deforestation front" such as the Xingu in northern Mato Grosso, where the edge of the forest exactly follows the limits of the indigenous territory. This has led authors such as Bensusan (2004:66) to claim that indigenous territories ought to be considered as fully-fledged conservation units, especially as many

types of conservation units (*e.g.*, RESEXs) conciliate nature conservation and social functions.

Despite the fact that actors in both movements emphasise that the idea of Indians as "inherent conservationists" is erroneous and overly simplistic, the vision of indigenous societies living in harmony with their natural environment has without doubt played a major role in sealing the alliance between the two movements.

However, this alliance has remained an uneasy one and since the early 1990s had been subject to numerous tensions. The earliest example was also the one that witnessed most publicity. Soon after Payakã's alliance had been sealed with Sting, it was revealed that the Kayapó had signed contracts that allowed timber and mining companies to operate within their territory. Once again, images of logging within the Xingu Park were beamed around the world and hit the headlines, including Brazilian magazine *Veja*'s "The end of romanticism" (*O fim do romanticismo*). The media image of the Kayapó was dealt another blow as Payakã was accused of sexual violence (Verswijver 2002).

These events were probably instrumental in the Kayapó leaders' decision to stand behind the camera rather than in front of it and make films on the Kayapó *by* the Kayapó, which contributed to rehabilitating their image in the latter half of the 1990s. Since then, the use of the camera has spread from the Kayapó to a large number of different indigenous societies and has become a major source of images of Brazilian Indians.

Despite these difficulties, international donor organisations focused on the indigenous issue by including the Integrated Project for Protection of Indigenous Peoples and Lands of Legal Amazonia (*Projeto para a proteção dos povos e das terras indígenas da Amazônia Legal* or PPTAL) as a subprogramme of PPG7. This subprogramme, which received funding mostly from the German government and the World Bank's Rainforest Trust Fund, has been implemented by FUNAI and has funded the demarcation of over 30 million hectares of indigenous territories. Likewise, several years earlier, the World Bank-funded Project for the Protection of the Environment and Indigenous Communities (*Projeto de Proteção do Meio Ambiente e das Comunidades Indígenas* or PMACI) had sought to build links between the two movements by emphasising their common objectives.

As the demands of indigenous organisations – which focused primarily on land demarcation – were eventally met and that they had to turn to alternative projects as sources of funding, many groups took up the Kayapó initiative and tried to secure contracts with logging or mining companies. However, none of them has turned out to be successful and in most cases the extractive activities never took place. Despite these failures, in recent years indigenous organisations have continued demanding the right to commercialise the natural resources on their lands.

The vast majority of members of the indigenist movement believe that some sort of legal restriction exists to prevent Indians from using their territory's natural resources for commercial means. Upon closer inspection of the existing legislation, no such rules exist; however, when questioned on the issue, most members of indigenist NGOs and FUNAI claim that they would do their best to prevent such cases from arising.

1.4.7.7 Isolated Indians

In Portuguese, a number of words qualify Indians who are in permanent contact with non-Indian societies and political structures, each with their value-laden nuance: "civilizado" (civilised), "domesticado" (domesticated), "manso" (tame, gentle, docile, domesticated). These terms are opposed to "isolado" (isolated), "arredio" (lost, withdrawn) and "brabo" (which has the same etymological origin as the English word "brave", meaning courageous, valiant and having the qualities of a warrior). Rather unsurprisingly, all of these terms – except for *civilizado*, *isolado* and *arredio* – are usually applied to animals rather than to humans to differentiate between wild and domesticated individuals. This may send back to what one would now refer to as a "racist" and "colonialist" view of the world whereby indigenous peoples were considered "inferior" to Europeans and settlers.

Nowadays, *isolado* (*aislado* in Spanish) remains the most widespread and politically correct term to describe Indian populations who do not have permanent *official* contact with non-Indian society. Given that the means now exist to travel just about anywhere on the surface of the earth, it is not by chance but rather by choice that these populations remain isolated. They are usually remnants of larger societies that upon encountering non-Indians underwent a traumatic experience and who prefer to isolate themselves from what they justifiably perceive as a threat to their existence. That is why many isolated Indians locally have a very fierce and violent reputation (such as the Korubo – at least until official contact in 1996 – as well as the Flecheiros and the Hi-Merimã of Amazonas).

The term "isolated Indians" actually refers to various indigenous groups that widely vary in the nature of their relationship with non-Indian society. Being "isolated" does not mean that these populations are not aware that they are surrounded by non-Indian populations, nor that they have never had contact with them. In fact, in most cases, these populations have built up a relationship – based on frequent or infrequent contacts – with various segments of non-indigenous society, but without being recognised by public authorities. For example, the Zo'é group of the valley of the Cuminapanema (Pará) were only officially contacted in 1989, although they had already established a permanent relationship with missionaries since 1982 and showed signs of contacts dating back to the 1910s.

Generally, some sort of infrequent (and often violent) contact takes place between "isolated Indians" and "outsiders" (such as other Indians, *reibeirinhos*, gold prospectors or loggers). During these contacts, the isolated people are able to have access to non-Indian tools, notably metal ones such as guns and kitchenware. These contacts take place most frequently with other Indians who are in contact with non-Indians, with adventurous seringueiros who happen to venture into an indigenous land or with forest-based groups that once populated the area, especially on the Peruvian side, such as the self-proclaimed Communist guerrilla "Sendero Luminoso". The image that "isolated Indians" are totally cut off from the rest of the world is therefore a myth.

Establishing a peaceful relationship between public authorities and indigenous groups has been the aim of numerous indigenous policies ever since the Portuguese first set foot in the Americas. Known as the "pacification" (*pacificação*) of Indians, this policy was the *raison d'être* of the SPI, founded in 1910 and which until recently (even in the form of FUNAI) aimed at contacting all indigenous groups on Brazilian territory so as to initiate the slow process of "assimilation" into Brazilian society.

Those Indians with least regular contact with non-Indians, however, were usually those who suffered the most from this policy. Generally, following a period of epidemics (often brought to them by SPI employees themselves) which decimated these populations, the survivors often integrated surrounding society as marginalised and impoverished individuals. As a result, they tended to abandon their previous lifestyle and scatter among non-Indian society – which some denounced as an extermination of indigenous cultures.

As indigenist policies shifted towards recognising and encouraging indigenous cultures and societies rather than attempting to "integrate" them into Brazilian society, the specificity of the "isolated Indian" issue was acknowledged. A Department of Isolated Indians (*Departamento de Índios isolados* or DEII) was thus established within FUNAI in 1987. Although the policy remained focused on contacting the country's last isolated Indians, six territorial units were recognised across Legal Amazonia, known as Ethno-environmental protection fronts (*frentes de proteção etno-ambientais*) aimed at protecting resident populations and their natural envirdonment from any contact with "outsiders" (Table VIII). The DEII, now known as CGII (*coordenação geral de Índios isolados*), is also responsible for the 46 known cases of isolated Indians within indigenous territories.

Territory	State	Situation
Alto Tarauacá IT	Acre	Declared
Hi-Merimã IT	Amazonas	Homologated
Massaco IT	Rondônia	Homologated and registered
Rio Muqui IT	Rondônia	Use restriction
Rio Pardo IT	Amazonas & Mato Grosso	Use restriction
Riozinho do Alto Envira IT	Acre	Identified and approved by FUNAI

Table VIII. — Brazil's six ethno-environmental protection fronts (based on ISA 2006).

Isolated Indians have long attracted considerable curiosity on the part of western society and especially the media, curious to have a peek at the last pockets of "non-civilisation".[39] As head of the DEII, anthropologist Sidnei Possuelo welcomed this media attention and even invited journalists to take part in his expeditions to the country's most remote regions, including his mission to contact the Korubo (in the Vale do Javari, Amazonas) in 1996. The media coverage was not welcomed by many at FUNAI who deemed it a lack of respect for those indigenous populations who had voluntarily isolated themselves from the rest of society.[40] As a result, in the early 2000s, indigenist policy shifted from one where isolated Indians were to be eventually contacted to one where they were to be protected *without* being contacted.

[39] See *National Geographic*'s August 2003 issue whose main article focuses on isolated Indians of the Vale do Javari indigenous territory.

[40] Once president of FUNAI, Possuelo found himself increasingly isolated within the organisation and was eventually fired in January 2006 after having criticised FUNAI's latest president Mércio Gomes who was accused of claiming that "Indians had too much land" (Agência Estado, 23.01.06, http://www.amazonia.org.br/noticias/noticia.cfm?id=195929).

Despite this new policy, representatives of the inhabitants of the Vale do Javari IT claim the FUNAI employees still display curiosity vis-à-vis the territory's remaining isolated Indians. Yet indigenous leaders have agreed to stop any information on these populations from getting to FUNAI so as to prevent any unofficial contact from taking place. In this case as in others (*e.g.*, in the Rio Biá IT), it is not FUNAI employees but other Indians who "protect" the world's last isolated populations from Western society.

* * *

The relationship between indigenist and environmentalist movements has often been taken for granted, but a brief overview of the collaboration between the tow reveal a complex web of interactions and expectations on behalf of each side. The environmentalist movement seems to continue to be dominated by the idea that Indians are "conservationists at heart", or at least that they should be, and every time indigenous leaders depart from this ideal creates conflict between the two movements. Indigenous organisations, on the other hand, appear to view the environmentalist movement as a resource that can translate into a source of funding or of political capital.

The indigenist movement has thus undergone as much change as the environmentalist movement has. However, this description shows that both movements have not necessarily converged over the years.

1.4.8 Foreign Policies in the Environmental Arena

Brazilian foreign policy in the environmental sector has been shaped by two interrelated factors in the past thirty years: (i) the state of the national economy, and (ii) the relationship with donor organisations. Many of the issues in this section have already been tackled in this paper, notably in the sections on environmental conservation and infrastructure policies, but a summary of the change in Brazilian foreign environmental policy helps to better understand the nature of the relationship between the country's forest policies and the emergence of the international regime on forests.

Throughout the late 1960s and 1970s, Brazil witnessed an economic miracle with a prolonged growth spurt that regularly peaked above 10% GDP per annum. This was also the period during which the government launched large infrastructural projects across the Amazon Basin such as the Transamazonian Highway (see section on infrastructural policies). In many cases, these "pharaonic" works benefited from generous funding by a range of international donors such as the World Bank and UNDP. Even the European Commission took part – the US$1 billion that it granted to the Grande Carajás programme was the first project ever funded by the Commission outside the European Community. As Kolk (1996) points out, it thus appears somewhat contradictory that the military regime used a nationalist rhetoric to justify these works whilst allowing international organisations to play a major financial role in their realisation.

Infrastructure works were not the only Amazonian sector to benefit from funds made available by international organisations. The early 1970s also witnessed the launching of projects such as the Forest Research and Development Project (Projeto de desenvolvimento e

pesquisa florestal or PRODEPEF) by FAO, UNDP and IBDF. Initially aimed at strengthening the country's timber sector as demanded by the Brazilian Government, this programme also included – upon FAO's request – a forest conservation sub-programme. PRODEPEF thus oversaw the creation in the late 1970s of a number of protected areas such as Jaú National Park, described in greater detail in the section on Amazonas.

This institutional environment largely favourable to the construction of large-scale infrastructure in the Amazon Basin came to an end in the mid-1980s. Two reasons account for this shift. First, the economic miracle that had characterised Brazil in the 1970s gradually came to a halt following the rise in oil prices. Brazil entered a period of severe recession and financial problems, so much so that the 1980s came to be known as *a década perdida* (the lost decade) – at least in terms of the country's economy. This greatly increased the country's dependence on foreign aid, notably from the World Bank which suddenly saw its bargaining power grow in its relationship with many South American countries as a result.

Secondly, the 1980s witnessed a U-turn in the policies of international organisations regarding the environment. According to Kolk (1996:250), in 1983 environmental NGOs in the United States launched a major campaign against international development banks (including the World Bank) which until then had largely ignored the environmental component of the projects they supported financially. In an era marked by the strengthening of the non-governmental sector in the US (due to the fact that it rallied much of the Democrat opposition), NGOs successfully allied themselves to the Republican-led US Congress which only welcomed criticism against multilateral organisations which Republicans had never supported in the first place.

Links between US-based NGOs and the burgeoning social and environmental movements in Brazil were also instrumental in putting pressure on international development banks. A number of Brazilian personalities notably took part in the process, such as Mary Allegretti (Institute for Socio-Economic Studies or INESC) and Chico Mendes, an Acrean rubber-tapper assassinated in 1988 (see section on Acre).

As a result of threatening to cut the funding of the US and Western Europe to international development banks, the World Bank – among others – suddenly began to focus on the environmental impacts of the projects they had funded, notably in the Amazon Basin. By 1984, the World Bank had suspended its funds for the construction of the Tucuruí Dam which was proving an environmental disaster; the following year, it also put on hold all disbursements towards the POLONOROESTE programme of infrastructure in the Mato Grosso – Rondônia – Acre region of the Brazilian Amazon. The World Bank only resumed funding in 1987, once an additional sub-programme had been added to POLONOROESTE, known as the Project for the Protection of the Environment and Indigenous Communities (*Projeto de Proteção do Meio Ambiente e das Comunidades Indígenas* or PMACI).

Despite the fact that the Brazilian Government, in times of recession, had increasingly come to depend on external funding, its first reaction to this shift in policy of international organisations was to denounce it as an attempt to internationalise the Amazon. Overnight, the government sought to expose the role of international organisations such as the World Bank in Amazonian policies as a deliberate attempt to undermine national sovereignty in the area. This argumentation all but resulted in a witch hunt where all indigenist and environmental organisations were accused of acting against national interests, including NGOs which until

then had remained discreet, but also missionaries and the Catholic Church, known to be linked to foreign organisations.

Nationalistic feeling was whipped up well into the beginning of the New Republic (from 1985 onwards) with president Sarney delivering his famous speech entitled "*A Amazônia é nossa!*" (The Amazon is ours!). Very quickly, this argumentation turned into what many have since considered a "conspiracy theory": according to this logic, international organisations (whether governmental or not) acted as mere puppets of developed countries which put forward environmental and indigenous issues as mere pretext to halt the economic development of Brazil. Not only would the price to protect the Amazon be very high as it prevented development projects from taking place, the Brazilian government claimed, but it also reflected the hypocrisy of developed countries which themselves had never been shining examples of environmental conservation.

However, Brazilian diplomats increasingly found themselves isolated in bilateral and multilateral discussions, especially following media coverage of forest fires in the Amazon, deforestation, and the assassination of Chico Mendes in 1988. By January 1989 – a month after Mendes' death – President Sarney set up a special environmental division within the Ministry of Foreign Affairs (*Ministério das Relações Exteriores* or "Itamaraty", after the name of the palace that houses the Foreign Secretary in Brasília).

From then on, Sarney and his successor Collor made a series of increasingly bolder moves to show that the Brazilian government was acting on the environmental front. In 1989, Sarney established the National Environment Fund (*Fundo nacional do meio ambiente* or FNMA) and IBAMA. It was also under his presidency that the programme *Nossa Natureza* (Our Nature) was launched – an environmental programme that nevertheless retained a nationalistic twist to it, as suggested in its name. In 1990, president Collor transformed IBAMA into the executive branch of the Secretariat for the Environment (*Secretaria do Meio Ambiente* or SEMAM), headed by environmentalist José Lutzenburger and directly answerable to the President.

The boldest decisions, however, were taken in 1990 when Collor both decided to propose to host the United Nations Conference on Environment and Development in Rio in 1992, and agreed on setting up the Pilot Programme on Brazilian Rainforests (PPG7) at the Houston Summit. The 1990s thus saw a period of consolidation in terms of foreign environmental policy, in which the government – through MMA and the Brazilian Cooperation Agency (*Agência brasileira de cooperação* or ABC, a structure within Itamaraty) – enabled international organisations to play a role in the country's forest policies (the section on environmental conservation policies provides greater detail on PPG7). By setting up PPG7, foreign policy entered a new era in terms of environmental matters, where issues such as forest conservation and deforestation were no longer considered taboo.

However, despite the proposal to hold UNCED on Brazilian soil, the country's foreign policy in the environmental sector remained mostly defensive. For instance, the Brazilian government has remained steadfastedly opposed to any international forest convention that it would find too binding given the vast expanses of rainforest it is home to. However, in recent years, Brazil's foreign policy has witnessed a major shift towards playing a greater role in international affairs, such as occupying a leading role in the G20, providing soldiers for UN peacekeeping forces, and strengthening ties with intergovernmental organisations including CPLP (see section above on multilateral foreign policy).

The environmental sector has not been left out of this new trend. Brazil has notably been a main proponent of developing ties with other countries of the Amazon Basin through ACTO (whose headquarters are in Brasília since 2002), including in the environmental sector. On the international scene, it has also been a staunch defender of the United Nations Forum on Forests (UNFF), even at times when many parties were only lukewarm to the forum. In late 2006, the Brazilian government, along with other actors, actually put forward a proposal for a mechanism to fight deforestation – that of "avoided deforestation", whereby heavily forested countries are rewarded if their governments succeed in curbing deforestation rates. Whether this mechanism is eventually implemented remains to be seen, but it definitely represents a new trend in Brazilian foreign environmental policy.

* * *

Brazilian foreign policy in the environmental sector has thus undergone major changes in the past thirty years. In fact, one can divide the last three decades into three distinct phases: (i) a first phase, when environmental matters were either a non-issue (until the mid-1980s) or largely ignored (until 1989); (ii) a second phase characterised by the official acceptance by the Brazilian government of deforestation and forest management as issues to be tackled, whilst retaining a defensive position in international debates; and (iii) a third phase, beginning in the early 2000s, in which Brazilian foreign policy is marked by a more "pro-active" approach whereby its diplomats play an active role in international debates and put forward proposals to curb deforestation rates.

1.4.9 The Contribution of Research

Unlike most Latin American countries where scientific research is dominated by North American organisations, Brazil has succeeded in developing a large domestic research-based and academic community. As a result, a majority of studies published on Brazilian forests and the Brazilian Amazon is in Portuguese rather than English. The research community is characterised by a large number of actors, whether public, private (depending on the source of university funding) and non-governmental. Despite such fragmentation, these actors are all tightly connected through an extensive network of cooperation on issues of all types varying from local ecology to federal law and policy.

1.4.9.1 Who's who

The country is home to a wide range of academic institutions of which the most famous rank among the world's top universities. Universities known for their excellence such as the University of São Paulo (USP), University of Rio de Janeiro (UFRJ) and the National University of Brasília (UnB) all have research units on the Amazon or forest-related studies. UnB also hosts the Centre for Sustainable Development (CDS) which constitutes one of the main actors in research on the Amazon Basin, especially from the social science and policy perspectives. Brazil is also home to a long tradition of higher education in forestry of which the Federal University of Viçosa in Minas Gerais is the oldest and main contributor.

Universities located in Legal Amazonia also play a large role in the region's academic community. Each state is home to a federal university which generally enjoys the best reputation, such as the Federal Universities of Mato Grosso (UFMT), Acre (UFAC), Amazonas (UFAM) and of course Pará (UFPA). UFPA is home to the famous Nucleus of High Studies on the Amazon (*Núcleo de Altos Estudos Amazônicos* or NAEA) which has published many studies in all disciplines on the Amazon Basin. Other universities in the region also contribute to knowledge on the Amazon, such as the State University of Mato Grosso (UNEMAT) which recently opened a branch in Alta Floresta where researchers are investigating the dynamics related to deforestation.

Special attention should be given to a recent initiave in Cruzeiro do Sul (Acre), aiming to set up the country's first "University of the Forest" (*Universidade da Floresta*). Several interministerial meetings have already taken place to set up what would be a radically new concept of teaching, where both scientific and traditional knowledge would be valued. Entry requirements for students would therefore not require secondary-school education. However, the project has yet to be implemented as opinions differ on whether to set it up as a second federal university within Acre (to which UFAC is staunchly opposed), or as part of UFAC itself.

Non-university academic institutions also play a central role. The National Institute for Amazonian Research (*Instituto Nacional de Pesquisas na Amazônia* or INPA), based in Manaus (Amazonas) has not only contributed to Manaus becoming a research pole, but it has also spearheaded scientific research on the Amazon forest, notably in the environmental and ecological sciences. It publishes a journal known as *Acta Amazônica*. The Brazilian Agricultural Research Centre (*Empresa brasileira de pesquisa agropecuária* or Embrapa), founded in 1973, has most of its research units located in the Amazon Basin and focuses primarily on applied research in cooperation with local actors on agricultural and forestry issues.

Last but not least, the Brazilian Institute of Geography and Statistics (*Instituto brasileiro de geografia e estatística* or IBGE), the equivalent of both ING and INSEE for France, provides the country with a wide range of statistics on all issues regarding the country – including the Amazon Basin. In particular, it contributes greatly in establishing much awaited yearly statistics on deforestation which rhythm Brazilian forest policies.

Despite the preponderance of national organisations, a number of foreign or international research institutes have also managed to insert themselves into the research network on the Brazilian Amazon. One of the universities which has considerably contributed to the research databank is the University of Florida – and particularly its Centre for Latin American Studies, based in Gainesville – which has focused primarily on social and anthropological issues in the southwest Brazilian Amazon.

CIRAD (the French Centre for Agriculture Research for Development), IRD (the French Institute for Research and Development) and IHEAL (the French Institute for Higher Studies on Latin America) have also helped foster research relations between France in Brazil by carrying out research on tropical agriculture and forestry. Researchers at IHEAL have succeeded in forming a school of thought around the teachings of Geographer Pierre Monbeig and have helped consolidate the concept of geographical frontiers which have played a central role in understanding the dynamics of deforestation in Brazil (see Box IV). Finally, CIFOR

(the Centre for International Forestry Research, based in Bogor, Indonesia) also has an office in Belém with researchers working primarily on social issues related to the Amazon.

Universities and research institutes are not alone in contributing to research on the Amazon Basin. NGOs increasingly play an essential role in this respect, especially in Brazil where some non-governmental organisations devote most of their time to such activities. Virtually all Brazilian NGOs have published their research, so the following list is far from exhaustive. IMAZON was one of the first NGOs to specialise in research and has since occupied a central position in studies on sustainable forest management and commercial production; it also publishes an yearly report on facts and figures in the forestry sector which acts as a national reference (*Fatos Florestais*).

Since its inception, *Instituto Socioambiental* (ISA) has produced a wealth of information on indigenous issues, especially those relating to the environment. Its website is probably the single most complete source of information on indigenous peoples of Brazil and is home to an encyclopaedia on the issue. Both ISA and *Amigos da Terra* (Friends of the Earth Brazil) also provide summaries and reports on press and media coverage on Amazonian issues through daily reports (*Manchetes socioambientais*) for ISA and publications and a website (www.amazonia.org.br) for *Amigos da Terra*. Finally, both WWF and Greenpeace have contributed a wealth of short publications on specific issues.

1.4.9.2 Networks and Policies

Despite a certain amount of competition between all these organisations, and disagreements on specific issues, the research network in Brazil is a tightly-knit one. Regular publications, conferences and exchanges of researchers and students around the country ensure that all organisations remain in close contact with one another. NGOs have also successfully inserted themselves into this network and enjoy close collaboration with academics on specific projects. The recent trend of consortiums such as *Projeto Diálogos* further contributes to this type of collaboration by bringing together both NGOs (WWF, ICV, IPAN) and research organisations (CDS). On an individual level, there is a frequent exchange of staff between NGOs and academic institutions.

Moreover, both research organisations and NGOs are well connected at the international level as they are both major destinations of international funding. As think-tanks, they also play a central role in coining new concepts in international debates as well as developing, shaping, adapting and implementing them at the national level. In this respect, IMAZON provides an excellent example as it has worked on the concept of sustainable forest management ever since its beginnings and tried to adapt it to a national context by carrying out projects on the ground to experiment the application of the notion to timber and NTFP production. Likewise, organisations such as the University of Florida, IRD and CTA have closely studied the concept of RESEXs and contributed to linking it with the debate on community forestry. One can thus observe a dynamic, two-way process in which the national and international debates feed each other a number of specific concepts.

The immense source of information that this complex network has constituted has obviously had a major impact on Brazilian forest policies, especially in the forestry, environmental conservation and indigenous sectors, in which most of the research lies. One clear example of this has been the recent adoption of sustainable timber production as a means of reducing

deforestation – championed by an increasing number of NGOs and based on a wealth of studies – which ultimately culminated in the approval of the Public Forest Management Law in February 2006.

The example of the Public Forest Management Law shows, however, that research in and of itself is insufficient in having any impact on policy-making. In this case, a large number of studies has existed for several decades showing how timber production methods can be carried out to minimise environmental impacts whilst ensuring the renewability of the timber resource. Yet it is only since the early 2000s, when IMAZON and *Amigos da Terra* succeeded in gradually rallying other NGOs to the issue, that sustainable forest management came to the forefront of the debate, resulting in the 2006 Law. The process of construction of a policy network in favour of the Law (spearheaded by NGOs and MMA) is described in greater detail in the section on federal timber production policies).

It is also important to note the importance of government-launched research or databank programmes, notably those of RADAMBRASIL and SIPAM/SIVAM. From 1970 to 1985, the government led a massive research programme called RADAM (Radar Amazônia) to collect extensive data on the physical geography and soil properties of the entire Brazilian Amazon, mainly based on satellite and radar imagery. This not only paved the way for new knowledge on which colonisation and mining projects were based, but it also revealed to scientists the presence of unknown indigenous groups and helped map several areas which unto then had remained off the maps. Since 1998, the SIVAM programme also serves a similar purpose, although the data are of different nature (including reports) and its purpose includes fighting against deforestation (see section on environmental policies for further information).

In summary, research only has an impact on policy-making when it is carried around and exchanged within networks of actors. As a network which has proven to be particularly dynamic in terms of ideas, and with extensive connections with MMA and at the international level, research organisations have acted as a major source of policy change, although not in all sectors. The fact that the bulk of research focuses on environmental conservation and forestry (mainly timber production) issues has meant that it has very much favoured change in these two sectors, having less of an impact on other sectors such as agriculture, agrarian reform and infrastructure.

2 FOREST POLICIES IN MATO GROSSO

Situated on the southern edge of Legal Amazonia, the state of Mato Grosso is characterised by forest policies both innovative and sources of conflict. The large-scale colonisation programmes of the 1970s and more recently the record deforestation rates (which now place Mato Grosso as the state with the highest deforestation rates in Brazil) have put the state in a particularly visible situation in terms of forest management, both in Brazil and abroad.

2.1 GEOGRAPHY

The state of Mato Grosso covers some 900,000 km² (*i.e.*, almost twice the size of France) along the border with Bolivia and thus constitutes one of the country's largest states, even after the states of Rondônia and Mato Grosso do Sul splintered off in 1943 and 1978 respectively. The state is situated in the geographical centre of the South American continent and therefore lies exactly halfway between the Atlantic and the Pacific, and between the Panama Canal and the Straits of Magellan. It is also the only state of the Central-West Region (*Centro-Oeste*) to belong to Legal Amazonia. Despite this, most of the state is located within biomes other than rainforest: in fact, Mato Grosso can schematically be divided into three east-to-west stripes of different types of vegetation.

The southern third of the state is home to the Pantanal, one of the world's largest wetlands, most of which goes underwater for several months every year. This area, south of the state's capital Cuiabá, has very low human population densities given the scarcity of means of communication and the difficult living conditions. Further north, the central strip of the state is mostly covered in *cerrado*, best described as open bush; in fact, this category represents a mosaic of different habitats that vary from gallery forests running along waterways to a bare covering of dry vegetation in the most exposed parts of the landscape. To a great extent, this type of vegetation overlaps and mixes with the dense rainforest vegetation found in the northern third of the state, giving rise to a complex cline of vegetation between the two ecosystems. The northern edge of Mato Grosso (on the border with Rondônia, Amazonas and Pará) is often referred to as the Gateway to the Amazon (*Portal da Amazônia*) as it is covered in thick forest that is the continuation of the world's largest tract of tropical rainforest in the world.

According to IBGE's latest census in 2005, the state's population has reached 2.8 million, the bulk of which is located in and around the capital Cuiabá and along the main axes of communication, notably highways. Once an isolated frontier town in the hinterland of Brazil, Cuiabá is now well connected by road to Brasília (BR 070), Campo Grande in Mato Grosso do Sul (BR 163), Porto Velho in Rondônia (BR 174 or BR 364) and Santarém on the river Amazonas in Pará (BR 163). The colonisation schemes of the 1970s placed a large number of new towns, notably along the BR 163 and in the *Portal da Amazônia*, thus creating new

concentrations of population in centres such as Sinop (99,000 inhabitants), Alta Floresta (50,000 inhabitants) and Sorriso (48,000 inhabitants).

Historically, the main reason for immigrants to settle in Mato Grosso was the abundance of gold and minerals which fuelled several gold rushes throughout the state's history. However, since the 1970s, the backbone of the state's economy is large-scale agriculture and cattle-ranching. In the early 2000s, Mato Grosso even turned into Brazil's main producer of grains (notably soy) and thanks to a fall in currency value, the state's agricultural exports kept the country's economy afloat. Mato Grosso's agricultural heartland is mainly located in the central strip of the state and in particular along the BR 163.

2.2 HISTORY

2.2.1 The importance of extractivism

Prior to the sixteenth century, the region now known as Mato Grosso home to a large number of indigenous societies, most of whom were fragmented into small pockets, especially in the northern part of the state. Towards the south, the Guarani family of Indian societies lived in larger groups with more extensive trading networks and were primarily based on agriculture (notably of cassava).

Situated entirely to the west of the line set by the 1494 Treaty of Tordesilhas between Spain and Portugal, Mato Grosso should in theory have been part of the Spanish realm. The Spanish did indeed carry out a few expeditions in the region, following the area's main rivers (notably sailing up the Rio de la Plata and the Paraguai), but never succeeded in setting up permanent settlements in this distant and inhospitable part of the continent. It was only at the turn of the eighteenth century that expeditions were first carried out, not from the Spanish side but from the Portuguese one, with the aim of discovering the region's riches.

At the time, access to the hinterland of what was still regarded as the *capitania* of São Paulo was extremely difficult and mainly consisted in travelling upriver and avoiding losing the boats in the hundreds of waterfalls along the way. The exploration of these regions was carried out by groups of *Paulistas* (inhabitants of São Paulo) known as *bandeirantes*. Famous for their violent methods in capturing Indians as slaves – as an ersatz to the African slaves, most of whom remained in the Brazilian Northeast – *bandeirantes* used the waterways of southern Mato Grosso (now Mato Grosso do Sul) to reach the first Portuguese settlements in the area. In the early eighteenth century, a land route was also set out from São Paulo, going through the south of Goiás.

French geographers such as Monbeig (1952) and Droulers (2001:64) have emphasised the importance of *bandeirantes* as a key elements of Brazilians' perception of the construction of their own country. In this respect, they form an early and crucial element of the concept of frontier that Monbeig defined in great detail and which is summarised in a text box below.

The first half of the eighteenth century saw profound modifications in what by then was known as Mato Grosso ("the Great Bush"), with the discovery, by chance, of gold in the

mines around Cuiabá as early as 1719. The news spread like fire and despite the high mobility that characterises gold prospectors to this day, new settlements appeared and grew rapidly, creating the region's first towns. As the population of settlers sharply increased, the subsequent discovery of gold in other parts of the *capitania* saw the birth of additional towns such as Nossa Senhora do Livramento (1730), Vila Bela da Santíssima Trindade (1752) and Poconé (1781).

Two main routes of access to Mato Grosso existed at the time – along the waterways of the Amazon from Belém, up the Amazonas, Madeira and Guaporé; and by land from São Paulo, a route much used by the *monções* expeditions in search of Indians, then gold. As the road from São Paulo improved in quality and became increasingly frequented, the northern river route was eventually abandoned, tying Mato Grosso firmly to the southern half of the country. The overland route to Cuiabá from the town of Vila Boa in Goiás is still used to this day (Nédélec 2005:26) in the form of the BR 070.

Over the seventeenth century, Portugal had lost many of its African and Asian colonies, notably to the Dutch and English, and the arrival of Mato Grosso on the map the following century was a great opportunity for the Crown to consolidate the borders of its only successful colony, Brazil. From 1741, Portugal resorted to the *sesmaria* system (which had laid the foundations for the settlement of both Portugal and the Brazilian Northeast in the early days of the Portuguese Americas) to encourage migrants to settle in the region by granting them land ownership on condition that it was cultivated. In 1748, Mato Grosso from separated from São Paulo and turned into a *capitania* in its own right.

An agreement was reached between Spain and Portugal in the form of the Treaty of Madrid in 1750 to fix the boundaries between the colonies of both countries. The Treaty also recognised the concept of *uti possidetis* according to which the land went to the country who occupied it first. Starting in 1754, Portugal thus proceeded to establish a number of fortifications on the border along the rivers Guaporé, Paraná and Paraguai, as well as additional settlements such as Vila Maria (now Cáceres) and Albuquerque (now Corumbá). Interestingly, the concept of *uti possidetis* never applied to indigenous populations.

2.2.2 Explorations of the Nineteenth Century

Whilst the eighteenth century was characterised by the discovery and exploitation of gold mines, the nineteenth century was marked by a large number of expeditions which ultimately led to further spontaneous patterns of colonisation. By the l780s, gold mines had run dry, following which Mato Grosso saw a slow decline in its population until diamonds were discovered in the early nineteenth century, sparking off a new though smaller rush – especially around the town of Diamantina. For several decades, large amounts of diamonds were exported from Mato Grosso via the waterways that link it with the Amazon and Belém, until eventually the diamond mines also ran dry. Once again, Mato Grosso reverted to being a largely peripheral region of Brazil whose function was to defend the country's distant borders.

Throughout the nineteenth and well into the twentieth century, Mato Grosso (particularly the undiscovered North) witnessed a close succession of scientific expeditions. Baron Langsdorff and his expedition for the Russian Czar Alexander I was among the first expeditions to discover the indigenous populations of the North along the Juruena and Arinos rivers in 1813

and 1814. Other, later expeditions included French, British and German explorers such as Francis de Castelnau, Herbert Smith and Guilherme von den Steinen. These travels were eventually crucial in locating some of the natural resources that made Brazil's fortune in the second half of the nineteenth century, notably rubber.

Just as rubber prices peaked in the 1900s, Mato Grosso's most illustrious explorer (*sertanista*) was coming and going throughout the northern part of the state (especially the area now known as the state of Rondônia), setting up wire connections between the state's outposts as the Federal Government's policy of consolidation of the country's most isolated areas. In the process, this explorer, Marechal Rondon, came across numerous indigenous populations and played a key role in "pacifying" them (*i.e.*, establishing peaceful relationships with them). His role is founding the country's first agency for indigenous populations is described in greater detail in the section on the indigenous question.

Over the second half of the nineteenth century cattle ranching slowly expanded across Mato Grosso, notably in the south after the territorial gains following the war with Paraguay (1865-1870). However, the cattle economy was soon superseded by the growth of a new type of extractivist economy, this time based on *erva-mate*, *poaia* and rubber. Erva-mate is a very popular type of tea whose traditions are originally indigenous (notably Guarani) but which spread to the immigrants of southern Brazil, Argentina and Uruguay. As the taste for mate tea developed among this growing population, the southern parts of Mato Grosso soon specialised in collecting the plant to export it to the rest of the region. Likewise, poaia – a plant with renowned pharmaceutical properties for curing respiratory and stomach problems – also gave rise to an extensive extractivist economy as pharmaceutical companies began appearing in South America.

The main product that characterised this economic phase of plant extractivism was rubber (*Hevea brasiliensis*), although it never reached the extent or had the impact observed in other states of the Amazon such as Acre and Amazonas. As in the rest of the Amazon, extraction of milk from rubber trees dates back to pre-colombian times, although it was only with the increase in demand in Europe and North America that the activity grew in importance. By the 1880s, it was attracting thousands of workers, primarily from the Northeast, to the forests of northern Mato Grosso where immigrants first settled along main rivers before venturing deeper into the forests.

However, just like in the rest of the Amazon Basin, the 1910s saw a sharp fall in international rubber prices and the *aviamento* economic system that had propped up the *seringueiro* population in the region suddenly broke down, leading to a massive exodus from forested areas. Again, in the first half of the twentieth century, Mato Grosso entered a new diamond cycle with the opening of new mines in the eastern parts of the state, but its impact on the economy and politics of Mato Grosso were not as strong as the previous gold and diamond booms the area had witnessed.

2.2.3 Migration policies of the twentieth century

Brazilian political ambitions to populate the country's "empty" regions goes back to the nineteenth century when large parts of the wave of European immigrants were directed to the southern states (Paraná, Santa Catarina and Rio Grande do Sul) in an effort to prevent Brazil's

neighbours from shifting the country's borders. In 1906, the Union Service to populate the national land (*Serviço de povoamento do Solo nacional pela União*) was founded with the aim of transferring people and labour to the "interior" of the country". In the first three decades of the twentieth century, the central government thus established new population nuclei in Mato Grosso, although mainly in the areas closest to Paraguay (now Mato Grosso do Sul) – Porto Murtinho, Campo Grande and Terenos.

The 1930s and the arrival of Vargas saw the creation of policies aimed at industrialising the country and aiming for self-sufficiency whilst reducing the economy's dependence on exports (which had been the cause of the economic crisis). As a result, Mato Grosso was designated as an area which could both provide for the rest of the country's need in food whilst absorbing immigrants from areas deemed overpopulated. The southern part of Mato Grosso (now Mato Grosso do Sul) was prioritised given its relative proximity to the country's main population centres. Local companies sprouted up and a small rail network was set up, linking the main towns of the southern part of the state with São Paulo.

It was only in the 1940s, with Vargas' "Conquest of the West" policy (*Marcha para o Oeste*) that the state's colonisation policy actually began producing visible results, with the appearance of "national agricultural colonies" (*Colonias agrícolas nacionais* or CAN). Unlike previous policies, however, the federal government intervened directly to implement this policy. Again, most of these were established in the southern part of the state, such as the town of Dourados, created in 1943, where the bulk of the immigrants, as elsewhere in the state, came from the Brazilian South.

During that time, the northern half of the state (now Mato Grosso) mostly remained unexplored forest, although the region around Cuiabá witnessed a rapid expansion in cattle ranching. Vargas' government did try to set up colonisation projects in this part of the state: in 1943, the "Roncador-Xingu" expedition set out for the northeastern part of Mato Grosso to populate an area notorious for its resident indigenous population and create the nucleus of Xavantino. However, the expedition had not planned the resistance met by the Indians and gold prospectors who refused to give up their land to immigrants, and the project was eventually abandoned.

After the Federal Territory of Guaporé (now the state of Rondônia) was created out of the northwestern tip of Mato Grosso, the return of democracy after the Second World War saw a further intensification of the state's colonisation policies, seen as a way of solving the agrarian reform issue. From 1940 to 1966, a total of 30 nuclei were established, 23 of which were north of the 16th Parallel (*i.e.*, in what is now Mato Grosso). 29 private colonisation companies took part in the process, taking over vast tracts of land (200,000 ha each on average) before dividing them up into plots of variable size and selling them onto migrants. Moreover, many 10,000 ha plots were directly sold to individuals wishing to invest in the cattle-ranching industry.

Moreno (2005:60) argues that many of these colonisation schemes were fraught with problems, notably due to the fact that the state did not fulfil its obligations of providing the new migrants with a number of basic public services – roads, schools and health services. Moreover, much of the land was sold at prices well below the market, allegedly because of personal arrangements between the state and the real estate companies or private individuals. However, it was only with the 1964 coup and the establishment of the military regime that the northern part of Mato Grosso, *i.e.*, the area covered in dense forest, began to be impacted by

the country's colonisation policies. By the time Mato Grosso do Sul splintered off from Mato Grosso and became a state in its own right in 1977, the colonisation of the northern parts of Mato Grosso were well underway.

Box IV
The "Frontier" notion[41]

France is home to an already long-standing school of tradition on Brazilian geography in which the notion of frontier (*frontière*) occupies a central position. It cannot be translated in English as "border" as it does not refer to international borders between countries; instead, it is based on a range of social and cultural phenomena, as geographer Pierre Monbeig exlained in 1952. According to him, a frontier is a geographical space with blurred boundaries as it is a human construct that is in constant evolution: it is a "totally concrete social fact which also has political, ideological and psychological dimensions" which in the case of Brazil is fundamental in the country's history (Léna 1986).

Monbeig agrees the central role the the notion of frontier has played in constructing Brazil's social and political identity, which would also explain the permanent advance of this "frontier" towards the Brazilian interior. Inspired by studies of the North American frontier in the Far West, Monbeig considers a frontier as a dynamic and contradictory space between a territory that is already occupied, and one that is soon to be settled. Following Monbeig's footsteps, a wide range of scholars – including Rivière d'Arc (1977), Foucher (1974) and Koeschlin & Pebayle (1978) later recoined the concept as "pioneering front" (*front pionnier*).

Théry (in Gip Reclus *et al.* 1992) also defined the concept as "the limit reached by the cultivation and furthest advance of land clearing activities, of migrants who have come to establish a colony on lands that until then were empty or underpopulated". The notion now specifically applies to the Brazilian Amazon where the pioneering front is as much a social, political and cultural fact as an environmental one. In this sense, it has been appropriated and identified by the environmental movement as the main cause of deforestation in the country (Lentini *et al.* 2005).

2.3 FOREST-RELATED POLICIES SINCE 1964

The arrival of the military regime in 1964 greatly accelerated the process of colonisation of Mato Grosso, this time focusing on the most remote and thus least populated area – the *Nortão*, or Great North, mostly covered in thick forest. These infrastructural development policies aimed at populating the region and promoting agriculture have had a profound impact and remain the most important factor shaping public policies in the area to this day.

2.3.1 Colonisation, Agricultural and Agrarian Policies

Vargas' rhetoric on the *Marcha para o Oeste* (Conquest of the West) was picked up again and amplified by the Federal Government after 1964. According to Le Borgne-David (1998:59-61), several reasons lie behind the military regime's decision to launch vast colonisation policies in the Brazilian Amazon: first, from a political viewpoint, the regime believed that

[41] This text box was based on data provided by Nédélec (2005:13-14).

colonising the Amazon would in turn strengthen the government's hold on the country as it would contribute to turn the country into an international power.

In this respect, some claim that Brazilian control of the Amazon right up to its borders would tie the neighbouring countries' shares of the Amazon more easily to Brazil than to their own capitals, mainly because of the communication difficulties in crossing the Andes. As such, the Bolivian, Peruvian, Colombian and Venezuelan Amazons would become *de facto* satellites of Brazil (Le Borgne-David 1998:61).

Secondly, from an economic viewpoint, the Amazon had long been viewed as a source of wealth and economic development waiting to be tapped into and that would eventually allow Brazil to rival with the world's economic powers (Barbosa 2000). Opening access to this source of wealth would enable not only its natural resources to be exploited, but also its land to be used for agriculture.

Right up to the 1970s, the *Nortão* had remained *terra incognita*. A number of scientific expeditions had been carried out to try to explore the area and its riches since the early nineteenth century. Even Claude Lévi-Strauss had ventured in the area in the 1940s, collecting data for his books *Tristes Tropiques* and *Saudades do Brasil*, in which he depicted the area as off limits and populated mainly of indigenous groups. *Ribeirinhos* (rubber tapper populations) and gold prospectors could also be found in the region, as recorded by the Roncador-Xingú expedition in 1943. However, by and large the *Nortão* remained demographically empty and an administrative hinterland, divided into no more than six *municípios*, each covering areas larger than several European countries. For instance, it literally took weeks to go overland from the town of Diamantina to the other end of its *município* on the border with Pará.

However, as part of the Federal Government's development plans for the Amazon, the north of Mato Grosso saw profound changes in its infrastructure. Mato Grosso was the only state to fall into the realm of three "extra-state" institutions. First, Mato Grosso, as part of the Centre-West region, came under the jurisdiction of the Superintendence of Development for the Centre West (*Superintendência de desenvolvimento do Centro-Oeste* or SUDECO), created in 1967. SUDECO identified three primary areas for development in the *Nortão*: (i) Xingú-Araguáia – the area now famous for the Xingú National Park, home to the Kayapó Indians (see below) – (ii) Peixoto-Juruena – which included the whole area betweenthe BR 163 and the Juruena river – and (iii) Aripuanã, or the extreme northwest of the state, known for its potential in terms of minerals. In each of these areas, roads and settlement projects were strategically planned and mapped out before the first immigrants ever arrived (Nédélec 2005:70-72).

Secondly, as part of Legal Amazonia since 1953, the northern half of Mato Grosso (equivalent to the current borders of the state) was also under the jurisdiction of the Superintendence for Development of the Amazon (*Superintendência de Desenvolvimento da Amazônia* or SUDAM) which heavily invested in developing cattle ranching throughout the region. However, Mato Grosso was especially privileged as it ranked first throughout the 1970s as year after year it received over two-thirds of SUDAM's overall subsidies. Those areas which benefited most from these subsidies were located in the northeastern part of the state – east of Xingú National Park. Although Mato Grosso was no longer the only state privileged by SUDAM after the return of democracy, it was still receiving a substantial share of the organisation's subsidied, ranking only second after Pará during the 1990s (Nédélec 2005:74).

Thirdly, the Federal Government had an ambitious colonisation programme in mind, in which INCRA and private real estate companies were the be the main actors. However, the Government started its development plans with the construction of the BR 163 highway from Cuiabá to Santarém (Pará) in 1970. This road cut right through the north of the state for the first time, linking it by land with the Amazon river and opening up opportunities for a large number of colonisation projects along the way.

Last but not least, the government of the state of Mato Grosso itself played an active role in the colonisation of its own territory, especially in the 1940s to the 1960. State governments anticipated federal colonisation schemes by launching their own programmes, many of which were based on models established by the Federal Government in the Brazilian South (through the sale of public land to colonisation companies). However, the zeal with which the state government tried to carry out the colonisation of its own territory – in application of Vargas' *Marcha para o Oeste* – was not to the liking of the Federal Government which succeeded in suing the state government and preventing any further state-level settlements in the early 1960s. The attitude of the Federal Government changed once the military got to power and state governors were appointed by Brasília.

2.3.1.1 Public Colonisation Schemes

Colonisation schemes came in two types – public and private and in turn, two types of public colonisation existed. On the one hand, many colonisation nuclei were created by the newly created National Institute for Colonisation and Agrarian Reform (INCRA) which had two main objectives in the creation of *assentamentos*: (i) the development of regions considered "empty" and (ii) solving problems of states where land tenure concentration was so skewed in favour of a minority that many families ended up landless. Several categories of *assentamento* were created in northern Mato Grosso:

1. Rapid Settlement Project (*Projeto de Assentamento Rápido* or PAR), aimed at creating *assentamentos* in areas which already benefited from minimum infrastructure. INCRA was responsible for delineating the 50 hectare plots of these *assentamentos* in which over 4,500 families eventually settled, covering some 270,000 hectares.

2. Joint Action Project (*Projeto de Ação Conjunta* or PAC) – *assentamentos* created jointly by INCRA (responsible for creating basic infrastructure and delineating the plots), and a cooperative (in charge of administrating the project on a daily basis). Only three such projects were ever carried out, but together they covered over half a million hectares and settled over 7,000 families. The *município* of Alta Floresta was home to one such *assentamento* in Carlinda which contrasted strongly with the economic success of Alta Floresta. Carlinda became a separate *município* in 1994. All of the other PACs (Terra Nova, Peixoto de Azevedo, Ranchão, Lucas do Rio Verde, Braço Sul) involved *municípios* directly on the BR 163 (Nédélec 2005:49-56).

3. Special Settlement Project (*Projeto Especial de Assentamento* or PEA), whose objective is to resettle people in emergency, who were displaced due to conflicts, upon decision of the Federal Government. Such was the case for the PEA Lucas do Rio Verde, on the edge of the BR 163 Highway, created in 1982 (at the time in the *município* of Diamantino). By

1988, Lucas do Rio Verde became a *município* and has since emerged as one of the greatest producers of soy in the state.

4. Settlement Project (*Projeto de Assentamento* or PA) – the most common type of *assentamento* which aims to regularise areas always occupied by *posseiros*. The unofficial settlement has to go through a process where basic infrastructure is provided and the plots are redrawn to size in order to fit additional migrants. From 1987 to 2004, INCRA implemented over 3000 PAs across Mato Grosso – equivalent to an area of 3.5 million hectares.

On the other hand, additional settlement plans or *assentamentos* were carried out by the state-level organisation responsible for public colonisation schemes, namely CODEMAT[42] – which was helped out by the Land Institute of Mato Grosso (*Instituto de Terras de Mato Grosso* or INTERMAT) from 1975 to CODEMAT's extinction in the 1980s. During the 1970s, CODEMAT carried out many *assentamento* projects, especially in Aripuanã, in the extreme northwest of Mato Grosso, such as the project of Juína which has since become one of the largest towns in the area.

INTERMAT has three types of *assentamento* which differ slightly from those of INCRA: (i) Conventional Settlement Projects (*Projeto de Assentamento Convencional*) which is more or less equivalent to INCRA's PA, (ii) Traditional Community Settlement Projects (*Projeto de Assentamento de Comunidades Tradicionais*) which are aimed at regularising and providing technical assistance to already existing rural communities, and (iii) Rural Villages (*Vilas Rurais*) aimed at creating rural settlements in the vicinity of larger cities so as to provide urban populations with agricultural products and ensure access to markets for the *assentados*.

Despite the different names given to the settlement projects, in practice the way in which the landless were settled hardly varied between INCRA's and INTERMAT's projects. In most cases, private lands were bought up or public lands were converted to create *assentamentos* which were divided into plots of several hectares, each with a wooden house and with access by road. In both cases, fiscal incentives, basic technical assistance and education was aimed at encouraging *assentados* to produce commercial crops. On condition that they cultivated the land they were given (officially within the limits of the Legal Reserve, although this was only rarely respected), they could become fully-fledged landowners after ten years.

However, a few differences remained between INTERMAT's and INCRA's settlements. Generally, the plots (known as *glebas*) were – and still are – smaller than those of INCRA, which has led many to believe that the aims of INTERMAT are primarily to developed a subsistence-based agriculture rather than a commercial one. However, in both cases, the economy of *assentamentos* was based on small producers rather than large-scale agricultural companies.

Overall, from 1985 to 2004, over 65,000 families were concerned by either INCRA's or INTERMAT's projects, and over 5.4 million hectares were regularised. Although this sharply reduced the number of families with no official or legal access to land, the Landless Movement (MST) has complained that several thousand families still remain landless in Mato Grosso. Moreover, the difficulty of many landless peasants in producing sufficient

[42] CODEMAT: Mato Grosso Development Company or *Companhia de Desenvolvimento de Mato Grosso*.

agricultural products meant that a large number of them sold their land off and joined the Landless Movement again. In other cases, the landless have simply gone back to the impoverished peripheries of Brazil's cities, where they originally came from.

Finally, in areas where large-scale agricultural companies were in need of land such as in central Mato Grosso and along the BR 163 Highway, many *assentados* simply sold their land off to the companies which were only too happy to extend their fields – despite the fact that a number of *assentados* were not yet fully-fledged landowners. As a result, large commercial companies have grown to the detriment of small-scale agriculture that INCRA and INTERMAT had originally wanted to encourage.

The way in which colonisation schemes have been implemented is characterised by considerable continuity since the 1970s, with a few exceptions. First, the condition of cultivation to obtain land ownership has been abolished, and *assentados* officially have to keep to the 80% Legal Reserve rule. Moreover, following frequent complaints that *assentados* were not followed up and often failed because they lacked basic agricultural know-how and means of investing in new equipment, the Minsitry of Agrarian Development (MDA) has now opened an office in Cuiabá to manage micro-credit programmes to *assentados*. A number of national programmes (such as PRONAF) have also been implemented at state-level that provide *assentados* with both education and basic environmental awareness. Moreover, at national level, INCRA committed itself to avoiding the creation of *assentamentos* in forested areas. However, these changes remain marginal and *assentamentos* carry on being created in many different parts of the state.

2.3.1.2 Private Colonisation Schemes

Unlike other states such as Rondônia and Pará, private colonisation schemes have undoubtedly had a much greater impact on Mato Grosso than their public counterparts. The golden age of private colonisation schemes in the northern part of the state spans the second half of the 1970s and the 1980s; since then, federal governments have cut subsidies encouraging immigration to Mato Grosso and stopped selling off public lands for colonisation schemes.

Back in the 1970s, as part of the federal government's and SUDAM's regional development programmes, large tracts of public lands were sold to private colonisation companies responsible for dividing up and selling the land onto immigrants as well as setting up urban centres with basic infrastructure. The vast majority of immigrants that these private companies managed to attract came from the Brazilian South and especially from Paraná (just like the companies themselves), as described in the text box below and the following section on the case of Juruena.

The establishment of these new settlement schemes was different from the egalitarian models that INCRA has come up with in three ways. First, the land was divided into plots of different sizes so that immigrants with almost any amount of financial resource could afford at least one plot. Smaller plots were located closer to the urban centres, whereas the larger ones were sold to large companies in the agro-business sector or wealthy *fazendeiros* (fazenda or cattle ranch owners). Secondly, the aim differed from that of INCRA whose objective was partly to solve the problem of agrarian reform and the landless: in the case of private colonisation, the

potential customers already needed to have some financial resources to buy their land as a means of developing middle- or large-scale commercial agriculture.

Thirdly, many private colonisation schemes included the actual creation of urban centres with public infrastructure (streets, schools and hospitals, all initially owned by the company) as well as lines of shops. As a result, the *Nortão* region of Mato Grosso grew from a population of 62,000 in 1970 to over 600,000 in 2005. Many of these towns actually inherited their names from the colonisation companies themselves, such as Sinop (an abbreviation of *Sociedade Imobilária do Noroeste do Paraná*), Lucas do Rio Verde, Sorriso (from the company *Sorriso Feliz Ltda*) and Nova Mutum (from the company *Mutum Agropecuária S.A.*).

Sinop – which is now the largest city in northern Mato Grosso, with over 100,000 inhabitants – was actually one of several towns created by the company which also founded Vera, Cláudia and Santa Carmem. In other cases, local names were selected, such as Apiacás (named after the local Apiacá indigenous group which is now extinct) and Alta Floresta – literally "Tall Forest". Many of the towns founded in the 1970s were based on their arch-model, Brasília. Throughout the 1970s, the Federal Government openly supported private colonisation schemes, as witnessed by the visit of the regime's dignitaries during the beginnings which proved difficult in terms of logistics, especially as the BR 163 had not yet been completed and the *Nortão* remained very isolated.

However, with generous encouragement on behalf of the Federal Government, these towns quickly attracted trade other than agriculture and within a few years of their creation became *municípios* in their own right (at which point the town's administration was handed over to the public sector). As a result, the number of municípios grew substantially in the 1970s and 1980s.

Overall, private colonisation schemes have been deemed more successful than public ones, notably because the immigrants already had a tradition of agriculture and means of financial investment, unlike many *assentados* who originated from the impoverished outskirts of large urban centres. However, as Moreno (2004:68) points out that many immigrants had difficulty adapting to the new environmental conditions and ended up returning to the south after failing to grow anything in the Amazonian soil. The example of Juruena, described in the next section, provides an example of this phenomenon.

2.3.1.3 The Gaúcho Influence: the Case of Juruena

Many consider private colonisation in northern Mato Grosso as an extension of the colonisation front that was witnessed in the Brazilian South, namely the states of Paraná, Santa Catarina and Rio Grande do Sul. Despite the fact that all three are coastal states, they remained underpopulated until the late nineteenth century when the wave of European immigrants (mainly from Germany, Italy, Spain, Portugal and Poland) arrived. The government at the time strongly encouraged immigration to the South so as to "consolidate" the region and fix the country's borders against any foreign interests coming from Uruguay, Argentina and Paraguay.

The population of the Brazilian South is thus distinct from the rest of the country as it is home to a specific accent and culture known as *gaúcho*. In fact, this term also applies to the

immigrant populations of Uruguay and the pampas of Argentina that have based their livelihoods on extensive cattle ranching and in this respect are not unlike the "cowboy" culture of the North American Far West.

Throughout the twentieth century, the *gaúcho* population gradually moved westwards, reaching Argentina and Paraguay in the 1940s and 1950s using a specific mode of colonisation: real estate companies would buy large tracts of land off the state ahead of the arrival of immigrants, and would then divide the land up and sell it off to small landowners. This actually prevented the concentration of land ownership which characterises the rest of Brazil to this day. Once the extreme southern borders were reached in Rio Grande do Sul and Santa Catarina, new fronts opened up that eventually covered the remaining available land in Paraná. The vast majority of Atlantic rainforest the covered especially the state of Paraná disappeared in the process, but gave rise to a thriving timber industry that then converted to pine plantations and still plays a large role in Brazil's timber markets.

The launching of private colonisation programmes in Mato Grosso in the early 1970s arrived at a time when the pioneering front had hit the border with neighbouring countries and started running out of land. Moreover, most of the region's forests had disappeared and generated a temporary crisis among local timber companies. The opening of a new Amazonian "front" was thus perceived as a great breath of fresh air and a unique opportunity for people in demand of additional land and forests. Whereas the motor of the advance of the "front" in southern Brazil had been the real estate companies, in the case of the Amazon, the Federal Government was the primary driving force.

This explains why many of the real estate companies which took up the Federal Government's offer to open up new settlements in northern Mato Grosso originated from Paraná. Despite the geographical and environmental differences, the predominance of *gaúcho* culture in the *Nortão* remains very obvious. In particular, the cultural traits of the "pioneering" mentality of the Brazilian South is visible in the way people see the forest as a empty space that needs to be cleared so as to produce some sort of income – especially for pastures.

Moreover, the dominant discourse of a large number of inhabitants of the *Nortão*'s new settlements depicts as the epitome of social and economic progress – an essential component of wealth and thus development. Oral histories relate the epic journeys of the region's "pioneers", *i.e.*, the first immigrants who travelled for several weeks on dirt tracks and along rivers to settle in what at the time were not more than clearings a few streets wide in the dense forest. Apparently, they themselves had to bring the food they were to consume, although airstrips were eventually built and planes brought the food, awaiting the arrival of the BR 163.

A closer look at the social makeup of the population in northern Mato Grosso, however, reveals that "official" history about the epic of immigration in the Amazon does not always fit the life histories of local people. In particular, Le Borgne-David (1998) provides a detailed anthropological account of the migration process at micro-level by following small groups of families on their search for wealth in the Amazon.

Back in Paraná, the early 1970s spelled the end of both the forest and the distribution of available land to small landowners. The military regime, which had pinpointed agriculture as one of the key elements for economic development, carried out substantial financial and economic reforms and widely distributed credit to landowners to promote production. These

measures resulted in a sudden boom in the modernisation of agriculture but also integrated production in the the "agro-business chain of custody". Those who benefited most, however, were the larger landowners who had the greatest resources to invest in mechanisation.

At first, the measures in favour of agricultural production were met with great euphoria, especially as the "closure" of the front had led to many fearing that the lack of availability of new land would spell crisis for the sector. But the oil crises of the 1970s hit the sector harshly and combined with the consequences of mechanisation, much of the labour in Paraná ended up without jobs. Moreover, given that public lands were no longer available for purchase, the price of land rose by 351% between 1970 and 1980 (Le Borgne-David 1998:48), strongly encouraging those least well off to sell their plot to solve cash-flow problems.

The military government's plans to encourage migration to the Amazon came at just the right time for a large proportion of Paraná in dire need of new economic opportunities. In turn, this situation suited the development programmes for the Amazon perfectly, since *gaúchos* were considered "high quality" migrants as it was believed their technological superiority and their better know-how would inevitably spread to Northeastern immigrants settling in the same area.

In 1973, CODEMAT was authorised by the Federal Government to take over all public lands in the *município* of Aripuanã, situated in the extreme northwestern corner of Mato Grosso. These lands were then sold to various real estate companies, of which *Juruena Emprendimentos S.A.* got 200,000 hectares. In order to encourage immigrants and potential land buyers in Aripuanã, the company opened up an office in Cascavél (western Paraná) and rented out the services of several real estate companies whose men travelled throughout the state searching for candidates for immigration.

Le Borgne-David (1998:75) notes that those families who immigrated to Aripuanã – to settlement called Juruena which became a *município* in 1988 – usually left together in whole communities and tried to reconstitute the web of social relationships that already existed back in Paraná. This was only possible in private colonisation schemes, where migrants were free to choose their plot – unlike INCRA's *assentamentos*. Those who decided to move were almost inevitably among those who had suffered from the economic changes that the agricultural sector had witnessed in the 1970s. They generally sold their land in Paraná to buy a much larger area in Mato Grosso and have enough funds left over to invest in additional expenses.

The initial aim of many of these migrants was to reproduce the social patterns that the Brazilian South had developed: acquire land and carry out medium-scale agriculture so as to achieve financial independence from one's parents. The greater the surface area of land, the more likely one was to reach independence sooner. Most migrants thus saw the Amazon as a unique opportunity to reach "freedom" as the land was being sold at much lower prices than back in Paraná.

Le Borgne-David (1998:81) shows, however, that the opening of a new frontier in the southern Amazon is more than a mere continuation of that which had been observed in the Brazilian South. First, whereas people of similar origins settled in the same towns, thus creating settlements full of Germans, Italians or Poles, these nationalities blended much more in Mato Grosso, creating more of a uniform *gaúcho* culture than the diversity that this "category" represented in the South.

Secondly, migrants initially began cultivating the same variety of products they had been used to growing in the South whilst reserving some land for a small amount of cattle. But having realised within a few years that Amazonian soil was extremely nutrient-poor, they soon developed other means of cultivating the land. Moreover, surplus of agricultural products could not be sold outside Juruena because of the lack of access to the rest of the state of the country. In 1988, a cooperative was created, called *Cooper-Juruena*, but two years later, the grain it had bought still lay rotting. Given that the public authorities generally remained completely absent from private settlement schemes – especially at first – migrants could not rely on technical advice from any public bodies or even the colonisation company.

In reaction to the bad quality of Amazonian soil, some decided to leave their land fallow every other year and work on larger properties as labour for clearing forest and planting grass for pastures. Others abandoned cultivation altogether and became workers in timber companies that thrived off the forests cleared for pastures or tried to manage existing forests and carry out selective logging. In fact, to this day, Rohden – Juruena's main timber company – remains the *município*'s largest privately owned company.

Others still also sold their land and turned to small-scale trade to provide the rest of the settlement with goods from outside: as more and more migrants arrived, so the settlement grew into a town where an increasing amount of goods and services were required, such as groceries, restaurants and hotels. Finally, a non-negligible number abandoned the "Amazonian adventure" altogether and headed back home to Paraná.

The vast majority of those who remained on their land converted their activities and investments almost exclusively into cattle ranching which was soon known to be the only agricultural option viable in such physical conditions. To this day, the agricultural sector in northern Mato Grosso remains cattle: not only is it one of the rare successful means of getting value out of cleared land in the Amazon, but it also allows the owners to quickly receive cash in case of urgent need, without having to sell the property: in this sense, cattle constitutes some sort of local currency. Since access to Mato Grosso's most remote areas has been opened up with the construction of roads, and that cold storage equipment has been provided, outside markets have suddenly become accessible and the cattle "sector" has grown formidably.

Thirdly, the social relationship that *gaúchos* had developed with the land in the Brazilian South – as a means of gaining financial independence and a source of livelihood – came apart once the migrants arrived in the Amazon. "The myth has ended", a migrant claimed, quoted by Le Borgne-David (1998:105): the new populations of northern Mato Grosso soon realised that unlike in the South, wealth and financial independence was not related to the surface area of land owned, but to a whole set of strategic choices made to survive in this different physical, social and economic environment.

Finally, the discourse changed *vis-à-vis* the concept of frontier which had been key to the success of *gaúcho* wealth in the Brazilian South. Interviews with inhabitants of Juruena – or the rest of northern Mato Grosso – show that the frontier remains a symbol of social and economic progress and opportunity. However, when probing deeper, another attitude emerges with relation to the frontier: to many whose hopes were high when they first arrived in Mato Grosso, the frontier remains a disappointment, an illusion which failed to turn to reality after

it was realised that the social model established in the Brazilian South could not be reproduced in the Amazon.

In summary, communities whose members started off on a more or less equal footing prior to migration witnessed considerable social and economic differentiation after several years in Mato Grosso, depending on strategic livelihood choices. As Le Borgne-David (1998:104) points out, the opening of the new "frontier" did represent new opportunities for some, but it also showed how utopic the image of an egalitarian society could be as it only contributed to increasing differences in wealth that did not exist prior to immigration.

* * *

Both the state and federal governments put an end to the sale of public lands for private colonisation in the 1980s as the country's economy began spiralling downwards and the military regime gave way to a democratic system whose presidents had other priorities. Increasing pressure from international donors, environmentalists and social movements such as that of *seringueiros* were the last nails in the coffin, and by the turn of the 1990s, the government's involvement in private colonisation schemes had come to a complete halt. Despite the fact that the government pulled out, all the the towns created in the 1970s and 1980s continued growing into the twenty first century. The 1980s also proved to be a major turning point in terms of large-scale development projects, as illustrated in the case of POLONOROESTE (see section on infrastructural policies).

2.3.1.4 The growing political clout of the agricultural sector

The disappearance of many public policies openly supporting the development of agriculture in Legal Amazonia (except for *Banco da Amazônia*'s loan policy which still favours the sector) has not led to a decrease in the sector's economic performance. In Mato Grosso, it has been quite the contrary, as large-scale commercial agriculture has developed like never before, in particular in central Mato Grosso (in a vegetation transition zone between forest and cerrado). In this area, cattle-ranching has gradually given way to large-scale commercial monoculture, especially rice, corn, cotton and above all soy.

With the rise of Mato Grosso do Sul to statehood in 1978, the agricultural heartland of Mato Grosso broke away from the rest of the state. The government of Mato Grosso thus decided to pave the BR 070 (running from Cuiabá to Brasília) and part of the BR 163, enabling agricultural products to reach markets outside of the state more easily. In the 1990s, the land along the central stretch of the BR 163 (especially in *municípios* such as Sorriso, Lucas do Rio Verde and Sinop) was mostly bought up by large agro-business companies such as Maggi and Cargill. As a result, agriculture was quickly mechanised and turned to exports. The exponential increase in agricultural products of Mato Grosso – especially that of soy – also benefited from the new federal law that allows the cultivation of genetically modified organisms.

At the turn of the current century, agricultural exports from Mato Grosso boomed with the devaluation of the *real*, and playing a large part in the sudden growth of the Brazilian economy in the first term of Lula's presidency. The subsequent rise of the *real* since 2004, however, as well as the negative publicity of Mato Grosso's agricultural sector due to its environmental record all put an abrupt end to the agricultural euphoria that had momentarily

caught hold of the state. Exports soon started plummeting, not without having hoisted Brazil to rank first in the world in terms of soy production.

Despite this, Mato Grosso's agricultural sector continues to play a powerful role in the country's agricultural sector, both economically and politically. In political terms, the agricultural and cattle-ranching sector is organised in federations of trade unions, all under the supervision of the Federation of Agriculture and Cattle Ranching of Mato Grosso (*Federação de agricultura e de pecuária de Mato Grosso* or FAMATO). In turn, FAMATO enjoys close collaboration with the state government (of which the head, Blairo Maggi, is also head of the state's largest soy company) and the Federal Government via the Ministry of Agriculture (MAPA).

2.3.2 Timber Production and Environmental Policies

2.3.2.1 The timber sector

The economy of Mato Grosso does not solely rely on agricultural products. Agriculture plays a very large role in the state's economy and as mentioned, its importance is partly due to political choices carried out in the twentieth century, but also due to the presence of *gaúcho* populations – especially in the North – whose traditional livelihood is agriculture-based. In 1999, Mato Grosso was home to a staggering 18 million cattle, *i.e.*, over seven times the size of the state's human population. In the northern half of the state, the main source of income is beef, of which 80% is consumed in other Brazilian states, and 6% of which is exported. Since extensive cattle ranching requires large tracts of land, private properties are generally cleared of forest, following which grass is planted and any regenerating vegetation is prevented from growing by cattle grazing.

It would therefore appear at first that cattle ranching and timber production are mutually exclusive because the former activity requires deforestation whereas the latter needs forests. However, a quick analysis of the economic structure of northern Mato Grosso shows that both types of activity usually go hand in hand and that stakeholders in the timber sector have increasingly come to depend on *fazendeiros* to make a living.

In fact, timber production is the second largest industry in northern Mato Grosso. It is primarily composed of a large number of small, often family-run, businesses, many of which originally came from the Brazilian South along with the flow of migrants in the 1970s and 1980s. As the migration frontier came to a close in the southern Brazilian state of Paraná, the land was rapidly cleared of forests – Le Borgne-David (1998:45) claims that southwest Paraná (the last area to be colonised in the state) lost 40% of its forest cover between 1970 and 1975 alone. To many in the local timber industry, the end of available land meant that there was no more timber to be produced, so the fact that the government opened up a new "front" in northern Mato Grosso was a golden opportunity for many in the timber sector to survive.

Unlike the agricultural sector, however, the role of the government – both at state and federal levels – remained minimal, and as a result, the timber industry has always been seen as the poorer brother of agriculture in the area. Nevertheless, a large number of timber companies

soon set up business, given the large expanses of forests that were about to be cleared. Only a minority of them, however, actually owned any land, so companies would often sign contracts with landowners to log timber on their properties. Two sources of timber are available in Mato Grosso (the third one, timber plantations, being minimal for the time being): (i) timber from clear-felled forests and (ii) selectively-felled timber from managed forests in areas usually within the legal reserve.

The dynamic relationship between agriculture (especially cattle-ranching and large-scale cultivation of grains such as soy) and timber production soon proved to be the driving force of a mobile front which has progressively moved northwards since the 1970s from central Mato Grosso to the state's borders with Pará and especially Amazonas. In the process, a pattern has emerged which illustrates the dynamic: in the early phases of colonisation, forests need to be cleared to give way to pastures, resulting in a sharp increase in local timber production.

During a second phase, timber production falls as the remaining forests (within the Legal Reserve) are logged selectively, yielding smaller amounts of timber; in the meantime, cattle ranching and beef production takes over as the area's main economic sector. During the third and last phase, timber companies have already moved to "greener pastures", namely areas with forests remaining, whilst the cattle ranching industry shifts northwards with the timber industry, gradually giving way to more lucrative commercial agriculture of soy bean and grains such as rice. This is the process which geographers have often referred to as the deforestation front.

To this day, the shift of economic activities towards the northwestern corner of Mato Grosso has continued, as illustrated by a number of economic studies of the *Nortão*. In the early 1990s, Sinop was *the* centre of the state's timber industry. However, in the past decade, the city has seen most of its timber companies move northwards, particularly to *municípios* such as Alta Floresta and onto Apiacás and even Colniza and Cotriguaçú, on the western banks of the Juruena river.

The timber industry is represented by organisations in the political sphere, although these do not have the clout or the connections that Mato Grosso's agro-business industry benefits from. Just like the cattle-ranching sector, timber companies are generally affiliated to local timber trade unions, such as SIMENORTE (Alta Floresta) and SINDUSMAD (Sinop), which themselves are affiliated to the Federation of Industries of Mato Grosso (*Federação das Indústrias de Mato Grosso* or FIEMT). Institutionally speaking, however, they are far outweighed by the agricultural sector and thus complain that their influence in the public sphere remains limited – a claim partly verified by the lack of regulations in favour of promoting the timber industry – at least until recently.

On a national scale, Mato Grosso is an important producer of timber from natural forests and is home to 13.4% of national production and 97.2% of production within the Centre-West region (Mato Grosso, Mato Grosso do Sul, Goiás and Brasília's Federal District – all other states being primarily located in the cerrado region of vegetation). In 2002, roundwood production in natural forests reached 2.9 million cubic metres whereas timber from plantations remained virtually negligible with only 0.02% of the state's production. Within Mato Grosso, the *mesorregião* of the North (the area between the BR163 and the river Juruena, including Alta Floresta and nearby *municípios*) represented 91% of the state's timber production.

Between 1991 and 2002, timber exports from Mato Grosso witnessed a sharp increase, especially in the last three years of this period. In 1998, the industry was home to 15,000 jobs within Mato Grosso – a figure which grew to 22,000 in 2002, *i.e.*, 38% of the state's industrial sector. Roundwood production was also on the rise throughout the 1980s and 1990s as it grew from 200,000 m3 in 1978 to approximately 3,000,000 in 2002, after having peaked at some 4,000,000 in 1995 (Moraes Massos & Masson 2005).

Since the late 1990s, however, the timber industry has suffered a number of setbacks, mostly due to increasingly stringent regulations on the part of IBAMA. Most people interviewed in the timber sector cannot recall *any* regulations prior to the creation of IBAMA in 1989, and strongly resent the administrative and legal difficulties that have been imposed on the sector in the past decade. In particular, *Operação Curupira* dealt a huge blow to the industry in 2005, bringing the entire sector to an almost complete standstill; it is only picking up again very slowly, as described below.

2.3.2.2 The rise of environmentalism

As in many other parts of Brazil, a network of actors developed rapidly in the early 1990s, in the period shortly before and after the 1992 Conference on Environment and Development in Rio. The first environmental NGOs in Mato Grosso were founded around that period and soon came together under the banner of a Federation called FORMAD, created in 1992, which in turn encouraged the proliferation of NGOs across the entire state. As for public state administration, a foundation for protecting the Pantanal, known as FUNDEPAN, was set up in 1983, but it was not until 1995 that it was replaced with the State Foundation for the Environment (*Fundação estadual para o meio ambiente* or FEMA) whose responsibilities were extended to the rest of the environmental sector.

Despite a relatively small number of environmental organisations and low levels of funding, Mato Grosso soon came to the forefront of environmental preoccupations in the country and beyond as it competed with Pará in terms of deforestation rates. Since the early 1990s, it has consistently been home to the country's highest deforestation rates, except for 2001-2002, when Pará momentarily overtook its southern neighbour again.

In the years following the Rio Conference, a number of activities were carried out as part of PPG7, including an "integrated conservation" project in northwestern Mato Grosso, on the border with Rondônia and Amazonas – in an area which had been home to POLONOROESTE the previous decade. This "corner" of Mato Grosso is characterised by isolation and difficult access, and remains fairly unaffected by timber production or cattle ranching, although it is believed that this is set to change in the years to come. Moreover, the area is home to numerous indigenous populations. This project, led in part by the British NGO Pro-Natura, consisted in identifying means of commercialising non-timber forest products that would allow local economic development without affecting the area's forest cover.

When the project came to an end in 1999, Pro-Natura and UNDP established a follow-up project with funding from the Global Environmental Fund (GEF) so as to pursue the activities that had not been completed by the previous project, especially the activities carried out among *ribeirinhos* and indigenous populations. It appears that the presence of these organisations and projects acted as a sort of magnet for other activities focusing on sustainable forest management or environmental conservation. As a result, the town of

Juruena, which Pro-Natura and UNDP had used as a base, also witnessed the following activities:

1. A capacity building project funded by the British Department for International Development (DFID);

2. A research project on carbon sequestration led by scholars of Cornell University;

3. A reforestation project led by the French National Forestry Office (*Office national des forêts*) and funded by the French company Peugeot; and

4. The decision of Rohden, the region's leading timber company, to seek certification, following exchanges between the company's CEO, Apolinário Stüller, and local environmental actors. To this day, Rohden remains the only FSC certified company in northern Mato Grosso and has successfully tapped into the certified timber market, exporting the bulk of its certified goods to Europe, especially the Netherlands.

With fewer than 10,000 inhabitants, Juruena has thus turned into a sort of pole of environmental research and innovation in northern Mato Grosso – just like the town of Alta Floresta (50,000 inhabitants), which is home to no less than six environmental NGOs. Alta Floresta was one of the first private colonisation schemes in the early 1970s and is the largest *município* in northern Mato Grosso (apart from Sinop) in terms of population.

The large size of the town which has contributed to concentrating many regional economic stakeholders, as well as the presence of remaining forest fragments scattered across the *município* probably favoured the arrival of NGOs keen on working directly on the "deforestation front". Together, these NGOs (of which *Instituto Centro de Vida* or ICV is the largest) produce information and reports on the state of the local environment. Through a number of educational programmes, they have recently also started providing technical assistance on (i) sustainable forest management and (ii) small-scale subsistence farming techniques.

Against all odds, some of these NGOs have succeeded in establishing a dialogue with the main stakeholders of each economic sector, especially those of timber production and cattle ranching, mainly through the respective trade unions. Moreover, Alta Floresta is also home to a thriving ecotourism industry which depends on the forest fragments that act as refuges for the surviving Amazonian fauna in the area.

Most of these NGOs and other environmental organisations, whether in Juruena or Alta Floresta, have developed arguments which emphasise the importance of local renewable natural resources, especially forests. These arguments are all based on concepts present in international debates on tropical rainforests, such as nature conservation, sustainable forest management and sustainable development. In this respect, environmental organisations stress the fact that (i) the activities of larger companies need to be controlled more tightly, and (ii) subsistence or small scale farming should include so-called "reduced-impact" practices whilst remaining economically viable. Unlike a wide range of other environmental NGOs, collaboration and conciliation with the region's main economic actors remains a priority – at least with small-scale ones.

However, the arguments *vis-à-vis* fazendeiros and the timber sector remains much more ambiguous. On the one hand, certain reports – many of which are diffused by the media around the country – denounce the private sector as a whole as the main culprit for the state's exceptionally high deforestation rates. According to such studies, timber companies and cattle ranchers work hand in hand in clearing forests in private properties well above the limit fixed by Federal Law and the Legal Reserve. Such arguments have been widely taken up by the Brazilian media in recent years, such as in *Veja*, where both sectors ranked top in the list of factors causing deforestation in a December 2005 issue.

Scientific studies have been provided to back up such theories. According to Moraes Passos & Mason (2005:15), the real "motor" of the deforestation front is the association between (i) the *pecuarização*[43] of the forest edge and the constant need to new pastures, and (ii) the extension of monocultures northwards from central Mato Grosso, pushing the cattle ranching business further north still. These authors establish a significant statistical correlation between deforestation and the growth of cattle ranching and monocultures at state level. However, other studies also point the finger at the timber sector, and in many cases, the image of roundwood been trucked out of the forest along dirt roads is often sufficient "proof" to establish the relationship between timber production and deforestation.

However, other NGOs have come to perceive the timber industry as a potential solution to sustainable forest management rather than a threat to conservation. In particular, IMAZON – a Belém-based environmental NGO – emphasises the need to encourage timber companies to adopt "sustainable" felling practices whilst preserving the bulk of the forest's biodiversity and ecological services (prevention of erosion, watershed protection, carbon sequestration, etc.). Organisations which base their arguments on this viewpoint generally encourage dialogue with the private sector, as IMAZON has done through a series of seminars and lectures in Mato Grosso.

2.3.2.3 Reactions from the Private Sector

Responses from the private sector to such arguments and the rise of the environmental movement in Mato Grosso has been lukewarm, to say the least. In the eyes of private companies which have suffered economic downturns in recent years, the environmental movement has turned into a genuine scapegoat and has been blamed for all their woes. On the one hand, cattle ranchers and agriculturalists who arrived in northern Mato Grosso in the 1970s with strong encouragement from the Government do not understand why this same government now seems to be blaming them for deforestation. "It is as if we had been invited to a party – only once we get there, we are not allowed in", one *fazendeiro* explained. In their view, the U-turn that the Federal Government has taken can only be explained by the growing influence of the environmental movement.

However, those who have suffered much more from the rise of environmental concern are the timber companies which saw the situation change from a completely unregulated sector in the 1980s to a stringent set of rules and norms that all but prevent them from operating at all. In their view, the sharp growth in logging regulations that IBAMA has developed over the 1990s

[43] This new term, based on the word *pecuária* (cattle raising or ranching), was recently coined to describe the sharp growth of the number of cattle in certain regions of the Amazon and the predominant position it has come to assume in social, economic and political terms in these areas.

and early 2000s is also mostly due to environmental pressures by national and international NGOs. In recent years, the local timber industry was devastated by this phenomenon, as is described in greater detail in the section on *Operação Curupira*.

In places such as Alta Floresta and Juruena, a tentative and fragile dialogue has been established between the environmental and the private sectors in the search for common understanding. However, outside these "poles of environmental innovation", the private sector remains largely hostile and any communication between the two sectors virtually impossible. The resentment that has built up over the past decade or so, especially on behalf of the private sector, is such that verbal violence and death threats are not uncommon, although assassinations remain unheard of – unlike further north in Pará where the situation is explosive and highly volatile in certain areas.

The private sector has also elaborated a complex set of arguments that legitimise their activities whilst deligitimising actors of the environmental sector and their claims. These arguments are largely based on those put forward by the Vargas and military regimes concerning the need to develop the Amazon. However, unlike the "developmentalist" discourse of the 1940s and 1970s, in which the central role of the Amazon is emphasised in Brazil's economic development, it focuses instead its "corollary", namely issues of national security and the threat posed by foreign interests. In other words, if one refers the 1970s slogan *integrar para não entregar* (the need to integrate the Amazon so avoid having to give it up), the arguments of the Vargas and military regimes focused on *integrar*, whereas those of the private sector today tend to focus on *não entregar* instead.

A summary of the private sector's arguments might help explain this. Following the publication of Artur Cezar Reis' book *A Amazônia e a Cobiça Internacional* (*The Amazon and International Cupidity*) in 1960, a series of arguments was established trying to prove that developed countries are trying to "internationalise" the Amazon to enable large multinational companies to benefit from the natural wealth that the region has to offer.

By the same token, by controlling the Amazon, developed countries would prevent Brazil from accessing the region it most needs for its development, thus maintaining the country in poverty and eliminating international competition. According to some, this viewpoint embodies the needless xenophobic feeling that predominates in the Brazilian Amazon, but to others, it constitutes a way of blowing the whistle on the hidden interests of an international network of anti-Brazilian actors. As a consequence, therefore, international actors need to be prevented from having *any* access to the Brazilian Amazon so as to ensure Brazil's entire sovereignty over the area.

When actors in developed countries showed increasing preoccupation about the state of the Amazon's forests in the 1980s, many northern NGOs tried to put pressure on the Brazilian Government to put an end to the large-scale development programmes in the Amazon. However, these NGOs were met with a set of arguments from Brazil's government which was very similar to those summarised by Artur Ferreira Reis (1960): in short, the international environmental movement was accused of spearheading the interests of developed countries in getting hold of the Amazon's resources and preventing Brazil from developing. In this perspective, environmental preoccupations were mere pretexts for a hidden economic agenda that developed countries had established for South America. These arguments were also extended to deligitimise human rights organisations, indigenist NGOs and even missionaries (many of whom were North American) in the Amazon Basin.

Since the 1980s, these arguments have lost none of their clout; if anything, they are more commonly heard today than in the 1980s or 1990s. They have been particularly popular in Mato Grosso's political circles as in the private sector and have been described in great detail in two books by the same author – *Mafia Verde: o Ambientalismo a Serviço do Governo Mundial* (published 2001) and *Mafia Verde 2: Ambientalismo, Novo Colonialismo*[44] (published 2005). In both books, the authors go to great lengths to denounce the "environmentalist-indigenist" movement as an "anti-human and anti-developmentalist" international instrument made up of networks of NGOs and international orgnaisations controlled by funds originating from developed countries. These transnational networks are supposed to represent a "genuine instrument of an unlawful and neo-colonialist war against progress".

2.3.2.4 The Public Sector

Pressured by both the environmental and private sectors, public organisations have almost literally found themselves between a rock and a hard place. In response to these pressures, state government administration has long retained and ambiguous role *vis-à-vis* forest-related policies. The state government is equipped with a specific environmental organ, the State Secretariat for the Environment (*Secretaria estadual de maio ambiente* or SEMA, previously known as FEMA). However, several other state-level organs play an important role in forest-related policies, including:

1. The State Secretariat for Regional Development (*Secretaria de desenvolvimento regional* or SEDER), equivalent of both MAPA and MDA at state level;

2. The Land Institute of Mato Grosso (INTERMAT), state equivalent of INCRA; and

3. The State Secretariate for Planning (*Secretaria estadual do Planejamento* or SEPLAN), state-level equivalent of the Ministry of Planning (*Ministério do Planejamento*).

The relationship between federal and state-level public organisations and their respective responsibilities often remain ill-defined and subject to debate. The current party differences between the Federal (PT) and State (right-wing) governments have only further contributed to the rivalry between organisations at both levels.

Since the early 1990s, partly in response to growing international pressure, the federal environmental organs have imposed an increasing number of restrictive measures concerning the use of forest resources, especially regarding timber production methods (in the form of internal IBAMA regulations known as *portarias*). These norms include (i) spatial restrictions on logging activities with the creation of permanent preservation areas (*areas de preservação permanente* or APP), (ii) creation of a minimum logging diameter, (iii) Rules about building roads and paths through the forest, (iv) obligation to submit a forest management plan (*plano de manejo florestal*) to be approved by IBAMA or SEMA, (v) Authorisation to transport forest products with documents known as ATPFs (*Autorização de transporte de produtos florestais*) and (vi) right to clear up to 20% of the property due to Legal Reserve restrictions.

[44] *Green Mafia: Environmentalism at the Service of World Government* and *Green Mafia II: Environmentalism, Neo-Colonialism*.

The private sector has bitterly resented these measures which many actors perceive as a consequence of pressure on the part of the environmental movement. By far the most criticised of these measures has been that of the Legal Reserve, especially as the figure was bumped up from 50 to 80% in the late-1990s (for Legal Amazonia only) through a *medida provisória* (provisionary measure). Unlike other regulations on forest use which concern primarily the timber sector, the Legal Reserve penalises the cattle ranching sector which heavily relies on cleared land for pastures.

As a result, the private sector bitterly complained that they were not consulted; government responded in 2000 by making the concept of Legal Reserve more flexible and allowing landowners to reforest in other areas to compensate for excessive deforestation on their own property. However, this decision failed to satisfy the agricultural sector and FAMATO even decided to sue the State at the Supreme Court, based on the idea that the Legal Reserve is anticonstitutional as it amounts to a *de facto* confiscation of private property without compensation.

Until 2005, all of these norms were only rarely respected, including that of the Legal Reserve. In particular, it is now an undisputed fact that members of the branches of IBAMA in Mato Grosso had set up a parallel market for emitting ATPFs whose prices sometimes reached R$ 5,000 (approximately € 2,000). Fake timber companies were created to legally buy these ATPFs and then sell them onto other companies that had logged timber without IBAMA's authorisation but that wished to transport it to have it commercialised. According to most actors interviewed – whether private, public or non-governmental – the existence of this tight relationship between IBAMA and the timber sector was a secret for nobody.

At the time, FEMA (the state equivalent of IBAMA) was responsible for *licenciamento ambiental*, *i.e.*, authorising activities which have a potential impact on the environment, including right to clear forest within Legal Reserve limits; however, all other authorisations for forest-related activities remained under the responsibility of IBAMA. Roles and responsibilities were to change dramatically following an operation launched in 2005 known as Curupira.

Meanwhile, the headquarters of IBAMA also played an important role in Mato Grosso's forest-related policies, in particular along the "deforestation front": having identified the mobility of this front as the main culprit for high deforestation rates, one of the solutions IBAMA put forward was to create a "barrier" of conservation units along Mato Grosso's northern border with Pará and Amazonas. As a result, a mosaic of protected areas was established in this area, including state parks (such as Cristallino), indigenous territories (*e.g.*, Mundurukú) and even a proposed national Park (Juruena).

2.3.2.5 Operação Curupira

In the years following the 2002 general elections, rivalry between state and federal environmental organs reached an apex. Whilst the Federal Government showed to be preoccupied by environmental issues in the Amazon, the state government openly denounced environmentalism as going against Mato Grosso's economic interests and development. During the second *Expoambiente* (an environmental fair/exhibition) held in Alta Floresta in 2003, the Minister of the Environment Marina Silva and the state Governor Blairo Maggi

gave speeches only hours apart that turned out to be diametrically opposed from each other. This only emphasised the growing divide between federal and state governments on the issue. It is at that occasion that Maggi made his famous remark: "24,000 km² of cleared land does not worry us because it is nothing at all".

In 2005, deforestation digures for Brazil published by IBGE, reached a new record that had only been beaten by the 1996 figures: between July 2003 and July 2004, 26,000 km² of forests had been cleared. The Brazilian Government was heavily criticised despite having anticipated the crisis with the launching of a plan to fight deforestation. Again, Mato Grosso ranked first in terms of deforestation rates with over 12,000 km² of land cleared. As a result, Greenpeace even awarded Blairo Maggi the "golden chainsaw" – a highly mediatised event which greatly contributed to producing negative publicity for Maggi's soy exports.

Meanwhile, Federal police and the IBAMA office in Brasília had secretly launched an investigation called *Operação Curupira*[45] aimed at identifying employees of IBAMA and FEMA in Mato Grosso who were responsible for the maintenance of the parallel ATPF market, which had allowed substantial amounts of unauthorised timber to be transported and commercialised legally. Barely a month after the publication of the 2005 deforestation figures, *Operação Curupira* ended up in raids all over the country but above all in Mato Grosso, where 130 IBAMA and FEMA employees were arrested, as well as several members of the private sector. The State Secretary for the Environment, the president of FEMA and the executive manager of IBAMA-Mato Grosso were all arrested and forced to step down.

On the long run, *Operação Curupira* had even greater consequences. Most of the staff of IBAMA-Mato Grosso was replaced with new employees recruited on public competition – the second such competition in the history of the organisation. Moreover, the state government abruptly declared FEMA extinct and substituted it with SEMA; likewise, most of the staff was replaced.

In the space of a few months, an agreement was also signed between the Federal and State Governments spelling out the functions and responsibilities of their respective environmental organisations (IBAMA and SEMA), and thereby also transferring most of IBAMA's responsibilities to SEMA regarding forest management. This was actually part of a nationwide law to decentralise environmental policy implementation, but it had taken a whole new meaning in the post-Curupira context and was perceived as a welcome sign of fundamental institutional change that might finally put an end to corruption in the environmental sector. Starting on 1 April 2006, SEMA assumed responsibility for approving forest management plans as well as emitting *guias florestais* (literally forest guides), which replaced the old ATPFs that had received a dismal reputation following *Curupira*.

SEMA also changed its structure and following the transfer of powers from IBAMA, recruited a large number of foresters to cope with the approval of forest management plans. Moreover, the state government voted on a significant increase in SEMA's budget which has enabled it to open new offices in northern Mato Grosso, in places such as Colíder and Guarantã do Norte. Meanwhile, the state government passed a new forestry law (Complementary laws No. 232 and 233, 21 December 2005) taking account of SEMA's new structure and functions.

[45] The name of the operation actually refers to a mythical beast who, according to *seringueiros* and *ribeirinhos*, wanders around the forest frightening hunters and other people who abuse what the forest has to offer. Curupira is thus one of the many forest entities that both embodies the forest and is supposed to protect it.

Operação Curupira also generated a profound change in the arguments set out by Blairo Maggi concerning environmental matters, as well as those of the agricultural sector's main representatives. Instead of denouncing the environmental movement as working against national interests, arguments now underline the need for conciliation and dialogue. Even one the most vociferous representatives of FAMATO which only a few years back had funded the publication of both *Mafia Verde* volumes claimed that "dialogue with environmental NGOs is a matter of common sense". It appears that these changes might have gone beyond mere discourse as cooperation with The Nature Conservancy, a US-based NGO, and WWF, is currently being discussed.

NGOs have put forward two main explanations for this sudden change in behaviour on behalf of politicians and representatives of the agricultural sector: (i) at the time of writing, Blairo Maggi was standing for reelection as governor of Mato Grosso in the November 2006 general elections and needed to show some sort of preoccupation concerning environmental affairs; and (ii) the exports of Mato Grosso's agricultural products having suffered greatly from negative publicity about the damage it inflicted on the environment (including Maggi's own company), the agricultural sector seriously needed to "green up" its image.

However, the greatest and longest lasting impact of *Operação Curupira* was felt in the timber sector, not only in Mato Grosso but nationwide. From one day to the next, IBAMA was literally paralysed and the process of approval of forest management plans and emitting ATPFs came to a complete standstill. According to most observers, IBAMA staff were simply too scared to approve plan that might have the slightest error, in case they get caught and fired. According to others, the mere fact that *all* management plans now had to be 100% legal and respectful of all of IBAMA's internal regulations meant that *no* management plan could ever be approved. In other terms, the system of regulations was so complex that whatever the nature of the management plans, none of them could ever fulfil all the rules IBAMA had set out in the past decade whilst remaining economically viable.

As a result, the timber sector – particularly in Mato Grosso – is currently going through one of the deepest crises it has ever faced in its recent history: without the approval of any forest management plan, companies are theoretically unable to produce any timber. Almost a third of the state's 1,200 timber companies have already filed for bankruptcy (Lemos 2006), whilst most of the surviving ones, according to trade unions representatives, are currently inactive. Only a small number of them is still producing timber by relying on already logged stocks or in some cases, illegally logged timber. The manager of Rohden – Mato Grosso's only FSC-certified timber company – also complained that his company was treated the same way as any other company, despite having benefited from an ecolabel that in theory certifies the legal source of all its timber.

Despite such a bleak situation, the timber industry is showing a few signs of recovery for the near future. Those companies that survived so far admit that they are happy that what they call "unlawful competition" has been severaly affected by Curupira and hope that the transfer of powers from IBAMA to SEMA might allow forest management plans to be approved more quickly.

* * *

The forestry sector in bot hits aspects (timber production and environmental conservation) has thus witnessed change along an exponential curve until 2005. During the 1980s, very little change was observed, apart from the gradual increase in environmental preoccupations and the creation of IBAMA in 1989; the 1990s saw an increasing number of changes, as the consolidation of the environmental movement increasingly put pressure on both federal and state governments to put an end to deforestation in Mato Grosso. Change reached a peak in 2005, following the publication of high deforestation rates, record production in the agricultural sector and especially *Operação Curupira*. All thse events led to fundamental changes not only in the arguments of actors, but also in instruments (new laws) and above all organisations (SEMA and the transfer of powers from Federal to State levels).

2.3.3 Infrastructural Policies

Although Mato Grosso never witnessed the variety and scale of the military regime's large projects in other areas such as in Pará, the state did undergo major infrastructural works beginning in the early 1970s which continue to be a subject of much debate to this day. In the 1970s, Mato Grosso was equipped with three main highways linking it wiaht neighbouring states: (i) the BR 070, which followed the centuries-old *caminho das monções*, linking Cuiabá with Goiás and Brasília; (ii) the BR 364, linking Cuiabá with Porto Velho (Rondônia) and Rio Branco (Acre); and (iii) the famous BR 163 running from Cuiabá northwards into Pará and to the port of Santarém, whose paving was hotly debated in the past few years. This section is aimed at focusing on the contruction and paving of the BR 163 as an illustration of the evolution of Mato Grosso's infrastructural policies.

At the heart of the military regime's plan to colonise northern Mato Grosso lay the construction of the BR 163 – the backbone and primary means of communication between the two halves of the state. The BR 163 was also to be extended into Pará, past an area known as Cachimbo – of strategic importance to the Brazilian military – and up to Santarém so as to evacuate any of northern Mato Grosso's agricultural products eligible for exports. Only months after President Emílio Garatsazú was sworn to power in October 1969, the road was drawn out and works began in 1973.

Until then, it took several weeks to travel overland from Cuiabá to the northern edge of the state, but by 1974, the stretch running from the BR 364 up to Sinop had been completed and immigrants began pouring in immediately. The construction is carried out by the 7th and 8th army engineering and construction battalions (*Batalhão de engenharia e de construção* or BEC) who first set up camp along the Rio Peixoto before beginning a further stretch northwards to Pará. However, immigrants were not allowed beyond the area now located in the *município* of Terra Nova as the zone straddling the border between Mato Grosso and Pará was a forbidden military zone called Cachimbo. Cachimbo had been selected as a key area for the military as early as the 1940s because at the time it acted as a stopover for flights from Rio or São Paulo to Manaus (which at the time was the capital of the strategic and booming rubber trade). After the war, however, it remained a military zone that civilians were not allowed to go through.

It was only in 1978 that immigrants were allowed north of Terra Nova, up to the border with Pará, whilst the Cachimbo military zone gradually shrank in size, handing over land to the Federal Government, thus giving way to colonisation projects to the south and indigenous

territories (Kaiabi and Mundurukú) to the west. East of the BR 163, the military eventually handed over the land to local *grileiros* as the strategic importance of the area was reduced with technological innovations in flying aircraft. In 1970, the military were the largest landowners in the region; by the early twenty first century, their lands had shrunk by more than half. However, by providing the Federal Government with the workforce necessary for the construction of the BR 163, they undeniably played an essential role in the colonisation process of northern Mato Grosso.

The BR 163 was thus built in a political context which set colonisation of northern Mato Grosso as a priority; the aim was clearly to facilitate the arrival of immigrants, which the BR 163 certainly did. Most early settlements and logging operations were located on the very edge of the highway, with the notable exception of Alta Floresta, for which a side road (MT 220) was also built. As agriculture gradually picked up in Nova Mutum, Lucas do Rio Verde, Sorriso and Sinop in the early 1980s, the BR 163 was paved up to Sinop in 1984 and extended to Colíder in 1987 and Alta Floresta, along the MT 220, a couple of years later. It was only in 1997 that the road was paved up to Peixoto de Azevedo.

The BR 163 became a national political issue again in the early 2000s when the highway became a potential means of evacuating the agricultural products from central Mato Grosso. As the production of grains boomed along the BR 163, it became obvious that paving the 950 remaining kilometres of the BR 163 to Santarém would enable Mato Grosso to export its products more easily to Europe, the United States and Asia via Santarém, on the river Amazonas. Given the role that the agricultural boom played in the country's economy, by 2004 the government seriously considered paving the entire BR 163 despite the dismal record that raod-building has had on forests in the Amazon. However, this time, a project was set up that would try to associate paving the highway with the concept of "sustainable development".

In fact, as any other major communication axis, the BR 163 has been central in enabling local non-governmental networks to be set up. Throughout the 1990s, a range of such networks was formed that involved national environmental or social NGOs such as IPAM and Fundação Viver Produzir e Preservar in the state of Pará, and Instituto Socioambiental and Instituto Centro de Vida on either side of the highway in Mato Grosso. Each of these NGOs had therefore already worked extensively on social and environmental issues linked to the BR 163. So when the government eventually revealed its plans to pave the highway, a complex network of NGOs had already been set up and was working on issues closely related to the government's project. In anticipation of the government's project, a workshop entitled "The Sustainable BR 163 meeting – challenges and sustainability along the Cuiabá – Santarém Highway (*Encontro BR-163 Sustentável – Desafios e Sustentabilidade ao longo da Cuiabá-Santarém*) had already been held in Sinop in 2003 in which both Marina Silva (Minister of the Environment) and Blairo Maggi (Governor of Mato Grosso) had taken part.

In February 2004, the government's plans were officially unveiled as an Interministerial Working Group was created to tackle the issues concerning the paving of the highway. Meanwhile, the non-governmental networks convened once again and established the Santarém Letter (*Carta de Santarém*) in March 2004, in which both the social and environmental movements along the BR 163 made specific demands to mitigate the effects of sealing the road. Given the observations on the effects of building and paving roads in other parts of the Amazon, these actors displayed particular concern over issues such as *grilagem*

and the negative impacts this would have both on the forest and in terms of social and land tenure-related conflicts.

In an attempt to display a break with past practices (especially with the military regime), the Federal Government made sure these concerns did not go unnoticed. An elaborate programme of public hearings was set up in the course of the year 2004 which involved an exceptionally large number of actors and mobilised considerable amounts of funding. The efforts shown to involve local actors and apply the concept of participation to its fullest extent were so great that the public hearings were said to have been multiplied *ad nauseam*. One year after the creation of the Interministerial Group, however, the Federal Government published a report in which the mitigating actions were detailed for the paving of the BR 163. This action plan is known as the Regional Sustainable Development Plan for the Area under Influence of the BR 163 (*Plano de Desenvolvimento Regional Sustentável para a Área de Influência da BR-163*), but better known as the "Sustainable BR 163 Plan" (*Plano BR 163 Sustentável*).

This Plan divides the BR 163 into three stretches (North, Central and South) and delineates what it calls the highway's "zone of influence", *i.e.*, a strip on either side of the road. In each of these stretches, a diagnostic of the ecological, social and economic situation is carried out with an emphasis on the historical process of occupation, land tenure situation, demographic and social indicators as well as a list of the existing public infrastructure. In terms of implementation, the plan sets out to carry out mitigating activities along four major themes: (i) territorial and environmental management, (ii) encouraging production, (iii) infrastructure for development and (iv) social inclusion. In practice, this means that new FLONAs have been planned along much of the highway so as to prevent *grilagem* and deforestation; technical assistance should be provided to promote small-scale agriculture; and new schools, health posts and other types of public infrastructure should be built to provide better welfare to local inhabitants.

The cost of paving the road, along with all the mitigating measures, remains extremely high, averaging approximately R$1 million per kilometre (ISA 2006). After much discussion, it was decided in 2005 that a consortium of private companies interested in paving the road would finance the works, headed by 11 agro-business companies such as Amaggi, Bunge and Cargill, but also Petrobras and even the Manaus Free Zone. The paving of the road was meant to be completed by 2009 but the drop in grain production in central Mato Grosso following the 2003-2004 boom has made the financing companies more hesitant to carry out such a large-scale project.

The Sustainable BR 163 Plan has been a genuine innovation in terms of infrastructural policies and has already acted as a precedent for the paving of other roads such as the BR 364 between Rio Branco and Cruzeiro do Sul (Acre) and the BR 319 between Manaus and Porto Velho (Amazonas and Rondônia). First, it has not only implemented previous models of infrastructural policies which associated constructions with mitigating activities but has taken these one step further by emphasising the mitigating effects more than the actual paving of the road itself. In this sense, it differs from POLONOROESTE which saw the paving of the BR 364 accompanied by a small range of mitigating measures which had been seen as forced upon the Federal Government by the World Bank; in the current case, not only are the mitigating measures greater in scope and variety, but the Federal Government itself was the one to promote them.

Secondly, it has mobilised unprecedented numbers of actors in the decision-making process by using state-of-the-art participation methods – which has not prevented NGOs from criticising the final version of the plan, but at least muted their voice. Thirdly, it has brought together a large number of different ministries together – from MMA to MAPA and social-oriented ministries in the first public infrastructure project of this kind. Finally, the scale of the project, the potential social and environmental impact, and the high profile of Mato Grosso's agro-business industry have all contributed to turning the issue into a national – and even international – debate.

* * *

The actual influence of the paving of the BR 163 on the social and environmental makeup of the areas surrounding the highway remains to be seen, and NGOs such as ISA (2006) and Greenpeace (2006) continue to remain somewhat sceptical about the outcome of the process. However, there is no doubt – at least in terms of arguments used – that infrastructural policies have changed greatly since the days when the BR 163 was being built to clear the forest, colonise the area and promote agriculture. This is not to say that policies have changed direction, in that they continue to promote the construction of new large-scale public infrastructure (whether it be the construction or the paving of roads). However, the appearance of new actors and the rise of both social and environmental debates means that infrastructural policies now officially recognise the effects that they can have on other sectors.

Box V
Gold Prospecting in Mato Grosso

Gold prospecting is the oldest economic activity in Mato Grosso and although its importance has greatly waned in the state's economy since the eighteenth century, practices have changed relatively little since the days of *bandeirantes*. Nowadays, it is characterised by a particularly mobile category of individuals who generally define themselves by their opportunism, relocating themselves to any place where gold might be found.

Nowadays, the discovery of gold or diamonds in a specific area is generally followed by the rapid arrival of a large number of gold prospectors – generally single, young men, most of whom originate from the Brazilian Northeast. The recent history of northern Mato Grosso is punctuated by such events of sudden migration as a function of the discovery of valuable minerals. Alta Floresta was one such place in the late 1970s and early 1980s – it is said that for a short period of time in the 1980s, the town's airport was the busiest in Brazil in terms of the number of landings and takings off.

Inevitably, the inhabitants of the region's towns regularly complain about the arrival *en masse* of gold diggers. Given the difficulty in predicting the movements of this particular category of the population, gold diggers generally set up shanty towns upon their arrival with limited or no access to basic health services (the tents they set up in the interior of nineteenth century Bahia gave the name to the town of Lençóis – literally, Cloths). Moreover, the creation of gold prospectors' settlements on gold-rich lands also creates frequent land tenure issues. Between 2000 and 2005, an entire town of gold prospectors was set up inside a forest which had already been designated as belonging to an *assentamento* (known as Vale do Amanhecer) in the *município* of Juruena. Faced with this invasion onto a land which the *assentados* considered theirs, the Federal Police was eventually called into expel the gold prospectors who planned and carried out the murder of several *assentado* representatives before leaving, according to local accounts.

2.3.4 The Indigenous Issue

As elsewhere in the Brazilian Amazon, Mato Grosso has its own share of indigenous societies, particularly in the northwestern and northeastern parts of the state. In fact, the whole of the northern half of Mato Grosso is home to a variety of groups, including the Apiaká, Kayabi, Panará, Cinta-Large, Rikbaktsa and of course the famous Kayapó – all of which have successfully got their territories demarcated (although it generally does not reflect the land they used to live on before the arrival of migrants). To this day, a few indigenous groups still roam isolated parts of the state without having ever been officially contacted by Brazilian authorities: these groups are referred to as "isolated Indians" and made national headlines back in 2005 when a group was spotted for the first time in a forest on the border with Rondônia and Amazonas.

Although Mato Grosso's indigenist policies are not exactly famous for their innovative character, the state once stood at the forefront of Brazil's indigenist policies, thanks to one individual known as Marechal Rondon. In the early years of the first Republic, he was employed by the Federal Government as an experienced *sertanista*[46] to set up telegraph wires to connect distant towns of the Brazilian Amazon. By the same token, Marechal Rondon got to travel throughout the region and succeeded in establishing contact with numerous indigenous societies. The grand project of linking Manaus by wire to Mato Grosso was never carried out, and instead, Rondon is best remembered for the central role he played in the country's indigenous policies.

Unlike the general hostile mood at the time regarding uncontacted indigenous groups, Rondon established principles based on peaceful relations and inspired by Comte's positivism, much in vogue in late nineteenth century Brazil. These principles later became the motto of the Service for the Protection of Indians and Localisation of National Workers (*Serviço de Proteção aos Índios e Localização dos Trabalhadores Rurais* or SPILTN, which turned into SPI in 1930) which he was instrumental in founding: "Only peacefully and never forcefully shall we enter the bush" (*"Só pela paz e jamais pela guerra devemos penetrar pelo sertão."*), and "To die if need be, but to kill, never!" (*"Morrer, se for preciso, matar nunca!"*). To many, he is still considered the founder of modern-day Brazilian indigenist policy; to others, he is a hero of the Brazilian interior who eventually gave his name to the state of Rondônia.

Given the scarcity of written history on the colonisation process of Mato Grosso, oral histories provide the bulk of the data available to help understand the evolution of the relationship between indigenous and immigrant populations. That of the Rikbaksta Indians is probably best known thanks to several studies carried out by indigenist NGOs such as OPAN. The Rikbaktsa currently live in three separate indigenous territories along the River Juruena in northwestern Mato Grosso (known as Erikbaktsa, Japuira and Escondido) and are said to have been contacted for the first time when they encountered immigrants in the search for rubber (as part of the Rubber War launched by Vargas) in the 1940s.

Initial contacts were violent with local *seringueiros* and conflicts lasted at least a decade, during which it is believed that the Rikbaktsa lost three quarters of their population before finally being "pacified" (as the establishment of peaceful relationships was then called) by the Anchieta religious mission. Despite this abrupt fall in numbers among the Rikbaktsa, it was a

[46] *Sertanista*: connoisseur of the Brazilian interior.

neighbouring groups called the Cinta Larga who hit headlines across the world when an entire village was massacred in 1963,[47] making public the plight of Brazil's indigenous populations for the first time.

The arrival of a new wave of migrants – this time from southern Brazil – in the 1970s sparked off new conflicts in which the Rikbaktsa fought to retain access to their land. Once again, they took up arms against cattle ranchers and logging companies, both of which wanted to get hold of the land the Rikbaktsa lived on. Some claim that certain cattle ranchers carried out further massacres and tried to expel the surviving Rikbaktsa, as described in the film *Avaeté, Semente da Vingança*[48] (1985), according to which cattle ranchers would have flown over Rikbaktsa villages and dropped sacks of poisoned sugar. However, this fact was never verified historically and in the absence of any proof, it is difficult to tell truth apart from tale.

Nowadays, the Rikbaktsa – like many other indigenous groups – retain relatively little contact with surrounding populations, apart from selling small amounts of Brazil nuts on the road-side, in exchange for manufactured goods. Their principal relationship with the "outside world" is through FUNAI, which in theory should be present in any exchange between indigenous and non-indigenous actors. Finally, UNDP, as part of PPG7, set up a programme with the Rikbatksa to establish a project to treat and commercialise Brazil nuts on a large scale.

On the eastern side of northern Mato Grosso, the story is quite different: the Xingú Basin and National Park are home to the famous Kayapó Indians who were famous regionally well before they received more media attention than any indigenous society has ever received in South America. However, the media attention and the subsequent "divorce" from the environmental movement is only one aspect of the complex relationship that the Kayapó have established with non-indigenous society over the decades. According to recent censuses, the Kayapó are among the 15 largest indigenous groups in Brazil with some 6,300 members in 2000 (Verswijver 2002), most of whom are located in the basin of the Xingú river that straddles northeastern Mato Grosso and southwestern Pará.

According to anthropologists, the Kayapó are characterised by the fragmentation of their communities – which currently number 19 – which nevertheless recognise each other as Kayapó. However, historical sources show that this was not always the case and mostly resulted from contacts with non-Indians. Until the nineteenth century, the Kayapó actually lived outside the forest, on the lower Tocantins, in what was then the state of Goiás. In the 1820s, the first contacts with immigrant populations turned out to be disastrous for the Kayapó: entire villages were attacked and massacred and women and children were captured as slaves. In the face of such horror, the surviving Kayapó fled westwards and sought refuge in the forest.

Some three decades later, repeated contacts with immigrants created new political turmoil among the Kayapó. Eventually, the group split into two, one part obviously seduced by the material advantages that immigrants seemed to be able to provide, whilst the other part remained hostile to any contact with them, basing themselves on the strange deaths that seemed to occur on every contact (and which the Kayapó attributed to the immigrants' witchcraft). Ultimately, the only groups that survived were those that had opted to avoid

[47] The press dubbed the event "Massacre of the 11th Parallel".
[48] "Avaeté, Seed of Vengeance".

contact with immigrants; by 1930, only three of the six groups that had first set foot in the forest in the mid-nineteenth century had already disappeared.

From then on, the surviving Kayapó became regionally famous as particularly violent and aggressive Indians who attacked any immigrants who tried to set foot on what they regarded as their "territory". The Kayapó actually turned out to be one of the reasons why all the expeditions to that region failed (including the Roncador-Xingú expedition in 1943 that attempted to promote colonisation in the area) and why northeastern Mato Grosso remained *terra incognita* for such a long time.

Eventually, in the 1950s and 1960s the Federal Government through the SPI decided to "pacify" the Kayapó. Contacts with non-Indians thus increased and as before, the groups split up again over whether to establish peaceful relationships with "white people" or not. Those who decided against went further into the forest and stayed away from the main rivers which acted as main axes of communication with non-Indians. Given the inability to move around in such as restricted space today, the Kayapó have shifted their livelihood from hunting to fishing and still largely rely on fish to this day. Likewise, the creation of permanent villages with shops, a school and a health post by SPI/FUNAI has mainly sedentarised the once nomadic Kayapó.

Their high profile since the 1940s, the aggressiveness of Kayapó leaders (a quality much sought after in a leader among the Kayapó according to Verswijver 2002), the high level of dependence of these groups on natural resources in their land and finally the constant harassment from gold prospectors are all factors that contributed to the Kayapó achieving unprecedented political visibility in the late 1980s. Peaking with the Altamira meeting early in 1989, where the Kayapó met up with 24 other indigenous societies to promote a pan-Brazilian indigenous movement, the Kayapó received huge amounts of media attention at a time when international preoccupation about the fate of the Amazon forest had reached an all-time high. Pictures of Kayapó leaders against the backdrop of the two towers of Congress in Brasília, during a rally in the capital later that year, went round the world, and the plight of Brazil's indigenous populations was associated with the much-mediatised destruction of the Amazon rainforest.

Kayapó leaders such as Raoni and Payakã became internationally famous as they travelled to the United States to promote their "cause", collaborated with anthropologists such as Darell Posey and Janet Chernela, and associated themselves with rockstar Sting to found an NGO, the Rainforest Foundation. In November 1989, Payakã received a medal from the Better World Society in the Nature Conservation category. However, the "marriage in heaven" between international stardom, the indigenous and environmental movements was shortlived, especially once it was discovered that the same Kayapó leaders had "got into bed" with logging companies by allowing them to log timber on their own territory. Following severe criticism on behalf of the environmental movement, relations were eventually suspended between the Kayapó and NGOs such as the Rainforest Foundation.

Since then, the Kayapó have often been branded as "manipulators" of the environmental movement, reaping the benefits of international fame before making agreements with logging companies. However, if one views these actions in the light of the history of Kayapó relations with non-Indians, it is obvious that Kayapó leaders only acted in an opportunistic way towards a society that at last appeared to treat them no longer with hostility.

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On several occasions, therefore, Mato Grosso has found itself at the forefront of the country's indigenist policies, whether in the early twentieth century with the activities of Marechal Rondon, or in the 1980s and 1990s at a time when the Kayapó enjoyed the fame they had recently acquired. However, the visibility of Mato Grosso in indigenist policies actually took place *in spite of* the state governments themselves who have mostly remained completely absent from the indigenous question; unlike Acre and Amazonas, there is no state-level organisation or even governmental policy directly aimed at indigenous issues.

Instead, the only public actor in indigenist policies remains at the Federal level, namely SPI/FUNAI. Thanks to both FUNAI and the emergence of an indigenist movement spearheaded by actors outside Mato Grosso, the state's indigenous societies now enjoy a greater number of rights – including the official demarcation of their territories in the 1990s – despite the fact that, to this day, the surrounding immigrant population mostly continues to consider them with contempt.

3 FOREST POLICIES IN ACRE

The extreme geographical isolation of the Brazilian state of Acre conceals the fact that it has now become a genuine laboratory for changes in forest policies. The relatively small size of the state and the high level of political mobilisation of many actors involved in forest management may explain why Acre now stands at the forefront of innovation in Brazilian forest policies.

3.1 GEOGRAPHY

Simply put, it is difficult to head further west into the Amazon Basin without hitting the Andes (or at least Peru and Bolivia) than Acre does. Lying at the extreme western edge of Brazil on the border with Peru and Bolivia, Acre occupies an East-West slice of several upper basins of rivers that all end in the Amazon river a thousand miles or so downriver – the Acre, of course, which gave its name to the state, but also (from east to west) Purús, Envira and Juruá, which is the longest river in South America after the Amazon itself.

Approximately 90% of the state is covered in dense Amazonian rainforest, and many researchers claim that the western edge of Acre, namely the Alto Juruá, is home to the world's highest level of biodiversity. Just like the rest of the Western Amazon Basin, Acrean forests are rich in *Hevea brasiliensis* or rubber tree, which – at least when Acre was created – is the state's economic, political and cultural *raison d'être*. As a consequence, the state's economy relies primarily on forest products, notably NTFPs such as rubber of course but also Brazil nuts. To the west, the Alto Juruá is a famous producer of *farinha*, or cassava flour, whilst the eastern edge of the state, where most of Acre's deforestation took place (in the 1970s and 1980s), is home to a thriving cattle-based economy.

In comparison with the rest of Brazil, Acre is a relatively small state, both in terms of area and population. With an area of just over 150,000 km², Acre is Brazil's latest territorial addition, dating back to 1903. In terms of human population, almost half of the 670,000 Acreans live in the state capital, Rio Branco, which lies on the river Acre. The city is part of a string of towns that heads south to the border with Bolivia (at Brasiléia) and on to the triple frontier with Peru (at Assis Brasil).West of this area, the state is very low human population densities, except for a few towns such as Feijó and Tarauacá, and of course, the state's second largest city, Cruzeiro do Sul (84,000 inhabitants according to IBGE's 2005 census[49]).

All these cities are connected by road, either by the BR317 which heads into Peru via the triple frontier or the BR364 as an extension of the road from Mato Grosso that runs through Rondônia and along the northern border of Acre to Cruzeiro do Sul. Outside towns and cities, tens of thousands of people still live in small rural settlements or in indigenous territories scattered throughout the forest. Acre is home to 22 officially recognised indigenous territories.

[49] http://www.ibge.gov.br/

3.2 HISTORY

Acre has a history in many ways distinct from the rest of Brazil. Very little is known of the indigenous populations living in the area, but it is strongly suspected that the Indian societies who live in Acre today migrated to the area in the second half of the nineteenth century.

Until the mid-nineteenth century, the upper basins of the Acre, Purús, Envira and Juruá were little more than a *terra incognita* with straight lines crossing through the area, marking imaginary borders between the Spanish and Portuguese Americas and from the 1820s onwards between Brazil, Peru and Bolivia. The Treaties of Madrid (1750), Santo Idelfonso (1777) and Badajós (1801) between Spain and Portugal placed the area now known as Acre well within Spanish territory (Droulers 2004:33). However, given the extremely low densities of settlers in this part of the Amazon, as well as the apparent lack of economic interest in the region, the treaties had little if no impact on the ground.

The Treaty of Ayacucho, signed in 1867 between Brazil and Bolivia, was more ambiguous. In a move to rally Bolivia in the war between Paraguay on the one hand, and Brazil, Argentina and Uruguay on the other, the Brazilian Emperor not only confirmed the existing border with Bolivia but also opened the Amazon river to Bolivian navigation. However, both parties also agreed on a fundamental principle known as *uti possidetis*, whereby the occupation of land by nationals of one or the other country would further determine the border between the two countries (Alves de Souza 2005:149).

In the meantime, the first exploratory expeditions into the area took place, starting with that of João Rodrigues de Cametá (1852) and followed by the British geographer William Chandless (1864). The presence of wide, navigable rivers allowed relatively easy access to the area, although the journeys lasted very long. In the absence of any other means of transport at the time, the Acrean region could only be reached by boat. From Rio de Janeiro, Brazil's capital at the time, one had to sail northwards along the Brazilian coast to Belém where one turned into the Amazon and up the Solimões (the upper reaches of the Amazon river within Brazil) before travelling up the Purús or Juruá. The journey generally took several weeks to months.

3.2.1 The Birth of a New Territory

The 1880s and 1890s marked a profound change in the social, economic and political makeup of the Amazon Basin, all due to a single product – rubber. Until then, rubber had only been used in trinkets and to make boots which were often exported to Europe, but the demand remained low. However, once Charles Goodyear had invented the vulcanisation of rubber, making the stuff extremely flexible and elastic without losing its original shape, it was only a matter of time before the industrialisation of Europe and North America began demanding considerable quantities of the product. Until the 1880s, rubber production remained a small-scale affair, as the industrial use of rubber was relatively infrequent. However, by 1888, Dunlop had invented valve tyres, which proved to be crucial components on bicycles first, then cars.

That is when Brazilians realised they were sitting on a potential goldmine. Biological expeditions into the Acrean region began in the 1870s, revealing to the world the high

densities of rubber trees (*Hevea brasiliensis*) in the area. The Amazon Basin west of the Rio Madeira seemed to be teeming with rubber trees which, if properly treated, could produce about 2.5 kg of rubber a year each (Droulers 2004:44). Within a few years, land prospectors rushed to Belém and Manaus to buy land in the Amazon and attract labour to extract rubber for export.

The discovery of all this potential wealth contrasted sharply with the poverty of the Brazilian Northeast, where the 1877 drought had left the historical and colonial heart of Brazil in a dire situation. The new landowners, whose ownership of forests often remained self-proclaimed, thus attracted tens of thousands of impoverished *Nordestino* workers to their land to bleed the rubber tree and float the produce down to Manaus and Belém. They arrived by boats full wherever rubber trees could be found, causing considerable conflicts with and dislocation of existing Indian populations.

Inevitably, in the absence of any clearly marked international borders and in the rush to bleed rubber trees, Brazilian workers poured over the border into northern Bolivia and eastern Peru. Such an "invasion" would have gone unnoticed had a colonel of the Bolivian army, José Manuel Pando, exiled in the Bolivian Amazon for political reasons, not reported it to La Paz in 1894. Within a year or so, all eyes were on this small, isolated disputed strip of land – Bolivians clearly claimed it as theirs, as did Brazil whose government declared it Bolivian Territory.

However, the settlers and *seringalistas*, resenting the 10% tax that Bolivia had imposed on rubber production in the area, soon rallied the government of the Brazilian state of Amazonas which was most interested in annexing this small but valuable territory to their own. On two occasions, they fomented revolts and battles through (i) the shortlived Independent State of Acre proclaimed by a former Spanish diplomat turned self-proclaimed president (1899-1900), Luis Galvez, and (ii) the ill-fated "Expedition of Poets", made up of artists, poets, teachers, doctors and lawyers who on encountering the Bolivian army immediately scattered into the forest.

Worried by all this unrest and conscious of the fact that its army could not defend Acre forever against Brazilian incursions, Bolivia got British and American companies to form a consortium called the Bolivian Syndicate. This entity would be given virtually full trading, governing and defence powers in Acre against which it would recognise the area as Bolivian territory.

Brazil reacted strongly against what its government regarded as foreign intervention in its affairs with Bolivia and the Bolivian Syndicate project was cancelled. During this time, the state of Amazonas encouraged unrest for the third time by helping set up a "*Seringueiro*'s army" in Acre against what was regarded as Bolivian "occupation". Four battalions were created which succeeded in defeating the Bolivian army. Far from recognising Acre as Brazilian territory at first, the Brazilian Government finally opted for a conciliatory approach between the two parties and offered to buy Acre off Bolivia.

In the Treaty of Petrópolis signed between Brazil and Bolivia in 1903, Brazil agreed to occupy Acre and pay £2 million to Bolivia as well as build a railway (Madeira-Mamoré) that would allow Bolivia to export its rubber through the Brazilian Amazon and Belém. The railway was never completed, and many claim that Brazil never paid the agreed sum, but Acre was to remain Brazilian to this day. In 1909, following a similar situation in Peruvian territory

on the upper reaches of the Juruá, Brazil and Peru signed a treaty allowing the Upper Juruá to become part of the Brazilian territory of Acre.

Against all expectations, the Brazilian Government ignored the demands from the Government of Amazonas to take over Acre, as well as the demands of Acreans to become a fully-fledged state. Instead, Acre became Brazil's first Federal Territory, a category that the Brazilian Constitution had not set out and which was based on the concept that already existed in the United States. A Governor was to be appointed by the Brazilian Government and all taxes would be collected and sent to Rio de Janeiro, removing all political and decision-making powers from the hands of Acreans.

Many suspect that the national Government opted for a Federal Territory status because Acre was a particularly lucrative area at the time, thanks to rubber. The inhabitants of Acre themselves, however, strongly resented their status which placed them in a similar situation to Britain's crown colonies vis-à-vis the Brazilian Government in Rio de Janeiro. For decades to come, Acrean intellectuals and seringalistas, known as *Autonomistas,* would wage a war of words with Rio de Janeiro until the recognition of Acre as a state.

3.2.2 A Seringueiro's life

The first settlers in the Upper Purús and Juruá date back to 1852 and 1865 respectively, according to historian Carlos Alberto Alves de Souza (2005:79). The neighbouring state of Amazonas invested considerable amounts of resources in populating Acre in the hope that this small area would eventually contribute to the economic success of Manaus which by the 1890s had become a centre of fashion and modernity in South America, thanks to a rapid influx of money.

However, the *Nordestino* rubber tappers's life was very different from the lush life that traders lived in Manaus. Both men and women – but especially men – had left the Northeast in the hope of a better life in the Amazon. However, once they had travelled up the Amazon and its confluents and entered the upper reaches of the Purús and Juruá, they found themselves trapped in a rigid system known as *Aviamento*.

Among the northeastern immigrants, some men either wealthier or of higher social standing would take advantage of the new situation to become a *seringalista, i.e.,* those who would collect the rubber off their workers (known as *seringueiros*) rather than bleeding the rubber trees themselves. Dos Santos *et al.* (2002:184) claims that the seringalista is the figure which most resembles that of the owner of the northeastern *engenho* or sugarcane plantation. In many ways, the relationship that evolved between seringalista and seringueiro was very much a reproduction of the one that existed between slaves and their owners, with all the elements of violence and domination that such a relationship entailed.

Once he had recruited a certain number of immigrants, the seringalista or *patrão* (boss) divided up his land (his *seringal*) into plots (*colocações*) upon each of which he placed a single man. The rubber tapper (*seringueiro*) would build himself a hut (*tapiri*) in the forest and around it beat passages through the forest to bleed the rubber trees found along the way. Each *colocação* was thus made up of a single home and an extensive network of *estradas* (roads), also known as *pernas* (legs) along which the rubber trees would be bled. The

seringueiro would travel day and night along each *estrada* to collect the milk that had gathered in the tin pots he had placed several days earlier.

Once collected, the milky white rubber had to be smoked over a fire to be turned into a solid ball which was then taken on foot to the nearest *barracão* or store. There, the seringueiro would exchange his produce for tinned food, sugar, coffee and tobacco that the seringalista brought upriver. In some cases where *barracões* were so distant that seringueiros found it difficult to transport the rubber themselves, the seringalistas would be helped out by *regatões*, or mobile merchants who would travel up rivers and streams to meet the seringueiros, collect the rubber off them and hand out some manufactured goods.

Given the high prices that the seringalista imposed on outside products (due to the lack of competition), the seringueiro remained in a constant state of debt which he could only pay back by producing more rubber. Seringalistas prohibited small-scale subsistence agriculture and even hunting so as to keep the impoverished seringueiros in this tight barter relationship.

This nutritional dependence on mostly tinned goods meant that as much as half of all seringueiros suffered from diseases due to the lack of vitamins. Anthropologist Darcy Ribeiro claims that "after a few months at work in *seringais*, the mass of vigorous men who had disembarked from the ships from the Northeast turned into heaps of invalids with wounded or paralysed legs, rotting away alive, victims of what appeared to be the climate but which in fact was beriberi" (1970[2004]:43). It was only much later, with much input from indigenous cultures, that *seringueiros* learned to rely on the forest for food, at least in part. As for the rubber balls, they followed a complex chain of custody (see Figure I) as they were sold to *casas aviadoras* (trading companies) and floated downstream to Manaus or Belém where they were exported.

Reports from the 1880s right up to the 1970s describe the violence that took place in these isolated regions. The seringalista, with the help of a militia or even the police, was said to often resort to physical violence to force seringueiros to produce rubber. The infrequence of exchanges between seringueiros prevented many collective revolts from taking place, but when they did happen, they were apparently met with drastic measure that often ended in death. From the 1970s onwards, when aviamento finally came to an end, the system was to be denounced as an unofficial form of slavery.

The life of the seringueiro was thus a lonely one and the only meeting place would be the barracão, where they had a fair chance of meeting each other. Of course, the forests which they settled in were not uninhabited, and the relationship with Indian population was generally one of conflict which often led to outright elimination of entire Indian tribes through diseases, massacres or assimilation. The indigenous issue is described in greater detail below.

The seringueiro's relationship with the forest is impregnated with fear and respect, but also of some beliefs originating from contacts that seringueiros had with Indian populations. Anthropologist Daniela Marchese (2005:47) points out the anthropomorphism that seringueiros' vocabulary reveals – for example, they often refer to various places of the forest as the "head", "legs", "mouth" and "sleeves". The idea of this anthropomorphic view of the forest is corroborated by the plethora of human-like entities of the forest in seringueiro "mythology" that protect and defend the forest against intruders and those who hunt animals to extinction (*Curupira*, *Mãe-da-Mata*, *Mapingarí*, etc.).

Towards the 1970s and 1980s, when the number of seringueiros began dwindling and in the face of potential conversion of forests into pastures, many began glorifying the lifestyle of the seringueiro which until then had been regarded with disdain as an "old-fashioned" and "backward" livelihood that had no future. Over the past few decades, symbolic elements of the seringueiro have come to symbolise a much-celebrated lifestyle deemed "sustainable" and "harmonious with nature" – the seringueiro's tools such as his oil-lamp, tin cups and *cabrita* (which makes superficial cuts on the bark to bleed the tree), as well as his beliefs (entities protective of the forest such as *Curupira* and *Mãe-da-Mata*).

Box VI
The Church of Santo Daime: An Example of Religious Syncretism

Over the years the seringueiro lifestyle began developing its specificities as a result of European and African inheritance from the Northeast, blended with numerous indigenous elements. One of the most interesting and unusual illustrations of this cultural mix is its religious expression in the form of the Church of Santo Daime. This branch of Christianity appeared in the 1920s when a seringueiro who had settled in Rio Branco believed he communicated with the Virgin Mary after having taken an indigenous potion which he called Daime.

This liana-based hallucinogenic beverage has been prepared for decades, if not centuries, by countless indigenous tribes across the Western Amazon Basin, who have used it for social and religious purposes. Scientists who managed to identify the molecule in 1927 called it "telepatina" as its primary effect is to increase social intelligence, *i.e.*, it enables individuals to empathise with people in their environment, and quite often, with non-human living beings. Indigenous societies generally use the drink (known as lami, ayahuasca, cipó or Daime according to the region) in social events and to communicate with spirits.

For the first time, Daime was associated with a branch of Christianity so as to enable believers to communicate with the Holy Trinity, and in particular the Virgin Mary. However, there are additional twists to the Church of Santo Daime. As well as the Holy Trinity, Santo Daime is peopled with spirits, many of whom are from the forest which is said to be the realm of the Virgin Mary. Moreover, this Church also recognises the existence of "entities" or spirits of African slaves and even African ancestors which appear to believers in candomblé-like rituals.

This religion is now widespread across the State of Acre and has also expanded to the rest of Brazil as well as North America and Europe. In Acre, it is as successful with seringueiros and their descendants as NGO workers and members of the state government. Santo Daime combines both Indigenous and Afro-Brazilian beliefs and religious cults within a broadly Christian framework and thus illustrates the rich cultural heritage of what at first appears to be a simple lifestyle.

The environmental dimension of Santo Daime differs fundamentally from the Judeo-Christian view of Nature as created for human use. Instead, Nature (epitomised by the forest) is the physical location of Santo Daime's entities, spirits and above all the central character of the religion, the Virgin Mary (known as *Santíssima Maria, rainha da floresta* or Holiest Mary, Queen of the Forest). Finally, the forest is home to the *cipó* which (i) binds trees to each other (making the forest more than a set of trees) and (ii) is the main ingredient of ayahuasca.

3.2.3 From Territory to Statehood

While seringueiros settled to their new lifestyle deep in the forest, seringalistas and merchants downstream often gathered large fortunes in very little time. Because distances were so large, small traders – many of which were immigrants from the Ottoman Empire – rapidly developed thriving businesses in growing towns such as Rio Branco, Xapurí and Cruzeiro do

Sul. However, the times of lavishness were to be short-lived. It was only a matter of time before the Brazilian monopoly on rubber came to an abrupt end.

In fact, the seeds of the rubber crisis were sown before the boom even started. In 1876, British explorer Henry Wickham shipped rubber tree seeds back to Kew Gardens in London and within a few decades, the British had successfully began growing them in plantations in Malaya. To this day, this episode of Amazonian history is felt as a great injustice and in the light of the 1992 Convention on Biological Diversity, as the first example of "biopiracy".

However, Droulers (2004:46) correctly points out that had it not been for previous events of "biopiracy", Brazil itself might never have been a Portuguese colony, for its beginnings were based on growing sugarcane (native from the Middle East), then coffee (native from Ethiopia) and cocoa (native from Central America). Moreover, Dos Santos *et al.* (2002:216) emphasises that between the time Wickham brought rubber tree seeds back to London in 1876 and the beginning of the crisis in the early 1910s, the governments of Amazonas or Brazil had several decades to react and anticipate Asian competition, but it was only in Amazonas in the late 1900s that the government decided to invest in rubber tree plantations. By then, it was too late, and Brazil could only watch as Asia took over the rubber trade.

By the early 1910s, Southeast Asian rubber production had overtaken that of Brazil, thanks to the large yields that plantations enabled, and in 1912 international rubber prices started falling sharply. Between 1912 and 1932, Acre's production of rubber fell from 12,000 to a mere 3,000 tonnes whilst its price dropped from 26,000 to 4,000 réis (Barbosa de Almeida & Scheibe Wolff 2002:117). Whilst several large companies went bankrupt, others passed on the crisis to the seringueiros who suddenly found that a tin of food cost much more rubber than it used to.

Upon realising the looming economic crisis, seringueiros led several revolts which soon became commonplace, leading to assassinations and in some cases overthrow of the *aviamento* system. However, in many cases the seringalistas simply left the seringueiros to their own devices. Some of them headed back to the Northeast but most remained in Acre, moving further upstream where the densities of rubber trees were such that the increase in rubber production compensated the fall in price.

The Second World War turned the situation round again. By the time Brazilian President Getúlio Vargas had decided to side with the Allies in 1942, British Malaya was under Japanese occupation, thus leaving the Allies short of much needed rubber for their army vehicles. The Brazilian and US presidents struck a deal the same year in the form of the Washington Agreements whereby the United States committed itself to buying Brazilian rubber until 1947.

With a new market for rubber, the Brazilian Government found itself attracting workers – again from the Northeast – to the Amazon to work as "rubber soldiers" (*Soldados da borracha*). Seringalistas and seringueiros moved back to the forest but the aviamento system was "modernized" and contracts signed, acknowledging the seringueiros' right to practice agriculture and subsistence hunting, as well as receive a salary during the wet season months when heavy showers prevented the seringueiros from collecting gum.

50,000 workers thus migrated to the Amazon under the "Battle for rubber" scheme set up and partly funded by the Brazilian Government, many of whom preferred collecting rubber to fighting in North Africa or Italy. As it turned out, mortality rates were considerably higher among rubber soldiers than those fighting on the European front. The end of the war meant that once again, the rubber industry fell into a crisis although this time, it was cushioned thanks to Government subsidies that maintained production levels going until the 1960s.

As production levels again gradually fell during the 1950s and demands for Acre to be raised to a state became louder, the then Governor José Guiomard dos Santos made an official request for Acre to be considered a state. After numerous debates, statehood was granted to Acre in 1962 – mainly because income from Acre had dwindled over the years, historians claim (*e.g.*, Alves de Souza 2005:170). Despite having been the main architect of the statehood of Acre, southern-born Guiomard lost to Acrean-born José Augusto de Araújo in the first gubernatorial elections.

3.3 FOREST-RELATED POLICIES SINCE 1964

3.3.1 The Military Regime

Acre's autonomy did not last long in the face of political events in Brasília. In March 1964, the military overthrew President João Goulart and just like all other Brazilian states, the Governor of Acre was forced to resign and was replaced with a new governor nominated by the military regime. From 1964 to 1982, Acrean policies were once again to be elaborated in Brasília rather than in Rio Branco.

On a national scale, efforts had been undertaken since the late 19th century to "integrate" the country. As vague as this notion of national integration may be, it mainly meant making sure that unlike the Spanish-speaking countries surrounding it, Brazil would remain united. In the 1950s, two major constructions were decided on that would bring the interior closer to the coast and the north closer to the south – the foundation of Brasília and the construction of the Belém-Brasília highway, which for the very first time linked the north to the economic and political heartland of the country by land.

The military regime took integration several steps further and focused their discourse and policies on the Amazon Basin as the country's last frontier to be protected against foreign interests and as a potential key to all of the country's woes. Suddenly, the Amazon became *the* solution to agrarian reform as well as a source of wealth and springboard for national development. The main points of the military regime's policies of Amazonian integration were:

(i) Encourage migration to the Amazon to populate areas considered empty and by the same token solve the problem of agrarian reform, as stated in the slogan *a terra sem homem para o homem sem terra* ("empty land for the landless man"); the Government, via the Agency for Amazonian Development (SUDAM), made this the main focus of the first Amazonian Development Plan (*Plano de Desenvolvimento da* Amazônia or PDA, 1971-1975);

(ii) Foment agriculture within the Amazon Basin by selling off state-owned land to investors, encouraging the National Institute for Colonisation and Agrarian Reform (INCRA) to create agricultural settlements (*assentamentos*) in the Amazon and heavily subsidise investments in agriculture; this became the focus of the second Amazonian Development Plan (1975-1979);

(iii) In order to enable people to migrate and to allow agricultural products to be evacuated, an extensive road network was planned out that would criss-cross the Amazon Basin.

Acre was not spared, although the impact of these policies was somewhat lighter than in other states or federal territories such as Rondônia, Mato Grosso and Pará. Agricultural colonies were not foreign to Acre – José Guiomard dos Santos had turned some 80,000 hectares of forest into large colonies. However, unlike Mato Grosso for example, large cereal companies never actually settled in Acre – merely small, medium and large-sized private investors and farmers.

As early as 1967, the regime put an end to the Amazon Development Bank's (BASA) subsidies for rubber production (Law n°5227/1967). In the following years, many seringalistas went bankrupt and in order to pay their debt back to BASA, were forced to sell their forests to agricultural investors to whom tax incentives had been offered to settle in Acre. The government strongly encouraged farmers from the South and Southeast of the country to move to Acre which it claimed was "the Northeast without drought and the South without frosts" (Alves de Souza 2005:99), and where producers would even be able to export via the Pacific Ocean. The new migrants were called *Paulistas* (from the state of São Paulo), although in many cases they also came from the southern states of Paraná, Santa Catarina and Rio Grande do Sul.

Many claim that migrants actually forged title deeds, taking advantage of the fact that the only land registers that existed – those kept by INCRA – were notoriously inaccurate. Obviously, the arrival of agriculture led to drastic land conversion, primarily in the easternmost *municipios* of Rio Branco, Capixaba, Xapuri and Brasiléia. According to IBAMA's estimations, over 260,000 hectares of forest disappeared in the 1970s and 1980s. What had once been the heartland of the Battle of Acre was now only pastures.

Obviously, unlike the military regime's slogan, the land was not empty despite densities being very low. Seringalistas had sold off their land to farmers regardless of the seringueiros who actually still lived on the land. In some cases, the new landowners were accommodating and seringueiros were allowed to remain on their land or were compensated for moving out. In other cases, however, thousands of seringueiros and their families were forced out the forest, often with violent means, as pointed out in a newspaper description of a fazendeiro known as Nilson Inácio Camargo, himself assassinated in 1985:

> [Nilson Inácio,] a professional gunman, brought terror and panic to rubber tappers and land occupiers alike, and was the most hated man of all. He would throw people out of their houses before setting fire to their dwellings. He appeared in the capital's papers' headlines dozens of times as a cruel and ferocious persecutor of workers. On several occasions, he ordered land occupiers to be tied and flogged in front of their wives and children, only to be evicted after that.[50]

50 "[Nilson Inácio,] pistoleiro profissional, implantou o terror e o pânico aos seringueiros e posseiros e era o homem mais odiado de todos. Costumava expulsar os moradores e em seguida atear fogo em suas casas. Por

Quoted in de Castro Melo (2003:30)

Assassinations soon became commonplace as families of seringueiros either flocked to agricultural settlements (*assentamentos*) or the city. Acrean state capital Rio Branco grew substantially in size during the 1970s as forests emptied themselves of seringueiros either forced off their land or in search of a new livelihood as rubber production had become economically unviable.

In other cases, seringueiros joined the ranks of landless farmers from the rest of the country to settle in purpose-built *assentamentos*. In these settlements which were created mainly on roadside (*e.g.*, Rio Branco to Porto Velho, such as PA Pedro Peixoto, or Cruzeiro do Sul to Rio Branco), each family was given 100 hectares of which they were allowed to clear 50 to grow crops or rear cattle. All of these *assentamentos* remain to this day, although they were never developed to the same scale as those of neighbouring Rondônia, and descendants of *seringueiros* who have converted to agriculture continue to consider rubber tapping as not only economically unviable but also backward – a lifestyle that decidedly belongs to the past. The status given to rubber tapping versus cattle rearing is an issue further discussed below. By 2000, the 62 *assentamentos* constituted roughly a third of the state's rural population (Andrade de Paula 2005:95).

Within twenty years, the face of Acre, and in particular the eastern third, changed dramatically. As Rio Branco grew in size, forests were cleared along the roads to make way for pastures. IBGE data shows that whilst rubber and Brazil nut production fell between 1970 and 1996, the number of cattle and the production of rice, beans, corn and bananas rose sharply, as shown in Table I. It should be pointed out that most of the agricultural product came from small and medium-sized farms, and that large-scale enterprises remained very much a minority in Acre.

Produce		1970	1996
Agricultural Produce	Rice	7,053	19,937
	Beans	2,571	5,368
	Corn	7,284	27,796
Animal Rearing	Bovine (number of heads)	90,000	847,298[51]
	Pastures (area in ha)	71,000	614,000
Forest extractive industries	Rubber	9,286	3,732
	Brazil nut	11,951	3,858
	Timber (m^3)	53,000	304,722

Table IX. — Agricultural versus forest products in Acre in tonnes (unless otherwise indicated). Data collected by IBGE (www.ibge.gov.br/).

dezenas de vezes foi manchete nos jornais da capital, como um homem cruel e feroz perseguidor de trabalhadores. Sucessivas vezes mandou que posseiros fossem amarrados e surrados na frente das mulheres e filhos, para em seguida expulsá-los da terra."

[51] Andrade de Paula (2005:86) claims this figure is a gross underestimation since the Acre Secretariat of Production recorded over 1,200,000 heads in 2000 during a vaccination campaign but did not note a significant increase in the latter half of the 1990s.

In order to get the migrants into Acre and the agricultural products out, the Brazilian Government undertook ambitious road-building projects – then again, although Acre was deeply affected by such decisions, these projects did not take place at the same scale as those in Pará with the Transamazonian highway, for example. Until the early 1970s, Acre could only be reached by airplane or by boat from Manaus, which required several weeks. In Acre, two axes were built:

(i) The BR364 was built in the early 1970s, linking for the first time Rio Branco by road to the rest of Brazil via Porto Velho (capital of Rondônia), Cuiabá (capital of Mato Grosso) and onto Minas Gerais and the state of São Paulo. Within Acre, this road was extended along the border with Amazonas up to Cruzeiro do Sul, with the aim to link the latter to Pucallpa, a couple of hundred kilometres into Peru, which would then allow direct access right up to Lima, on the Pacific. To this day, the road stops in Cruzeiro do Sul, although the project to link it with Pucallpa have been brought up again (see below).

(ii) At the same time, the BR317 was built, linking Rio Branco with the southeastern municipalities of Senador Guiomard, Capixaba, Xapuri, Brasiléia (on the border with Bolivia) and Assis Brasil (on the border with Bolivia and Peru), with the aim to facilitate communication with Lima via Puerto Maldonaldo and Cuzco (Peru).

3.3.2 Resistance in the Forest

A minority of rubber tappers, however, refused to give up the lifestyle they had led so far. Within a few years of the first evictions, seringueiro and rural workers' trade unions were created with the help of the Catholic Church via the Land Pastoral Commission (*Comissão pastoral da Terra*), created in 1975, along with local Basic Church Communities (*Comunidades eclesiais de base*) (see box). That same year, an Acrean branch of the national Confederation of Agricultural Workers (*Confederação de Trabalhadores rurais* or CONTAG) was opened following repeated demands from the Church.

Box VII
Liberation Theology and the Seringueiros' Resistance Movement

Liberation theology (*Teologia da Libertação*) is often considered a controversial school of Roman Catholic theological thought. Some scholars trace its origins back to the 1930s but its growth in popularity took place mainly in the second half of the twentieth century especially in Latin America. Unlike others approaches, Liberation theology explores the political ramifications of Christian theology and focuses on issues such as poverty and human rights. It perceives Christ's teachings as emphasising the need to free the oppressed from poverty and domination, and in this sense includes certain Marxist-leaning concepts as class struggle.

It might not come as a surprise that Liberation Theology was particularly popular among the religious body in Latin America, given the historical positions that Jesuits took when siding with Indian populations against slave hunters and *bandeirantes* until the 18th century.

Within the Catholic Church, the main proponent of Liberation Theology was CELAM (*Conselho Episcopal Latino-Americano*), created in 1955 in Rio de Janeiro. In the 1960s, it founded CEBs or *Comunidades eclesiais de base* (Basic Church Communities), *i.e.*, religious or missionary extensions of parishes that aimed to reach out

to the poorest segments of the population. The ideas of Liberation theology were taken up by authors such as Peruvian Priest Gustavo Gutierrez and Brazilian Priest Leonardo Boff.

In practice, this approach consisted in developing extended links with poor communities and allowing them to free themselves from "oppression" through education and social mobilisation. In Brazil, CEBs had numerous reading courses and played a central role in the creation of rural trade unions – what one would call today "community outreach" and "capacity building".

The Vatican never took too kindly to the controversy that Liberation Theology stirred up. Relations with Pope Paul VI remained frosty whereas John Paul II denounced it openly as non-orthodox since it tried to portray Christ as politically motivated. The approach was accused of being an incitement to hate and violence and was condemned by John Paul II and especially by Cardinal Ratzinger, now Pope Benedict XVI, ultimately leading to its loss in influence over the 1990s. Today, the Church no longer supports Liberation Theory in Brazil and the trade union movement has shifted away from religion.

The main aim of the social mobilisation of seringueiros was to provide some sort of political visibility and defend this particular lifestyle in the face of the threats at the time, notably forced eviction and land conversion into pastures. Apart from numerous meetings and the creation of trade unions, seringueiros' mobilisation generally took place in the form of confrontations and occupations. Throughout the latter half of the 1970s and into the 1980s and 1990s, seringueiros repeatedly resorted to a method known as *empates* ("impeachments"): upon hearing that an area of forest was going to be destroyed, the trade unions would occupy the forest and discuss the issue with the workers who had come to clear the land. Such *empates* generally proved to be very successful but whenever physical confrontations took place, as when the police intervened on behalf of the farmers, the seringueiros would line up and place women and children in front to discourage physical violence from taking place.

Behind *empates* lay a form of social organisation where CEBs played a large role. The scattered distribution of seringueiros and their geographical remoteness from urban centres had prevented them from attending schools and in the 1970s, only a small minority knew how to read and write. CEBs thus undertook local education programmes, teaching rising trade union leaders not only to read and write but also how to organise their communities to achieve public and political visibility. Many such leaders acquired considerable local visibility at the head of seringueiro trade unions, notably Wilson Pinheiro (Brasiléia), Chico Mendes (Xapuri) and Chico Ginu (Cruzeiro do Sul).

In the face of such resistance, farmers often carried out – or paid *jagunços* (hired gunmen) to carry out – threats and in some cases murders to clear their land of seringueiros. Numerous seringueiros were murdered during the 1970s and 1980s, and most of them went unpunished given the remoteness of events. Occasionally, some jagunços aimed "higher" and several trade union leaders were assassinated, notably Wilson Pinheiro (1980) and of course Chico Mendes (1988).

3.3.3 The Forest Peoples' Alliance

The 1980s was a decade of rapid growth for the seringueiros' movement. As it gathered pace over the years, it attracted considerable sympathy and support from four main groups, namely politicians, academics and NGOs, and later environmentalists and indigenous movements.

The seringueiro movement was strongly linked to the Brazilian Labour Party (*Partido Trabalhista* or PT) and played a major part in the foundation of its Acrean branch in 1980, the year when parties other than the military regime in power were authorised. Upon its foundation, Chico Mendes was elected as President of the Provisional PT Commission for Acre. The PT immediately gained success in Acre and when Wilson Pinheiro was assassinated in 1980, a speech was given at his funeral by no other than Ignácio Lula da Silva. In this speech, he is said to have claimed, "The time has come for the jaguar to drink" (*Chegou a hora da onça beber água*), which was interpreted by many as a call for revenge.[52] The link between the seringueiro movement and the PT has proven to be essential in the configuration that this complex network has taken since the PT came to power both in Rio Branco (in 1999) and Brasília (2003), as described below.

Leading seringueiro trade unionists, notably Chico Mendes (also a founding member of the PT in Acre), also joined hands with academics. When Mendes gave a talk at the Federal University of Acre (UFAC) in Rio Branco in the early 1980s, a group of history and agronomy students – many of whom had also joined the PT – decided to join the effort and created one of the state's first NGOs – the Amazonian Workers' Centre or *Centro de Trabalhadores da Amazônia* (CTA) – in 1983.

CTA played a similar, though secular, role to that of the Catholic Church. The main aim was to increase political awareness among seringueiros and encourage them to refuse evictions through social and political mobilisation. However, CTA's first members realised that such aims could only come to fruition if seringueiros benefited from basic education and health standards, which led CTA to focus its activities on these two issues. Today, CTA continues working in both education and health and forms teachers and "health agents" (*agents de* saúde) in dozens of schools and health posts scattered across the Acrean forests.

The small and humble offices in a backstreet of Rio Branco should not be deceptive, however. CTA is at the heart of the network of actors that formed around the seringueiros' movement in defence of their lifestyle and the forest. From Chico Mendes to Jorge Viana (Governor of Acre from 1999 to 2006), Marina Silva (Brazilian Minister of the Environment since 2003) and Mary Allegretti (former Amazonian Coordination Secretary of the Brazilian Ministry of the Environment), CTA turned out to be a place of convergence for an impressive range of high profile public figures.

During the 1980s, Chico Mendes actively sought support from a wide range of actors and institutions by travelling across Acre, then Brazil and beyond, giving speeches and raising public awareness about the fate of Acre's seringueiros. He played a key role in the foundation of the National Council of Rubber Tappers (Conselho nacional de seringueiros) in Brasília in 1985, which was to unite seringueiro unions from across the Amazon, but especially in Acre and Amazonas. Partially in response to this but also to the rise in power of the Landless Movement (*Movimento Sem Terra* or MST), large-scale farmers founded the Ruralist Democratic Union (*União democrática ruralista* or UDR) the same year.

Chico Mendes' rise in fame, as well as his movement, did not stop with the borders of Brazil. Back in Europe – especially Germany – and North America, public opinion began showing

[52] The violence that fazendeiros often resorted to is now widely acknowledged, but seringueiros themselves also often carried out planned attacks and over the course of a couple of decades, several fazendeiros were assassinated too (de Castro Melo 2003:29).

increasing concern for environmental affairs, not only in the developed world but also in developing countries. The Amazon, dubbed "Lungs of the Earth" at the time, attracted much attention, as witnessed by the first documentary on Chico Mendes, produced by English filmmaker Adrian Cowell in 1985.

Two years later, with funds from the US National Wildlife Federation, Chico Mendes got the opportunity to travel to Washington D.C. to argue against a road-building project to be funded by the Inter-American Development Bank (BID). Not only did he argue successfully, but he was also able to participate in the re-negotation of the project. This earned him two prestigious prizes – the United Nations' "Global 500" and that of the Better World Society, a CNN-funded organisation.

Within a couple of years, Chico Mendes and the seringueiro movement had gained widespread international visibility which many believed would protect Mendes from the death threats he received on a regular basis (Allegretti 2002:553). As the same time, the burgeoning environmental movement both in Brazil and elsewhere was gradually growing to accept the role of rural populations in nature conservation. Until then, environmentalists had mainly perceived human populations as a threat to their natural environment and sought to isolate one from the other, as the traditional concept of people-free national parks illustrates.

However, as noted by a regretful Oates (1999:44), towards the end of the 1980s environmental NGOs such as WWF, IUCN and Friends of the Earth began considering that rural populations – instead of clearing forests through their destructive slash-and-burn agricultural practices – could in fact be the "stewards" of their environment. According to such a view, they could actually contribute to its protection by defending it against outside interests. To some extent, the idea that rural or traditional populations were inherent conservationists conjures up images of the "noble savage" which had first appeared among European humanists who sought to see in "primitive populations" the "primitive goodness" of humanity.

Back in Acre, in the eyes of Brazilian, North American and European environmentalists, seringueiros fitted that mould perfectly. To those who had joined the "cause" of the seringueiros so far – the Church, the PT and CTA – the movement was primarily one of human rights and social justice. The fact that seringueiro trade unions fought against deforestation was due to the fact that forests represented a livelihood rather than having some sort of intrinsic value that environmentalists traditionally attributed to them.

Environmentalists swapped the priorities. In their view, the seringueiro movement represented a growing powerful (as well as legitimate) force that aimed at protecting forests. This perspective has since been confirmed by biologists themselves who liken the impact of "traditional populations" on the forest with "natural perturbations" that actually contribute to natural regeneration and *increase* local biodiversity:

> Generally speaking, the majority of traditional human perturbations in the [Alto Juruá] region have the same diversifying effects on the system as natural perturbations do, on varying scales. The opening of paths to collect rubber emulates the fall of trees of different sizes, the fields less than one hectare in size imitate floods and rivers that leave their beds, and the areas cleared for domestic usage are similar to new beaches and lakes (…). The [vegetation] succession tends to follow different paths if disturbance is of human origins, but this does not reduce the diversity of habitats. Anthropic actions on a limited scale actually tend to augment the diversity of different levels of the biological system.[53]
>
> Brown & Freitas (2002:41)

In other words, traditional populations not only help conserve nature, they can also enhance it. As the idea of traditional populations (as seringueiros had become by now) as inherent conservationists gained popularity, the defence of a "traditional" lifestyle and of the forest became indistinguishable and environmentalists rallied the seringueiro movement.

The snowballing effect that the seringueiro movement witnessed in rallying supporters and sympathisers during the 1980s did not stop there. During the 1980s, another social revolution was gradually taking place in Acre and elsewhere in Brazil – that of the rights of indigenous peoples. Until then, few had ever compared seringueiros to Indians and any form of alliance between them remained unlikely. The physical confrontations between the two, especially during the first rubber boom, and the decimation of Indians were still fresh in people's minds, and isolated yet violent encounters that still took place prevented them from moving closer.

However, in the face of the expansion of agriculture and animal rearing in the 1970s and 1980s, both seringueiros and Indians were faced with a common problem – eviction, deforestation and loss of "customary" rights to land. During the 1980s, the Catholic Church through its missionaries had encouraged Indians to stand for their rights, and many seringueiro leaders – especially Chico Mendes – focused on the common plight that both these groups of people were now undergoing.

In a bid to join efforts, Chico Mendes coined the term "Forest Peoples' Alliance" (*Aliança dos povos da floresta*) to emphasise the idea that both Indians and seringueiros were fighting the same struggle. These peoples who had once been all but at war with each other had now rallied to each other's cause. By then, environmental organisations had no problem "integrating" the indigenous rights movement into that of the seringueiros that they had joined as Indians fulfilled the same "requirements" – a group of forest-based, traditional populations whose impacts on the environment were deemed no greater than that of seringueiros. The evolution of indigenous groups in Acre is described in greater detail in the next section.

Within 13 years, from 1975 to 1988, the seringueiro movement thus grew to be one of Acre's main political forces, from the brainchild of the Catholic Church it once was to a complex network of heterogeneous local, national and international institutions. Two main factors, other than the plight of seringueiros and the oratory skills of Chico Mendes, may explain its success. After years of military dictatorship and suppression of political dissent and free

[53] "De modo geral, a maioria das perturbações humanas tradicionais na região [do Alto Juruá] tem os mesmos efeitos diversificadores no sistema que as naturais, em várias e diferentes escalas. A abertura de estradas de seringa emula a queda de árvores de diversos tamanhos, os roçados de menos de 1 hectare imitam as inundações e os desbarrancamentos de rios e áreas de campo assemelham-se a novas praias e lagos (...). A sucessão tende a ir por caminhos diferentes após algumas das perturbações humanas, mas não menos diversificadores de hábitats. As ações antrópicas em escala limitada tendem a aumentar ainda mais a diversidade em diferentes níveis do sistema biológico."

speech, the Army finally handed over power to a democratically elected president in 1985. Despite being largely peaceful, the years that had preceded the "New Republic" had seen an explosion in trade unions and political parties across the country, demonstrating that the first half of the 1980s had witnessed a genuine political awakening in the country.

The other factor relates to changes in public opinion in developed countries and subsequent changes in international relations in the second half of the 1980s. The increase in public awareness in environmental matters during that period in North America and Western Europe not only led to the development of environmental policies in these countries but also favoured receptivity for environmental struggles in developing countries, notably that of Chico Mendes in an oft-romanticised far-flung region of the Amazon.

However, despite the seringueiro movement's unexpected growth in the 1980s, it was yet to rally considerable further support. The assassination of (by now) internationally famous Chico Mendes in December 1988 is generally described as a watershed in Acrean politics, and indeed in Brazilian environmental and foreign policies. Overnight, the news of his death in his humble home in Xapuri went round the world and was widely reported in the Western media.

Calls from governments of developed countries to put an end to deforestation in the Brazilian Amazon had been met until then with discourses on the right of Brazil to development and the lack of legitimacy of foreign governments to meddle in Brazilian affairs. However, some authors such as Kolk (1996) partially credit the death of Chico Mendes with the mounting pressure that the US Congress put both on the Brazilian Government and the World Bank to put an end to development projects in the Amazon. This eventually led to a U-turn in Brazilian environmental policy and ultimately to President Collor's proposal to hold the 1992 Conference on Environment and Development in Brazil.

Back in Acre, Chico Mendes' death acted as a catalyst for change. Ever since the creation of the *Conselho Nacional de Seringueiros* in 1985, Mendes had been fighting for the recognition of a new category of protected area, Extractive Reserve (*Reserva extrativista* or RESEX), inside which seringueiros could carry on living their "traditional livelihood" without clearing the forest. This would act as a protection against threats of expulsion and deforestation that the seringueiros faced throughout the 1980s. Just over a year after his death, in 1990, the Federal Decree number 98.987/90 created the federal conservation unit category of RESEX, to be managed by IBAMA. Alves de Souza (2005:109) describes how a RESEX works:

> The extractive reserve, for whom controls it, is a new conception of space in the Amazon. It is formed by an extractivist population, traditionally accustomed to living in the forest. Extractive reserves belong to the nation. The Federal Government sets extractive reserves aside for *seringueiros* through a document called "Contract of real use concession" that it signs along with an association which represents all the inhabitants of the reserve. This association is the body that regulates the use of the reserve by *seringueiros* through a management plan. *Seringueiros* are responsible for the cleanliness of forest paths and the construction of bridges over *igarapés* [or small forest brooks].[54]

[54] A reserva extrativista, para quem a controla, é uma nova concepção de espaço na Amazônia. É formada por uma população extrativista, acostumada tradicionalmente a viver na floresta. A reserva extrativista pertence à nação. O governo federal coloca a reserve extrativista à disposição dos seringueiros através de um documento chamado "Contrato de concessão real de uso", repassado em nome de uma associação que represente o conjunto de todos que moram na reserva. Essa associação é que vai fiscalizar o uso da reserva pelos seringueiros. Para isto existe um plano de uso. Os seringueiros se responsabilizam pela limpeza dos varadouros e pelas construções de pontes nos igarapés.

Much debate took place in the year following Mendes' death concerning the creation of RESEX. Its detractors were of two kinds: on the one hand, some conservationists saw as a heresy the idea of creating a conservation unit which people could live in, however "traditional" their lifestyles might be; on the other, public figureheads such as Federal Deputee (Member of the Brazilian Congress) argued that within a few years, the whole of the Amazon would be one large protected area, preventing Amazonians from developing their economy. However, the window of opportunity that Mendes' assassination had opened and the national and international pressure on the Government to honour the struggle of a man whose cause was seen as just tipped the balance in favour of RESEXs. One of the first to be created was named after him.

Chico Mendes had also regarded the idea of RESEX as a type of agrarian reform with an Amazonian twist. INCRA also saw the advantages of RESEX in terms of the ongoing agrarian reform as it enabled rural workers to have legal access to land as their livelihood, *i.e.*, as a specific form of *assentamento*, which was (and still is) INCRA's main tool for the agrarian reform. INCRA thus created at the same time its own "version" of RESEX, called Agro-extractivist rural settlement project (*Projeto de assentamento agro-extrativista* or PAE). In today's Acre, both RESEXs and PAEs coexist next to one another and function in very similar ways, with the exception that the former is managed by IBAMA with a conservation objective whereas the latter is managed by INCRA with an agrarian reform objective.

3.3.4 The Indigenous Issue

Acre's indigenous populations have a history that remained unknown or neglected for decades until anthropologists and indigenous movements started looking into the plight that these populations suffered for the past 150 years or so. Historians now refer to various periods of indigenous history in Acre – as elsewhere in the Amazon and beyond – as genocides. Although this is somewhat of an anachronism as nobody would have referred to the massacres as genocides at the time when most of them were perpetrated, historical records now show beyond doubt that the term is appropriate to describe what many Indian populations went through upon encountering non-Indian populations.

Nowadays, the state of Acre boasts a large diversity of indigenous populations, with over 9,000 Indians spread across a number of indigenous lands, most of which lie in the western half of the state and many along the border with Peru (see Table II). Despite representing only 1.8% of the state population, indigenous lands cover 14.2% of Acre's surface area with some 2,167,000 hectares (Governo do Estado do Acre 2000:135-136).

It is necessary at this point to get rid of some assumptions on Indians and indigenous lands. Unlike the Western concept of a nation-state (one people with one language, one historical land, one government), indigenous lands are often home to more than one society or tribe, as Table II shows. Neither are the lands that Indians now live in their ancestral land – for example, the Ashaninka only settled along the Brazilian part of the Rio Amônia some 70 years ago.

Moreover, the names given to different "tribes" does not necessarily reflect the cultural divisions that these societies would themselves recognise. For example, "Katukina" and

"Kulina" are generic terms that have been applied to a number of Indian societies in the south western Brazilian Amazon who have little in common apart from the fact that they are indigenous. Finally, as is described below, the political representation of indigenous lands and peoples, once taken for granted by non-Indians, has led to much questioning in recent decades.

Finally, it is essential to refer to Indians and peoples in the plural. Nowadays, given the common problems that different Indian societies face and the fact that they themselves have begun recognising the generic term *Índio* (Indian) that non-Indians have attributed to them, it is all too easy to underestimate the huge diversity that one might encounter between different societies. Indigenous languages illustrates this point, since within a territory just over half the size of the UK, there are half a dozen languages that belong to two language families (Pano and Arawak), which represents about as much linguistic diversity as the whole of Western Europe (including the Basque language!).

Municipality	Indigenous Land	Society	Population	Language family
Assis Brasil	Cabeceira do Rio Acre	Jaminawá	123	Pano
Sena Madureira & Assis Brasil	Mamoadate	Manchineri, Jaminawá	459 117	Arawak Pano
Santa Rosa & Manoel Urbano	Alto Rio Purus	Kaxinawá, Kulina	924 767	Pano Arawak
	Jaminawá/Envira	Kulina, Ashaninka	40 52	Pano Arawak
	Kampa e isolados do Rio Envira	Ashaninka, *Isolated Indians*	230 -	Arawak -
Feijó	Katukina e Kaxinawá	Shanenawa, Kaxinawa	178 358	Pano Pano
	Kaxinawá do Rio Humaitá	Kaxinawa	255	Pano
	Kaxinawá Nova Olinda	Kaxinawa	150	Pano
	Kulina do Rio Envira	Kulina	235	Arawak
	Kulina do Igarapé do Pau	Kulina	90	Arawak
	Xinane	Isolated Indians	-	-
Tarauacá	Campinas e Katukina	Katukina	370	Pano
	Igarapé do Caucho	Kaxinawa	310	Pano
	Kampa do Igarapé Primavera	Ashaninka	21	Arawak
	Kaxinawá da Colônia 27	Kaxinawa	95	Pano
	Kaxinawá da Praia do Carapanã	Kaxinawa	246	Pano
	Rio Gregório	Yawanawá, Katukina	618 210	Pano Pano
Jordão	Alto Tarauacá	Isolated Indians	-	-
	Kaxinawá do Baixo Rio Jordão	Kaxinawa	203	Pano
	Kaxinawá do Rio Jordão	Kaxinawa	920	Pano
	Kaxinawá do seringal Independência	Kaxinawa	138	Pano
Marechal Thaumaturgo	Jaminawá / Arara do Rio Bagé	Jaminawa-Arara	165	Pano
	Kampa do Rio Amônia	Ashaninka	450	Arawak
	Kaxinawá / Ashaninka do Rio Breu	Kaxinawa, Ashaninka	365 60	Arawak Arawak
Porto Walter	Arara do Igarapé Humaitá	Arara	200	Pano
Rodrigues Alves	Jaminawá do Igarapé Preto	Jaminawa	160	Pano
Mâncio Lima	Nukini	Nukini	425	Pano
	Poyonawa	Poyanawa	403	Pano
Total	28	12	9,343	

Table X. — Indigenous lands in Acre in 2000 (Source: Governo do Estado do Acre 2000:135).

3.3.4.1 History

Anthropologist Terry Aquino who is well acquainted with a number of indigenous populations in Acre and southern Amazonas has divided indigenous history in the south western Brazilian Amazon into five periods. One must therefore bear in mind that the history of Acre's Indians presented here thus reflects a specific viewpoint which has albeit been largely diffused among Brazil's historians, in indigenous education and within the indigenous political movement.

1. *O tempo de antigamente* (Antique times). This period mainly reflects the history of indigenous populations based on archaeological findings. Archaeologists generally agree that humans arrived in the Americas between 20,000 and 12,000 years ago, shortly before the continent's megafauna disappeared from the continent (the causality between these two events has not been firmly established). Between 9,000 and 5,000 before present (BP), agriculture began in South America, first in the Andes with corn and potato, followed by the Amazon Basin mainly with cassava. Archaeological sites in Acre have also revealed a wide variety of ceramic artefacts dating from the same period, as well as foundations of large housing structures up to 350 metres in length.

2. *O tempo das malocas* (the times of *malocas*[55]). This period, which corresponds roughly from 5,000 BP to AD 1860 is commonly perceived as the "golden age" of indigenous societies in the Amazon although, as Neves (2003:63) points out, it was also a time of constant wars between different societies. Constant migrations within the Amazon Basin led to an extremely complex patchwork of different societies which ultimately led to the following distribution: (i) Aruan-speaking people (belonging to the Arawak linguistic family) dominated the middle Purus in Amazonas, (ii) the upper Purus and lower Acre rivers were inhabited by various Arawak societies, (iii) Pano-speaking groups occupied the upper Acre, (iv) Katukina groups lived in the area between the Purus and Juruá, and (v) the middle and upper Juruá was a complex mosaic of Kaxinawá, Jaminawá, Amawaká, Arara, Rununawá, Xixinawá and other societies.

   One might add to this depiction that migrations generally took place locally along rivers and regionally from the Andes down into the Amazon Basin. The Incas, who referred to Arawak Indians and "Antis", put constant demographic pressure on populations living on the slopes of the Andes, pushing group after group eastwards into the forest. The arrival of the Spanish in the 16th century accentuated this trend as the Ashaninka, fleeing the Spaniards, settled in what is now southwestern Acre and western Peru as early as the 1640s.

3. *O tempo das correrias* (the times of running). From the 1860s onwards, thousands of seringueiros poured into Amazonas and rapidly went south of the Cunha-Gomes line which defined the border with Bolivia and Peru. At the same time, caucheiros (Peruvians and Bolivians in search of a forest product similar to latex) invaded the Peruvian and Bolivian Amazon, trapping countless indigenous groups in Acre. For some entire groups and most Indians, history stops there, as Neves (2003:63) describes:

[55] A *maloca* is the Portuguese term for a large, single-roofed indigenous house that extended families supposedly lived in collectively before the arrival of non-Indians and as opposed to the small individual huts that most of them live in today.

> From landowners of the lands of the southwest Amazon, native populations turned into obstacles to the exploration of rubber and *caúcho* and victims of the *correrias*: armed expeditions to kill village leaders, imprison men as slave labour and obtain women that would later be sold to *seringueiros*. It was a time of terror. After burning *malocas* and killing the main warriors, the victors indulged in games of cruelty.
>
> Along with white people came a number of diseases. Measles, flu, tuberculosis and other diseases spread rapidly and decimated entire villages before the eyes of shamans who remained unable to dure these unknown illnesses.[56]

From an estimated 150,000 in the 1860s, the Indian population of Acre neared 5,000 in 1989. In other terms, 97% of the indigenous population of Acre was murdered, died of diseases or simply disappeared in the midst of the endless tide of non-Indians, making the Black Death in Medieval Europe look like a banal demographic blip. The reaction of Indians to what must have looked as some sort of cataclysm was varied. In cases where Indians resisted invasion and fought, they were generally exterminated – such is the case of the Kanamari or the Xapuri who within a few years of the first seringueiros arriving were never heard from again. When they survived, they most often migrated southwards to Bolivia (*e.g.*, the Takana).

When entire villages were murdered, young women were generally left to live and were forcefully married to seringueiros, which explains the presence of many Indian cultural elements in seringueiro lifestyles and mythology. The strategy of most "extant" indigenous societies was some sort of cooperation with non-Indian intruders who turned them into *mateiros*[57], forest guides or even seringueiros, such as the Ashaninka, Apurinã and Manchineri.

4. *O tempo do cativeiro* (the times of captivity). By the time the first cycle of rubber came to an end in 1913, most Indians had been exterminated. In order to survive, those alive radically changed their lifestyles, adopting seringueiro-like huts as dwellings, metal tools for cooking, hunting and gathering, and speaking Portuguese or Spanish. The fall in price of rubber meant that attracting more *Nordestinos* to Acre had become difficult and seringalistas resorted to forcing remaining Indians into the *aviamento* system. Those who still managed to escape from such a situation sought refuge upstream, far from access by river – which is where today's isolated Indians remain.

   After seven decades of "captivity", most Indians had lost all but a few cultural indigenous elements. Many now lived in a sedentary fashion, speaking no other language than Portuguese and fully integrated into the local economy. In some cases, entire villages refused to define themselves as Indians – either to refuse persecution or because they had somehow integrated the negative value associated with being Indian.

[56] "De senhores das terras da Amazônia sul-occidental, os povos nativos passaram a obstáculos à exploração da borracha e do caucho e vítimas das correrias : expedições armadas para matar as lideranças das aldeias, aprisionar homems para o trabalho escravo e obter mulheres que seriam vendidas aos seringueiros. Foi um tempo de terror. Depois de queimadas as malocas e mortos os principais guerreiros, os vencedores se divertiam em jogos de crueldade. Junto com os brancos chegaram muitas doenças. Sarampo, gripe, tuberculose e outras enfermidades se alastraram rapidamente e dizimaram aldeias inteiras diante de pajés que não sabiam como curar aquelas moléstias desconhecidas."

[57] A *mateiro* in seringueiro vocabulary is a person with considerable traditional biological knowledge and who can easily identify plant species of medicinal or commercial use in the forest.

5. *O tempo dos direitos* (the times of rights). This situation began changing in 1976, when the long-awaited FUNAI opened a branch in Acre. At the same time as the Catholic Church was creating CEBs among seringueiro communities, CIMI, the Brasília-based *Conselho indigenista missionário* (Missionary Council for Indigenous Peoples), began lobbying in favour of indigenous rights. The most important rights, in the eyes of this burgeoning indigenous movement, was that of access to lands as they represented access to resources and thus livelihoods for many indigenous groups.

   In 1979, the *Comissão Pro-Índio* (CPI-Acre) was founded with the aim of defending indigenous rights in Rio Branco. From 1983 onwards, when CTA was created with similar aims for seringueiros, CPI-Acre focused on educating Indian populations by forming indigenous teachers and lobbying for differentiated education which would focus on indigenous languages and means of livelihood. Indigenous health agents were also educated by CPI-Acre so as to provide each indigenous village with basic public health facilities.

   Obviously, just like for seringueiros, this was very much an uphill battle in the 1970s and 1980s, especially with the influx of farmers and agriculturalists from outside Acre who had no interest in giving up their recently acquired land for the creation of an indigenous territory. Throughout both decades, violence and murders again were commonplace. Thus, despite a long history of conflict between Indians and seringueiros, the 1970s and 1980s witnessed a series of parallel situations between both groups of peoples. The evolution of the indigenous and seringueiro movements shows that they emulated and often fed ideas off each other, demonstrating that Chico Mendes' concept of the "Alliance of Peoples of the Forest" was more than a mere turn of phrase.

   By the 1990s, most indigenous lands had been demarcated, although Neves (2003:64) claims that 15 further territories need yet to be recognised, and virtually every indigenous territory has at least a school, a health post and a radio which keeps the populations in contact with CPI-Acre or FUNAI. The number of indigenous organisations has also multiplied in the past two decades with the appearance of a variety of smaller, more localised or focused organisations such as OPIAC (Organisation of the indigenous teachers of Acre, *Organização dos professors indígenas do Acre*), OPIRJ (Organisation of the indigenous peoples of the Juruá river, *Organização dos povos indígenas do Rio Juruá*), OPITAR, OPITARE (the OPIRJ equivalents for Tarauacá and Rio Envira respectively), the Organisation of indigenous women of Acre, the Organisation of indigenous youth of Acre, etc. These organisations are also linked to national indigenist NGOs such as COIAB (*Coordenação das organizações indígenas da Amazônia brasileira* or Coordination of indigenous organisations of the Brazilian Amazon).

   It would be misguided to believe that the indigenist movement is composed only of non-Indians defending Indian rights or, on the other extreme, indigenous interethnic groups made up solely of Indians. Organisations such as CPI-Acre are composed of a large number of non-Indian anthropologists and increasingly biologists and ecologists given the *rapprochement* with environmental organisations. However, thanks to increasingly available education within indigenous territories, the presence of some important indigenous leaders (e.g., members of the Piyãko family) has increased in recent years.

The rise of the indigenist movement has had a wide range of impacts on indigenous societies according to various factors and has transformed them in more ways than one. Just like during

the *tempo das correrias*, indigenous groups have adapted differently to these political changes in non-Indian society. The following three examples provide an illustration of the diversity of ways in which indigenous societies in today's Acre relate to non-Indian society.

3.3.4.2 A "success story": the Ashaninka

In the south western corner of the south west of the Brazilian Amazon lives an indigenous group known as the Ashaninka. Once known as a powerful and valiant Indian tribe, these people have managed to integrate the indigenist movement in the last couple of decades and form, along with the Kayapó in the Xingú Basin (Mato Grosso), one of Brazil's indigenous societies with the greatest political visibility.

In fact, the vast majority of Ashaninka live in Peru, where they are commonly known as Campa. Out of a large swathe of rainforest in which they live, only a few small territories lie within Brazil – The Indigenous Territory (IT) of the Kampa of Rio Amônia and the IT of the Kampa and Isolated Indians of the Rio Envira being the main two areas where the Brazilian Ashaninka live. Both are situated along the border with Peru in the western half of Acre. Authors have given very different results of population counts in the recent past, ranging between 10,000 and 50,000 in both Brazil and Peru, but the Brazilian Ashaninka – which remain the focus of this discussion – have recently been numbered at approximately 850, over half of whom live in the Rio Amônia IT.

The Ashaninka belong to the Arawak linguistic family tree. As mentioned in Pimenta (2005), archaeologists have found the Ashaninka to have lived in the central forests of the Peruvian Amazon for over 5,000 years, forming extensive alliances with neighbouring Pano-speaking societies whenever threats intensified from the nearby Inca who lived up in the Andes. In periods of peace, the alliances would disappear, leaving behind them wide-ranging trading networks, especially of salt.

Unlike other indigenous societies of the Brazilian Amazon, the Ashaninka have a long history of contacts with Europeans, with the first Jesuit expeditions led in the Peruvian Amazon as early as 1595. However, contact remained infrequent as the Ashaninka, with the help of their allies, pushed back every attack from the Spanish for several centuries. Their resistance is epitomised by the indigenous insurrection leader Juan Santos Atahualpa who in 1742 successfully ousted missionaries who had gradually settled among them. By the time Peru gained independence in 1822, its share of the Amazon was still largely unknown to the West.

The rubber boom in the second half of the nineteenth century, brought profound changes in the region and an economic system, known as *habilitación* (identical to Brazilian *aviamento*) was introduced. However, the Ashaninka avoided settling into a permanent relationship with seringalistas by limiting themselves to hunting, logging and slash-and-burn farming that enabled them to remain mobile. As the rubber economy went from boom to bust, *correrias* stopped and pressure on the Ashaninka to produce market goods waned somewhat.

During the twentieth century, the Ashaninka came into contact with new categories of non-Indian organisations, notably North American missionaries who came in droves between the two world wards and, from 1965 onwards, a number of self-proclaimed Communist guerrillas who had sought refuge in the Amazon. One of these guerrillas, the *Sendero Luminoso*

(Shining Path) had disastrous consequences on the Ashaninka whose leaders were assassinated, tortured or incorporated into paramilitary formations.

The Ashaninka are thought to have arrived in Brazil in the seventeenth or eighteenth centuries, although they only came to occupy the areas in which they now live at the turn of the twentieth century and as late as the 1930s, according to Pimenta (2005). It is believed that their arrival was due to Peruvian rubber tappers who brought them there as workforce, although this remains a controversial point among scholars. In any case, they played a major role in carrying out *correrias* against their long-term enemies, the Amahuaka Indians whose descendants now live in Peru.

Life on the Rio Amônia or the upper Rio Envira remained relatively quiet until the *Paulistas* arrived in the 1970s. Unlike in eastern Acre, large ranches were never opened in the Upper Juruá region where the main pressure on land was due to demand for timber rather than forest clearance. "Invasions" by logging companies, notably that of Marmude Cameli[58], took place repeatedly throughout the 1970s and 1980s, causing localised extinctions of commercially valuable timber species as well as the opening of over 80 km of roads in the Rio Amônia territory. Moreover, the arrival of employees of logging companies, which often used the Ashaninka as labour, coincided with a wave of epidemics and deaths.

The period of "official indigenism" (Pimenta 2005) began in the mid-1980s, at the height of the conflict with logging companies. In 1985, visiting FUNAI representatives reported illegal logging activities along Rio Amônia to the IBDF (the predecessor of IBAMA) and as denunciations by Ashaninka increased in frequency, so did confrontations both with companies and surrounding *posseiros* or seringueiros. In 1986, a cooperative was formed in order to put an end to the economic dependency *vis-à-vis* the companies.

Despite being marred by further "invasions", the early 1990s also marked a turning point in the rights of the Ashaninka to the land which they lived on. In 1991, with the help of anthropologists and lawyers, some Ashaninka representatives travelled to Brasília and met with leading figures of FUNAI, the Secretariat for the Environment and the Federal Police. As death threats intensified, this trip catalysed the demarcation of the Rio Amônia IT in 1992 with financial contribution from the British Overseas Development Agency (ODA)[59] and technical support from the NGO Gaia Foundation.

To this day, the Ashaninka – especially those of Rio Amônia IT – have retained a leading role among Acre's indigenous societies and within the state's indigenist movement. In the last few years, they have successfully sold many artefacts in Brazil and beyond, notably their characteristic long black dresses (*kushma*) and straw hats (*amatherentsi*). Their territories are not only home to a number of health posts and schools with differentiated education, but the Ashaninka village of Apiwtxa (Rio Amônia) was the first settlement in an indigenous territory to be equipped with the internet. Moreover, members of the family of Antônio Piyãko (considered the current leader of the Rio Amônia community) hold key positions in the public sector and indigenist movement of Acre.

[58] The Marmude Cameli is one of the small number of Upper Juruá's descendants of seringalistas. The Cameli family, however, distinguished itself from others with the election of Orleir Cameli as governor of Acre (1995-1999) and the ownership of most of Cruzeiro do Sul's supermarkets and the Manaus-Cruzeiro do Sul ferry which brings goods to the isolated Upper Juruá during the wet season. Orleir Cameli's son is also owner of Eco-Juruá, a FSC-certified timber company who, many claim, plays a large role in the local drug-trafficking trade.

[59] Former name of DFID (the British Department for International Development).

Pimenta (2006) provides a fascinating insight into why the Ashaninka are generally considered a "success story". In an article in which he delves into the political anthropology of the Ashaninka of the Rio Amônia, he identifies the factors which contributed to the rise in power of the chief of the territory, Antônio Piyãko. In order to do so, however, it is necessary to describe the traditional Ashaninka political structure. It is generally recognised that Ashaninka social organisation is particularly flexible and that the smallest unit of reference is the nuclear family.

The next unit up from the family is what Bodley (1970:79) calls a "household group", composed of one to six nuclear families liked by kin and which is marked by extensive economic cooperation and reciprocity. A figurehead such as an elderly man with specific skills may bring together a *nampitsi* which Mendes (1991:26) translates as a "political territory". Unlike the household group, the *nampitsi* is much more variable in size and its borders are not well defined. Moreover, cooperation within a *nampitsi* is minimal are is often limited to the *piyarentsi* ritual where members meet up to drink a fermented cassava beverage. However, in times of conflict with outsiders, the *nampitsi* becomes invaluable as it creates large groups that can unite and be mobilised to fight against common enemies.

This political structure which varies according to the nature of relations with outsiders was commonly used when the Spaniards repeatedly attacked to try and control the Amazon nearest to the Andes. In such cases, the alliances were often extended to non-Ashaninka societies to form "pan-Amazonian" coalitions. Surprisingly, such a structure was brought back to life in the fight against domination by the guerrillas in the 1980s. It is important to point out that (i) these structures are not stable since in times of peace, they disappear, and (ii) these "coalitions" did not have any form of centralised power which remained in the hands of each *nampitsi* chief.

In fact, the very concept of "chiefhood", namely that political power lies within the hands of a single individual, is both occasional and circumstantial (Pimenta 2006:6). Anthropologists have recorded two terms which might refer to the English word "chief":

1. *Kuraka* is actually a Quechua word (coming from the Inca) that appeared during the time of Spanish colonisation. The political system of *curacazgo* was imposed by missionaries on traditional societies and the figure of the *kuraka* was created to refer to an Indian man designated by missionaries more as a function of his "receptivity" and "affinities with the concept of colonisation" than of his traditional legitimacy (Pimenta 2006:6) – the knowledge of the Spanish language being an essential criterion. *Curacazgo* was later recuperated under the *habilitación* or *aviamento* system by seringalistas.

2. *Pinkatsari*, according to the Ashaninka, does not necessarily refer to a *kuraka*, but can be translated as "he who is courageous" (*aquele que é temido*) (Weiss 1969:48) or "respected because of this personal qualities" (Zolezzi 1994:227). This might describe several individuals in a *nampitsi*, but the Ashaninka believe that a *pinkatsari* should have several if not all of the following qualities: general know-how, knowledge of the myths and history of his people, knowledge of the forest, good hunting qualities, courage at war, capacity to convince and persuade, and (increasingly) ease in obtaining manufactured goods.

During period of extended contacts with outsiders, the latter often easily identified the *pinkatsari* and vested in him the powers of a *kuraka*, but the Ashaninka still consider to this day that the term that defines a man who concentrates political power is *kuraka*. As is illustrated below with the Jaminawá, examples abound where the indigenist movement "nominated" indigenous chiefs, thus profoundly modifying the existing political structure.

The political structures of the Ashaninka of the Rio Envira and the Rio Amônia provide two contrasting examples of the configuration between *kuraka* and *pinkaratsi*. In the Rio Envira, the FUNAI nominated a man called Iran as *kuraka*, mainly as a result of his speaking Portuguese. Conscious of the fact that his power came from outside, Iran managed to represent the interests of his people and gained legitimacy in their eyes through his generosity. However, despite these qualities, Iran never succeeded in gaining support from all the Ashaninka of the Rio Envira and his powers remained limited. A similar situation took place in the Rio Amônia where the FUNAI also nominated a *kuraka*, but unlike in the Rio Envira, this nomination did not only respond to exogenous criteria. The choice of *kuraka* also happened to be based on elements internal to Ashaninka society, which ensured the *kuraka* greater legitimacy and a future.

The "fit" between external and internal designations of the chief is fundamental in explaining the success of the *kuraka* of the Rio Envira as opposed to that of the Rio Amônia. However, in the latter case, this was not sufficient in ensuring that the *kuraka* remained in power. In the mid-1980s, the Ashaninka of the Rio Amônia did not recognise anybody as a *kuraka*. The *pinkaratsi*, Samuel Piyãko, who had come from Peru, had died, and as a result of his qualities, his son Antônio had taken over his function. However, he shared this status with two other men, Thaumaturgo Kampa and Kishare. What was to make Antônio Piyãko the only remaining *pinkaratsi* and *kuraka*?

Thaumaturgo Kampa's *nampitsi*, the Ashaninka recall, was mixed, with a number of individuals who did not even define themselves as Indians. While Antônio's *nampitsi* was fighting for its land, Thaumaturgo formed alliances with neighbouring seringueiros and got his *nampitsi* to take part in logging and commercial hunting activities. This position, however, was incompatible with the expectations of the FUNAI and indigenist NGOs who never supported Thaumaturgo, eventually leading to his downfall and the disintegration of his *nampitsi*.

Both Kishare and Antônio Piyãko, on the other hand, introduced rules that excluded loggers and hunters from their territory which put an end to their economic ties to them. With the support of the FUNAI and NGOs, each of them set up a cooperative as an economic alternative. Kishare used his *nampitsi*'s cooperative to distribute manufactured goods to his people without expecting anything in return. By doing so, he compromised his political future: since he did not fulfil the basic market-based rules that the FUNAI and NGOs expected of his cooperative, he stopped receiving their support. Once he no longer had access to manufactured goods, his people lost trust in him and his *nampitsi* disintegrated too. It is said that he stopped eating and slowly let himself die.

Antônio Piyãko, however, has kept to market-based rules by demanding artwork in exchange for the products the cooperative distributes. Moreover, he is seen among his community as an extension of the cooperative as members of his *nampitsi* often go to his house to demand some products – a role which he happily fulfils. He has thus managed to associate market-based exchanges (which he was well acquainted with since he had travelled around with his

father in his youth) with the traditional generosity that is expected of a *pinkaratsi* among the Ashaninka.

Finally, by retaining both *pinkaratsi* and *kuraka* power, Antônio Piyãko has succeeded in forming a "community" as he has managed to get the vast majority of the Ashaninka of the Rio Amônia to settle together in one village, where both public health services and basic education are provided. The creation of such a community was one of FUNAI's requirements for the provision of public services, but that only Antônio Piyãko succeeded in carrying out.

This unique configuration where the *pinkaratsi* coincides with the *kuraka* also has its downsides. Pimenta (2006:26) claims that this situation has:

(i) Led to greater social differentiation between the Piyãko family and the rest of the Ashaninkas. According to the author, it has enabled Antônio's sons Francisco, Moises, Isaac and Benke to hold important public positions, notably State secretary for Indigenous Peoples, municipal secretary for the environment, president of OPIAC and indigenous agroforestry agent respectively. There is no doubt that his four sons share many of the qualities that make their father a *pinkaratsi*, but Pimenta wonders whether they would all have held important positions had Antônio not been *kuraka*;

(ii) Led to greater economic differentiation within the Ashaninka of the Rio Amônia, which Pimenta illustrates by claiming that the Piyãko family has access to a wider range of manufactured goods than other Ashaninkas within the same territory.

In brief, Pimenta's analysis of the Ashaninka of the Rio Amônia demonstrates the profound political modifications that the appearance of the indigenist movement has had on Ashaninka social organisation. These changes, however, rather than being imposed on the Ashaninka from outside, are the result of an original blend of Ashaninka and non-Indian political concepts which are summarised in Table III.

Political concepts	**Kuraka**	**Pinkatsari**
Mode of selection	Nominated by Non-Indians	Chosen by consensus by members of the *nampitsi*
Qualities required	1. Master the Portuguese language; 2. Be acquainted with non-Indian society; 3. Policies need to be compatible with those of non-Indians, notably: (i) environmental policies (which excluded Thaumaturgo); (ii) market-based economics (which excluded Kishare).	1. Knowledge of ayahuasca; 2. Good hunting skills; 3. Knowledge of the forest, plants and animals; 4. Convincing and persuasive speaker; 5. Knowledge and ability to tell myths and tribal history; 6. Shamanism powers of communicating with spirits and healing.

Table XI. — Requirements for an Ashaninka Indian chief today. The chief needs to combine both sets of qualities and undergo both modes of selection if he is to maintain power.

3.3.4.3 The environmental dimensions of the indigenist movement

Possibly as a remnant of the "noble savage" image cultured by Europeans, Indians have often been regarded as "inherent conservationists" who live have lived in harmony with their natural environments for centuries, if not millennia. The idea that indigenous societies are compatible with nature conservation certainly contributed to the *rapprochement* of the indigenist and environmentalist movements in the 1980s and 1990s, as is witnessed by the number of environmental projects that the Ashaninka have undertaken in recent times, mostly with strong financial support from the indigenist movement.

Together with CPI (*Centro de Pesquisa Indigenista*, an NGO which no longer exists), the Ashaninka set up a three-year project to commercialise oils extracted from the forest, such as copaiba and andiroba oil, as a means of giving commercial value to non-timber forest products. In 1994, with financial help from the Netherlands Embassy in Brasília, they created a minimum infrastructure of environmental protection to prevent illegal logging activities from being carried out by outsiders to their IT. In 1995 and 1996, the Ashaninka took part in the collection of native forest seeds that were sent to the state of São Paulo for reforestation projects. In 1999, *murmuru* nuts were collected and sold to a company, *Tawaya*, which produces murmuru-based soap and sells it all over Brazil.

In the early 2000s, the Ashaninka undertook three further projects: (i) an apicultural project supported by UNDP and the Secretary for Coordination of the Amazon (Ministry of the Environment), (ii) management of agroforestry systems and environmental recuperation of degraded areas with PPG7 funds, and (iii) a fauna management plan for their territory. However, the most famous environmental project remains the reproduction of tracaja (*Podocnemis unifilis)*, an endangered river turtle found across the Western Amazon and much prised for its flesh and eggs. This project, financed by IBAMA and SOS Amazônia, benefited from widespread publicity in the form of a video made by the Piyãko family.

3.3.4.4 Unsolved difficulties: the case of the Jaminawá

Another indigenous society of Western Acre, the Jaminawá (more commonly known as the Yaminawá) have developed very different relationships with the indigenist movement which have had different impacts on the society's political organisation. Among Acreans, the Jaminawá conjure up two distinct images: on the one hand, those are the Indians that populate the favelas of Rio Branco or who are found living under the city's bridges. On the other hand, the press often reports them as violent and warrior-like semi-isolated Indians who attack remotes villages. According to the latest censuses, they are approximately 500 in Brazil, 324 in Peru and 630 in Bolivia (Calavia Sáez 1998).

The term "Jaminawá" in their language means the "axe people" – nawá meaning either "people" or "white people" in Pano languages, hence the frequency of the term in ethnic denominations. However, the Jaminawá themselves have a variety of self-denominations, such as Xixinawá (the people of the white coati, a forest animal), Yawanawá[60] (the people of the wild boar) or Marinawá (the people of the agouti). In fact, the Jaminawá are a classic

[60] Not to be confused with a distinct ethnic group also called the Yawanawá but who have no specific links with the Jaminawá despite also being a Pano-speaking people.

illustration of the blurriness of the borders of an indigenous society. Sprawled across Acre and across the border in Bolivia and Peru, this constellation of groups is sometimes referred to as a single society, sometimes as a wide variety of different ethnic groups, especially as they call themselves with different names.

Within Brazil, Jaminawá villages are found between the Acre and Iaco rivers, at the source of the Acre river, in the municipalities of Assis Brasil and Brasiléia, on the Iaco and Purus rivers and in the city of Rio Branco. This distribution mostly results from the times of *correrias* and *cativeiro* when the Jaminawá dispersed to escape persecution and slavery, and were then shunted from place to place as manual labour. Wherever they live, "interracial" marriages are frequent and the differences of the married non-Indians further adds to the considerable physical and cultural diversity that the subgroups of Jaminawá display.

The majority of Jaminawá speak Portuguese rather than their "native" language and to the disappointment of some anthropologists, they have lost almost all of their visual art as witnessed by the absence of ceramics, body paintwork and other artefacts. Calavia Sáez interprets this as a voluntary neglect so as to avoid being branded as Indians during the twentieth century. However, they have a wide repertoire of poems and shamanic songs, most of which are in Portuguese.

As their scattered geographical distribution suggests, the political structure of the Jaminawá is particularly fragmented or, as Calavia Sáez (1998) describes it, "unstable". Nowadays, the smallest societal unit is the village, generally composed of half a dozen houses with nuclear families which are linked by kin and which reflects the composition of old *malocas* (*peshewa* in Jaminawá). At a greater scale, the Jaminawá are divided into a number of *kaio* or "clans" (Calavia Sáez 1998) of totemic character and which usually coincides with the ethnonyms (*etnônimos*) listed above (Xixinawá, Yawanawá, etc.). Again, the limits of these *kaio* remain blurred as individuals can belong to more than one of them at a time.

The Western concept of chiefhood has several translations in Jaminawá – *diweyo*, *tuxaua* (in English tushau), *patrão* (boss) and *liderança* (leadership). Again, the differences between these terms summarises the historical evolution of Jaminawá political structure over the twentieth century:

1. *Diyewo* generally refers to a wealthy man or the head of a large family with many young people;

2. *Tuxaua* and *patrão* are more reminiscent of the times when the Jaminawá lived as seringueiros and in ranches, under the domination of seringalistas and farmers; and

3. *Liderança* belongs to the era of the indigenist movement where the term is widespread among the FUNAI as well as NGOs. This is the concept that differs most from that of *diyewo* as it usually refers to younger men whose family is still small.

Calavia Sáez (1998) points out that "the persistence of the use of these four terms indicates that the four models of authority remain to this day, and the contradictions between them might explain the instability among the Yaminawá. Is it important to emphasise that it is the 'chief' who constructs the group beyond the kinship links between individuals, and thus that his weaknesses will have structural consequences" (*"A pesistência no uso dos quatro termos indica que os quatro modelos de autoridade convivem nos dias de hoje, e as contradições*

entre eles talvez estejam na raiz da instabilidade Yaminawá. É importante assinalar que é o chefe quem 'constrói' o grupo para além dos vínculos ativos de parentesco: sua fraqueza tem conseqüências estruturais").

The author illustrates this organisational breakdown by describing the growth of the Jaminawá population living in Rio Branco, especially under the main bridge, and which is subject to chronic malnutrition, sexually transmitted diseases, prostitution and violence. He partly blames the FUNAI which in the 1980s brought Jaminawá representatives to town, giving rise to the "lethal urban attraction". The FUNAI reacted by displacing urbanised Jaminawá to the municipalities of Santa Rosa and Caeté which only worsened their situation in Calavia Sáez's eyes.

Moreover, the indigenist movement and various Jaminawá groups have difficulty collaborating over specific projects. Despite the demarcation of most of their territories, the vast majority of Jaminawá outside town do not have access to education or basic healthcare, and Calavia Sáez's describes the Jaminawá cooperation over pedagogical projects with the NGO CPI-Acre as "dubious". The situation seems to be no better from the viewpoint of the Jaminawá themselves. The *liderança* of the Jaminawá do Igarapé Preto Indigenous Territory, Bendito Lima, has repeatedly reported the "invasion" of his IT by local hunters and small-scale hunters who have allegedly threatened Indians in case of any retaliation. However, he claims that he has not received any support from NGOs or any public services (State Secretariat for Indigenous Peoples, FUNAI, IBAMA and the police) in his fight against "invasions" of his territory by hunters and loggers:

> Our land was demarcated in 1998 but to this day, there are hunters with their dogs inside our territory. We went there, I went there. One hunter threatened us with three bullets: "these are for your head", he said. All I had was a rifle and didn't know how to defend myself. I went to the city hall but they did not react. We do not have any contact with CPI. We sent a contact to see the head of FUNAI in Rio Branco and in Cruzeiro do Sul, and to SEPI in Rio Branco, but they were preoccupied with other cases. But all Indians are equal. We do not have a structure to fight against these problems. We wanted to put our problems on film but we do not have a video camera or the resources to get one.[61]
>
> Interview with Bendito Lima, 22.05.06

This case only confirms Pimenta's (2006) interpretation of Ashaninka political structure and its articulation with the indigenist movement. The Jaminawá political figureheads did not succeed in fulfilling the expectations of the indigenist movement, as illustrated by Calavia Sáez's (1998) use of negative connotations to describe Jaminawá politics ("unstable", "dubious", "Yaminawá instability"). The difficulty in defining the limits of Jaminawá society, the incorporation of many non-Indians into Jaminawá society, as well as the neglect of their indigenous culture probably did not contribute to the situation either.

As a result of this and of the absence of legitimate leaders and communities that remain stable over time, the indigenist movement has been unable to provide the Jaminawá with the rights

[61] "Nossa terra foi demarcada em 1998 mas até hoje tem caçador com cachorro no fundo da nossa terra. Nós fuimos, eu fui. Um caçador nós ameaça mostrando três cartuchos: "isso é para a sua cabeça", ele falou. Eu só tenho uma espingarda e não sei como me defender. Eu fui para a Prefeitura mas eles não fizeram nada não. Não tivemos contato com a CPI. Mandamos contato para o chefe da FUNAI em Rio Branco e em Cruzeiro do Sul, e para a SEPI em Rio Branco, mas eles só se preocupam por outros casos. Mas tudo índio é igual. Nós não temos estrutura para combater esses problemas. Nós quisemos filmar os nossos problemas mas não temos máquina nenhuma, não temos recurso nenhum."

that the Ashaninka benefit from, notably education and health. Moreover, unlike the Ashaninka, no environmental projects have ever been carried out with the Jaminawá.

3.3.4.5 Newly "discovered" Indians: the Nawa

In the centre of Cruzeiro do Sul, in the upper Juruá region of Acre, stands an old monument to the founders of the city that bears mention of the "valiant Naua" who after much fighting were exterminated. The last report of anybody having seen the Nawa alive goes back to the 1880s, so one can imagine their surprise when representatives of the FUNAI visited the Serra do Divisor National Park in 2000 and encountered villages of people who claimed to be of Nawa descent.

As their name suggests, the Nawa were a Pano-speaking people, just like the Jaminawá. From the mid-nineteenth century, explorers of the upper Juruá region repeatedly came back with stories of violent Indians who refused entry on their territory and forced entire fleets back. The legendary trip of William Chandless in 1867, who is credited with the "discovery" of much of Acre, was no exception and the British explorer had to head back to Manaus after having encountered the Nawa, to plan a second voyage. After several further trips, a Brazilian expedition that set off in 1893 claimed that they had not encountered any Nawa on what was called the "Nawa Stretch" (*Estirão dos Nawa*) of the Juruá. 13 years later, Cruzeiro do Sul was founded as the centre of the rubber economy of the upper Juruá region.

Various reports of the suspected presence of the Nawa can be found in archives throughout the twentieth century, but in most cases where the presence of Indians west of Cruzeiro do Sul is mentioned, they are referred to as Nukini or Payonawa which are two "extant" indigenous societies of the extreme West of Acre. Confirmed reports appear in the 1970s and 1980s of Indians living along the Igarapé[62] Novo Recreio.

In a national move to extend the Brazilian national park network, the Brazilian government ordered the creation of six new national parks in 1986, one of which was the Serra do Divisor National Park, a narrow strip of forest that runs along the western border of Acre with Peru. The demarcation of the park was such that it was deemed uninhabited, although no visits were ever officially carried out to check this fact. In the 1990s, several seringais[63] were officially "discovered" within the park.

According to Brazilian law, however, humans are not allowed to live in the conservation unit category "national park", so moves were made by IBAMA and a local NGO, SOS Amazônia, to displace these populations and resettle them outside the park. Censuses and socioecological studies were carried out on these settlements, which is when the FUNAI was informed that the inhabitants of some of the villages, notably that of Novo Recreio, defined themselves as Indians.

Genealogical research then showed the inhabitants of Novo Recreio to be the descendants of the last Nawa ever recorded alive, a woman called Mariana. As was the case at the turn of the twentieth century, many indigenous groups were decimated by disease and *correrias*, and according to oral history in Novo recreio, the *malocas* were burned down, although "a seed

[62] An *igarapé* is a narrow river only navigable by a small canoe.
[63] Settlements of seringueiros.

escaped (…) which is our tribe today" ("*escapou essa semente (…) que são as nossas tribos agora*") (Novo Recreio inhabitant Nilton, interviewed in 2003 and quoted in de Souza Correia (2005). Mariana was forcefully married to a seringueiro and the inhabitants of Novo Recreio and the surrounding villages of Jesumira, Moa, Jarina, Venâncio, Jordão and Pijuca all claim to descend from this marriage, bringing the Nawa within the national park to a total of 306 in 2005. Railson, who lives in Novo Recreio, recalls how the situation changed over the 1990s:

> We lived in a tranquil region, working, and we had our own livelihoods. And that is when the visits started up, with the authorities coming to see us. They started interfering with us: they said "look here, this is no longer what you thought this was. This is another type of activity. This is the Serra do Divisor National Park. But we remained there… I thought that from now on we would be able to stand on our own legs because given that we are the only ones leading ourselves, we would find a better path. We discussed the issue, and our Nukini relatives also joined us in meetings at Mâncio Lima and Cruzeiro do Sul, and from these conversations it became known that there was a group of people inside the Serra do Divisor National Park that was different from the rest. So Dona Rosa came to see us with Lindomar to see who we were. She went directly to Dona Francisca do Celso's house because that's where she was. She said, "Dona Francisca, we understand that you are an indigenous people. We are CIMI missionaries who work with indigeous people so we have to know whether you are indigenous or not". Dona Francisca replied, "We are Indians, we are Nawa". Dona Rosa was very surprised by this. She went to the cemetery, took photos of Dona Francisca and returned. In between times, she had already come by again and we had sent a letter requesting support from CIMI, so that this letter be forwarded to FUNAI or handed over to IBAMA for recognition.[64]
>
> (Railson, 2003, Novo Recreio, quoted in de Souza Correia 2005).

Following various visits from CIMI and FUNAI after 2000, an agreement was signed in December 2003 between the Nawa community, IBAMA, the FUNAI and the Federal Public Ministry (among others) in which the ethnic identity of the Nawa was officially recognised, as well as the necessity of the creation of a management plan for the eventual indigenous territory. Due to lengthy demarcation processes and the fact that this territory is a chunk of a national park, the Nawa indigenous territory has not yet been officially recognised. In principle, IBAMA and SOS Amazônia both recognise the existence of the Nawa and the need for the creation of an IT, although some members of both organisations question the validity of the indigenous category that has been applied to the villages in question.

[64] Nós vivíamos assim numa região tranqüila, trabalhando, tinha nossa sobrevivência. E aí foi quando começou a aparecer as visitas, as autoridades passando. E começaram a mexer com a gente. Falaram olha, isso aqui não é mais o que vocês pensam que era. Isso aqui é outra atividade diferente. Isso aqui é o Parque Nacional da Serra do Divisor. Aí a gente já foi ficando mais... Assim, eu pensando, agora a gente já vai começar a andar com as próprias pernas da gente, porque já que nós não estamos mais sendo dirigido pela nossa própria pessoa a gente vai procurar um rumo. Aí a gente conversa, nossos parentes Nukini aqui também sempre faz parte de reuniões em Mâncio Lima, Cruzeiro do Sul, e conversa vai eles soltaram que aqui dentro do Parque Nacional da Serra do Divisor tinha um povo diferenciado do deles. Então, a dona Rose veio aqui, mais o seu Lindomar, veio só mesmo nos ver, ver o que nós éramos. Ela veio diretamente na casa da dona Francisca do Celso, porque nem lá em casa ela passou. Chegou: - dona Francisca nós temos notícias que vocês são povos indígenas, que nós somos missionários do Cimi que trabalham com povos indígenas, então é obrigação nossa saber se vocês são índios ou não. Falou: - nós somos índios e nós somos índios Nawa. Aí ela ficou toda surpresa disso. Ela andou no cemitério, bateu foto da dona Francisca e voltou novamente. Nesse intervalo ela já passou e a gente já mandou uma carta diretamente pedindo o apoio do Cimi, para que ele mandasse essa carta até a Funai, ou entregasse para o próprio Ibama mesmo para ter o reconhecimento.

Obviously, the Nawa lifestyle underwent profound changes with the near-extinction of this ethnic group. Nawa material culture has been reduced to a few domestic utensils such as clay pots. The original Pano language has been completely replaced with Portuguese and the Nawa now live in small individual huts (*tapiri*) identical to those of seringueiros. During the twentieth century, the Nawa were subjected to the same *aviamento* system as all seringueiros, but with the successive rubber busts, the Nawa gradually moved to settle along rivers and *igarapés*. In the late 1990s, when the Nawa began asserting their rights as an indigenous people, their settlements merged into villages. The villages where they now live are therefore an extremely recent phenomenon. The Nawa claim that the areas upstream are home to migrating isolated Indians.

This inevitably leads to the question, what makes an Indian? The parties who signed to the 2003 agreement all recognised that the inhabitants of these villages make up an indigenous group, based on socio-cultural and genealogical data collected. However, from a "biological" viewpoint, these inhabitants are only half-Indian at best, and in the vast majority of cases quarter, eighth or even sixteenth Indian. The near-absence of material culture and the loss of the Nawa language also suggests that the cultural heritage of these villages is more non-Nawa than Nawa.

Yet as many interviews with these villagers showed, there remains a strong sense of cultural belonging, community and abundant oral history and tradition which was sufficient to justify, in the eyes of the authorities, their recognition as a distinct ethnic group. These are fairly arbitrary criteria, however, and remain open to discussion as one might arguably ask, is the indigenist movement "creating" Indians where they do not exist? Or is it merely revealing those who dared not speak?

* * *

Terry Aquino is therefore entirely justified in identifying the last 25 years or so as a distinct period in the history of indigenous peoples of the south-western Brazilian Amazon. The appearance and consolidation of the indigenist movement is of profound political significance in and of itself, and has had deep effects on the indigenous groups of Acre. However, the consequences on indigenous societies has not always been those predicted or presented by the indigenist movement itself. These three examples show that on the one hand, it has helped the societies such as the Ashaninka and the Nawa assert themselves in their cultural identity and legal rights. However, it has also contributed to greater inequalities both between (Jaminawá versus Ashaninka) and within (among the Ashaninka of the Rio Amônia) ethnic groups, leading to increasing disparities in terms of access to public services – notably education and healthcare – and in terms of wealth.

3.3.5 Florestania: From concept to policy?

The state governments of the 1980s and 1990s are not remembered with much enthusiasm. Despite reforms at the national level that responded to the seringueiro and indigenist movements' demands – such as the creation of RESEXs, PAEs and indigenous territories, the successive state governments did little to gain support from either movement. Instead, several of them are remembered for various obscure events.

Governor Edmundo Pinto (1991-1992) was found assassinated in a hotel room in São Paulo barely a year after he had been elected. Orleir Cameli (1995-1999), was under investigation in the early 2000s for smuggling, encroaching on Ashaninka territory and logging within protected areas. As for Acrean Federal Congressman Hildebrando Pascoal, he was jailed for six years for corruption in 2000 and was even reported to have run death squads and – according to one witness at his trial – had personally cut off one live victim's legs and arms with a chainsaw.

Many representatives of the seringueiro, indigenist and environmentalist movements in Acre all accused these governments of defending their own interests rather than those of Acreans. As these movements grew in size and support, so did their share in the electorate and throughout the 1990s, the Brazilian Workers' Party (PT) enjoyed better and better results. In 1995, Marina Silva, a former seringueira and close friend of Chico Mendes, was elected as a PT federal senator for Acre. In the 1998 election, PT candidate Jorge Viana was elected as Governor of Acre. To this day, this election is viewed as a watershed in Acrean politics, especially from the viewpoint of the social and environmentalist movements.

With a degree in forest management and as an ex-member of CTA, Jorge Viana had strong connections with the seringueiro and environmentalist movements. Prior to the elections, he had added an Acrean twist to his PT campaign in the form of a concept turned into a buzzword – *Florestania*. This term was first coined by a prominent figure in the seringueiro movement, Antônio Alves, who had contracted the words *floresta* (forest) and *cidadania* (citizenship)[65], which has led many since then to define the term as *cidadania da floresta* (citizenship in the forest). However, according to Alves, the concept has a much more complex meaning:

> On top of a range of social relations, rights and responsibilities, laws and rules, *florestania* is a feeling which can be expressed in the following way: the forest does not belong to us, but we belong to her. This feeling leads us to establish not only a new social pact, but a new natural pact based on the equilibrium of our actions and relationship to the environment in which we live. It is a feeling that orients our choices, both political and social – and for this reason it includes the concept of citizenship – but it also orients our environmental and cultural choices – and in this sense, it transcends this concept.[66]
>
> (Alves 2004:129-130)

In other words, *florestania* adds to the concept of citizenship a new paradigm in the relationship between humans and nature, whereby the latter determines the former rather than the opposite. Moreover, as Alves points out, *florestania* has a number of political and social implications, although he does not enter into detail as to what these are. The Viana government – which also calls itself the "Forest Government" (*Governo da Floresta*) claimed that all of its policies stem from this concept and within months, it turned into political buzzword as Acre became known as the *Estado da florestania*.

[65] For want of a specific word, one may therefore translate *florestania* as "forestship".

[66] "Além de um conjunto de relações sociais, direitos, deveres, leis e conquistas, a florestania é um sentimento que pode ser expresso da seguinte forma: a floresta não nos pertence, nós é que pertencemos a ela. Esse sentimento nos induz a estabelecer não apenas um novo pacto social, mas um novo pacto natural baseado no equilíbrio de nossas ações e relações no ambiente em que vivemos. É um sentimento orientador para nossas escolhas, políticas e sociais – e por isso inclui a cidadania – más orienta também nossas escolhas ambientais e culturais – e por isso a transcende."

Overnight, the seringueiro, indigenist and environmentalist movements went from constantly pressuring and opposing to being intimately linked to the state government, and their campaigns and demands soon turned into state policies. The Viana government either developed existing state institutions or created new ones to "reach out" to all three movements. Below is a non-exhaustive list of the state's main secretariats and agencies:

1. The State Secretariat for the Environment and Renewable Resources (*Secretaria estadual do meio ambiente e recursos renováveis* or SEMA) and the Acrean Institute for the Environment (*Instituto do Meio Ambiente do Acre* or IMAC) evolved from organisations set up in the 1980s with a relationship that is supposed to be identical to that of MMA versus IBAMA at the federal level: SEMA is responsible for the elaboration of policies whilst IMAC is responsible for their implementation. Between 2000 and 2004, the Viana government gradually got IBAMA to devolve its powers (notably for the approval of forest management plans) to IMAC, culminating in an accord that is also part of Brazil's decentralisation policy of environmental responsibilities.

2. On top of both these environmental organisations, the state government created the State Secretariat for Forests (*Secretaria estadual de floresta* or SEF) – the SEMA/IMAC being considered the "stick" and SEF the "carrot". In other words, SEF's responsibilities lie in fomenting sustainable forest management either on an industrial or a community-based level. Created in the early 2000s, the activities of SEF are regulated by the 2003 state Forestry Law.

3. The State Secretariat for Extractivism and Family Production (*Secretaria de extrativismo e produção familiar* or SEPROF) was created to establish policies in the sector of small-scale agricultural production or forest extraction. Its policies and projects are relayed on the ground by the State Secretariat for Technical Assistance and Rural Extension (*Secretaria estadual de assistência técnica e de extensão rural* or SEATER) which, in the field of community forest management, provides local communities with essential technical assistance.

4. In 2002, the indigenist movement also began benefiting from an interlocutor in the state government in the form of the Extraordinary Secretariat for Indigenous Peoples (*Secretaria estadual dos povos indígenas* or SEPI) which is run since 2003 by Francisco Piyãko, the eldest son of the Ashaninka *kuraka*/*pinkatsari* Antônio Piyãko. SEPI is responsible for developing and maintaining relationships between the state government, indigenous societies of Acre and the indigenist movement.

Several international environmental NGOs, attracted by the proliferation of actors and projects in sustainable forest management, soon opened local branches in Acre. WWF opened an office in 2001 which has since played a major role in WWF-Brazil's activities. In particular, it has headed the "Amazoniar" Consortium (*Consórcio Amazoniar*) since 2003, a USAID-funded project which brings together a number of NGOs to tackle the relationship between communities and their environment in protected areas of the south western Brazilian Amazon. It has three aims: (i) build up knowledge on existing and potential interactions between humans and nature in an Acrean context, (ii) using this knowledge to influence and shape forest policies at state level, and (iii) identify markets for sustainable forest products. As of today, a number of difficulties have been encountered, namely problems concerning the

relationship between the five NGO members of the consortium which, some claim, each have different visions of the consortium's aims.

In 2006, IUCN also opened its first office in Brazil and chose Rio Branco, mainly because "the State of Acre developed a bold forest development policy in the last three years becoming the main regional (Brazilian Amazon) point of reference in policies that integrate conservation and social inclusion" (IUCN 2006:3). The main aim of IUCN, however, is to develop a strategy on forest law enforcement and governance at the regional level – *i.e.*, within Brazil but also in other countries of the Amazon Basin.

Within a few years, therefore, the state government has succeeded in turning Acre into what is seen as a pole of innovation in terms of sustainable forest management. In terms of policies, the Viana government quickly focused on a key issue. Now that seringueiros and indigenous societies had acquired most of their rights to land and public services (notably healthcare and education), the government had to focus on creating a new development model not based on agriculture or cattle ranching but on the forest. This meant that a forest-based economy had to be shown to be economically viable.

Timber quickly appeared as key in providing a forest-based economy with viability. However, this bet risked being attacked on two fronts: on the one hand, critics could attack the economic viability of such a model, whereas on the other, environmentalists might claim that timber production has too great an impact on the forest for it to be considered sustainable. In other words, the government was face with having to convince its main critics of the following equation: Acrean timber production is not only ecologically sustainable, but it is also economically viable.

3.3.5.1 Community Forest Management

The timber sector in Acre has two major weaknesses when compared to other states of the Brazilian Amazon. First, the specific ecological makeup of the forest means that in many parts of the state, trees do not grow to great heights or sizes, which reduces the maximum yield of timber per hectare of managed forest. Secondly, given the geographical isolation of Acre, costs of transport from the place of production to that of consumption (the Brazilian southeast) are much higher than, say, for Mato Grosso or even Pará.

Given these two handicaps, Acre finds itself producing relatively little – well behind the large timber producing state of Pará, Mato Grosso and Rondônia, but still in front of the small states of Amapá and Roraima. Out of 24,460,000 m^3 of timber produced in Legal Amazonia in 2004, Acre produced a mere 420,000 (1.7% of the previous figure). That same year, in terms of jobs, the Acrean timber sector provided a total of 3,855 direct and indirect jobs as opposed to 255,436 for the whole of Legal Amazônia (*i.e.*, 1.5%) (Lentini *et al*. 2005:39-42). However, the state holds the highest proportion of exported timber with 82.5% in 2004 as opposed to an average of 36.1% for the whole of Legal Amazonia. This is mostly due to the proximity of Acre to Bolivia and Peru but also because of an increasing share of certified timber in Acrean production.

As the only forest-based activity which produces significant amounts of revenue, timber production soon came to the forefront of governmental policies. However, as elsewhere, the seringueiro, indigenist and environmentalist movements remained lukewarm to the idea of

promoting timber production as it had, for a long time, been identified as one of the main threats to Acrean forests. To seringueiros and environmentalists, logging companies worked hand in hand with ranches in clearing forests; to the indigenist movement, logging was a major cause of encroachment on indigenous territories.

Despite such perspectives on the timber industry, over the 1990s, the idea that logging could be part of sustainable forest management gradually made its way. In Acre, however, in the face of so much scepticism concerning the sustainability of logging activities, the government began actively promoting forest management certification schemes, notably through the Forest Stewardship Council or FSC, the leading world certification seal in the sector. Getting Acrean timber certified had several advantages: (i) it would guarantee in the eyes of all but the most sceptical critics that timber production was sustainable and thus compatible with the government's overall conservation goals; and (ii) it would provide a specific market as well as ensure greater profit margins for timber produced in community forest management schemes as FSC-certified products are generally sold at higher prices.

It must be borne in mind that although the 1965 Forestry Code stipulated that forest management must be regulated, it was only in 1994 that IBAMA started placing restrictions on forest management practices and subjected all management plans to its approval. In 1998, the category of "simplified forest management plan" was created, whereby the responsibility for the plan would be collective rather than individual, thus officially opening the way for community forest management. This emphasises how new the concept of community forest management was, and still is, in Brazil.

Likewise, foresters have only recently begun devising rules for timber production that might be adapted to communities, *i.e.*, groups of individuals with little or no expertise in logging and with limited means for mechanisation. As a consequence, community forest management has often been likened to low intensity timber production as the absence of machines and low levels of know-how slow production down considerably.

Garcia Drigo (2005) provides an account of two examples of community forest management in Acre. As early as 1996, CTA began implementing Brazil's first community forest management project in the PAE of Porto Dias, created two years earlier in the eastern tip of Acre. In its initial phase, the *manejo florestal comunitário* (community forest management) project was only composed of six families but in 1997 the first timber production season was carried out as a test. Within months, a forest management plan was submitted to IBAMA which was approved only two years later, in 1999. Rules specific to low intensity logging practices were established – a thirty-year cycle, a maximum of 10 m^3 per hectare, a minimum tree trunk diameter of 40 cm, and the 300 hectare areas divided into 30 plots of 10 hectares each. The impact of such practices would be monitored with a permanent plot as a control.

However, problems appeared from very early on. By 2000, 8 families had joined the community forest management project, but only 230 m^3 of timber was produced. As planned, the Rio Branco-based company that had promised to purchase the timber subcontracted the transport to another company that damaged the logs and as a result, the sale price and thus the profit margin had to be reduced considerably.

In order to overcome these setbacks, CTA and the Viana government suggested that timber produced in the PAE Porto Dias be FSC certified. However, the initial audit carried out prior to certification pointed out the lack of controls in ensuring that production would not exceed

maximum quotas, which, as Garcia Drigo (2005:90) points out, conflicted with the relationships based on trust that the local families were used to. Eventually, these problems were overcome and the forest management plans were certified in 2002, too late, however, for the opening of the logging season which had to be postponed into the wet season. In 2003, 13 families had joined the project, but the following year, the number fell to four again and it was decided, in the face of all the difficulties in terms of administration and identifying markets, that only four plots would be exploited every year.

The story of community forest management in the "traditional" *assentamento* of Pedro Peixoto is similar in many ways. This *assentamento* which lies along the stretch of BR364 between Rio Branco and Porto Velho is the largest of its kind in the state. Just like Porto Dias, public infrastructure is minimal, with an insufficient number of schools and health posts. In this case, since the population was mainly composed of small-scale farmers (*produtores familiares*) rather than seringueiros, the project was undertaken by Embrapa, the Brazilian Company for Agriculture (a national research institute). It was estimated at the time of the project's creation in 1995 that the logistical help from Embrapa would last four to five years. To this day, this remains the only community forest management project in an essentially agricultural colonisation scheme.

Again, barely eleven families were selected that went onto create APRUMA, the Association of rural producers in forest management and agriculture, although it was assumed that more would join as the project turned successful. The project began with a total of 400 hectares, *i.e.*, 10 lots of 40 hectares each which were to be divided into 10 plots each since the cycle was established at 10 years only (since it was believed that the low-intensity logging activities could allow a short cycle and yet remain "sustainable").

In the case of Padre Peixoto, initial enthusiasm was quickly dampened by the delays that IBAMA took in approving the management plans. However, by 1997, the first plot was logged, although again the producers turned out to be disappointed with the low prices at which the timber was eventually sold. This project also sought FSC certification which was granted under the "Small Low Intensity Management Forest" (SLIMF) scheme, allowing the certification costs to be lightened, thanks to less stringent audits. In any case, the certification costs were covered by Embrapa and a number of international donors including the Ford Foundation.

Certification was not sufficient in helping the project grow in size. In 2003, several families dropped out of the project, mostly because they were leaving the *assentamento*. This put the very existence of the project in jeopardy as a minimum amount of timber had to be produced or the management plan would not be approved by IBAMA the following year. This fear turned to be unfounded, but as Embrapa emerged from one problem, they soon faced another – that of identifying markets for the timber produced.

In many of these projects, the harvest of non-timber forest products has also been strongly encouraged as an alternative or complementary source of revenue. In particular, the Viana Government has tried to promote rubber production by providing important subsidies to bump up the revenue from rubber. Other NTFPs such as copaíba and andiroba oils have also been suggested, but the markets for both products remain rare.

A number of other community forest management projects have been undertaken in different land tenure regimes, such as in the State Forest of Antimary and the RESEX of São Luis do

Remanso. The Viana government, which has invested considerably in promoting community forest management projects across Acre, also tried to solve the issue of market identification. First, following an FSC fair in São Paulo, it managed to attract a small-scale manufacturer of wooden objects, IIBA. This company has now settled in Acre and has committed itself to buying FSC-certified timber from community forest management projects as well as helping find markets for the timber it cannot use itself.

Secondly, a timber industry "pole" has been created in the town of Xapuri where another wood manufacturer, Aver Amazônia, was set up, that also relies exclusively on FSC certified timber. Within this pole, a wood manufacturing school was opened in cooperation with the Italian Catholic Church, along with a Brazil nut plant and a natural rubber-based condom factory which is to open in the years to come.

Thirdly, the Group of community forest producers (*Grupo de produtores florestais comunitários* or GPFC) was created in 2001 as a sort of trade union of community producers, but also as a cooperative that would buy community-produced timber and identify markets. However, observers point out that this double function led to considerable confusion and in 2005, a separate cooperative called Cooperfloresta was established. Although the aims of Cooperfloresta include timber management from the forest to the market, the main focus of this brand new cooperative is to look for markets for community-produced timber and other products. However, its only employee for the time being claims that relations with producers are tense given the difficulty in fulfilling their "high expectations".

Despite this wide range of policies and initiatives from a number of different organisations – state government and its agencies, CTA, Embrapa, wood manufacturers and international donors – the future of community forest management seems uncertain. According to recent figures, Acre retains a leading position in community forest management in Brazil as it is home to 36 of Brazil's 82 such projects – *i.e.*, roughly a third in terms of families benefiting and surface of forest covered (Lentini *et al.* 2005:92). However, as Garcia Drigo (2005:111) points out, dependence on external resources – whether technical from Embrapa, CTA or SEATER or financial from national and international donors and NGOs – remains one of the main problems of community forest management in Acre.

Many fear that once the PT government is out of power in Acre, community forest management projects will gradually grind to a halt, thereby demonstrating that such projects cannot be viable or economically sustainable without substantial external contributions. However, enthusiasts often reply that community forest management is still in its infancy and in an experimental stage and that one can only judge its success over the longer term.

3.3.5.2 Industrial Timber Production

For the time being, however, the state government has not been any more successful in encouraging greater "sustainability" among the industrial timber production sector. Once a potent economic force in Acre, the state's larger timber companies have suffered a number of setbacks in the last decade. As IBAMA gradually imposed an increasing number of rules and regulations on forest management, more and more timber companies either went bust or "underground", *i.e.*, they continued producing but by one means or another managed to avoid the set of regulations that they had come to find unrealistic.

When the production and sale of Amazonian mahogany (*Swietenia macrophylla*) was banned in 2001 at the time when CITES classified the species in its Appendix II, the Acrean timber industry suffered considerably as mahogany was the main source of income at the time. Again in 2005, as Operation Curupira unfolded in Mato Grosso, the extent of the situation of illegality that much of the timber sector was now in was revealed, acting as a further blow to the industry.

The Acrean Timber syndicate, Sindusmad, has indeed witnessed a fall in its membership since its inception in 1987 and came near to extinction in 2001 with the mahogany ban. It now represents a total of 37 companies. Approximately 60% of companies in the sector rely exclusively on legal reserves in ranches (fazendas) (the remaining relying also partly on land that they own), which also places them in a fragile situation as their livelihood depends on their relationship with cattle farmers.

In the early 2000s, the Viana government made an unprecedented move to encourage the timber sector to abide by IBAMA's forest management regulations. Viana suggested an "step-by-step" agreement with Sindusmad whereby companies would have to abide by only a number of regulations at first. As time went on, this number would increase until timber production became fully legal again, but in the meantime the government committed itself to not enforcing the regulations that had not yet been agreed on. This proposal, however, was rejected by Sindusmad and to this day, much of Acrean timber production is said to still be produced outside of IBAMA's/IMAC's regulations.

The state government thus failed in extending its "Florestania" network to the whole of the timber sector. However, not all timber companies have decided to stay out of legality. A small *noyau* of timber producers and manufacturers have come together to create Asimmanejo, a group of 12 private companies whose aim it to promote sustainable forest management and certification mainly among the private sector. This project benefits from financial support provided by GTZ and WWF. Paradoxically, the president of Asimmanejo is also that of Sindusmad, and as she puts it, she has found herself between a rock and a hard stone.

The first privately owned forest was certified by FSC in September 2005 in the municipality of Sena Madureira. The proportion of FSC-certified timber produced industrially remains considerably lower than that of community forest management, but members of Asimmanejo remain confident that the rest of the Acrean timber sector will eventually shift at least towards greater legality.

3.3.5.3 Beyond the forest sector

Of course, the Viana government has not focused exclusively on the forest sector. In particular, it has succeeded in being among the first states of the Brazilian Amazon to carry out its Ecological and Economic Zoning programme (*Zoneamento ecológico-econômico* or ZEE). This programme, which the MMA has recommended that all states undertake, is generally defined as a strategic instrument for regional planning and land management. It focuses mostly on the geographical distribution of natural resources and the way in which human populations interact with it, and has been heralded as one of the main instruments for the implementation of "sustainable development".

In Acre, the Viana government initiated the ZEE process as early as 1999 and it only after eight years of workshops and meetings with most, if not all, sectors of Acrean society that the process was completed. The result is a detailed map of Acre which displays the geographical distribution of natural resources and the state's main economic activities. In this sense, it is a life-size ecological and socio-economic survey of the state. Just like the concept of protected areas, ZEE is based on the idea that various human activities must be limited in space so as to avoid too great an impact on the natural environment, but it goes beyond mere restrictions as it includes all economic sectors. However, unlike protected areas, ZEE does not have a statutory value but merely constitutes a strategy, a sort of "white paper" to which the state government is supposed to keep to when elaborating policies.

Partly in a bid to display the fact that concepts such as "sustainable development" and "florestania" did not solely apply to forest policies *stricto sensu*, the Viana government created the State Secretariat for Planning and Sustainable Economic Development (*Secretaria de estado de planejamento e desenvolvimento econômico sustentável* or SEPLANDS). This secretariat, unlike the others described so far, lies at the highest level in the hierarchy of state administration. It is responsible not only for the coordination of a number of other secretariats such as SEF, SEPROF, SEATER and SEMA/IMAC but also more generally for "integration policies". The concept of integration, which has been used in Brazilian policies for decades, generally refers public infrastructure and especially means of communication.

As described above, the state of Acre is home to two main road axes: (i) the BR364 which links the southeast with Mato Grosso, Rondônia and Acre, and which also runs from Rio Branco to Cruzeiro do Sul, and (ii) the BR317 which starts in Rio Branco and runs to the triple border with Peru and Bolivia, at Assis Brasil. By the time Jorge Viana assumed power at the state level, only the Porto Velho (Rondônia) to Rio Branco stretch of the BR364 had been paved.

Other than that, the Acrean road network remained pretty much at the same stage as what the military regime of the 1970s had left it – the BR317 and the BR364 between Rio Branco and Cruzeiro do Sul were mostly dirt roads that were impracticable in the wet season. In fact, the Rio Branco – Cruzeiro do Sul stretch to this day remains closed eight months a year. This leaves Cruzeiro do Sul completely isolated for most of the year, were it not for daily passenger flights to Rio Branco and a regular ferry linking it to Manaus via the Juruá and Solimões, which means that prices in Cruzeiro do Sul remain considerably higher than anywhere else in the Amazon.

Once in power, the Viana Government immediately undertook to pave the BR317 right up to Assis Brasil. Back in the 1970s, the military regime had promised to build a "road to the Pacific" that would link Brazil to Peru and ensure that Brazilian goods produced in the Amazon could find markets in Peru and beyond. In the early 2000s, in a new economic context where Brazil's economy suddenly witnessed a boom thanks to soy production in Mato Grosso, the new Federal PT government headed by Lula decided to make this dream come true, especially as China had become a large consumer of Brazilian soy.

The funds were thus provided partly by the Brazilian national development bank (BNDES) and the Interamerican Development Bank (IBD or BID in Portuguese) and the road sealed right up to Assis Brasil. The celebration of the opening of the *Estrada do Pacífico* finally took place when a bridge was opened, linking Assis Brasil to the small Peruvian village of Iñapari. Once in Peru, the newly paved motorway suddenly goes back to a dirt road that winds its way

up into the Andes, but the Brazilian and Acrean governments are confident that this stretch will also be paved within a few years.

As for the BR364 road between Rio Branco and Cruzeiro do Sul, a paving project is currently underway and the government claims that works will begin as early as 2007 with the building of a bridge across the Juruá, putting an end to Acre's last main cross-river ferry. There have even been suggestions among the government that the road might be extended onto Pucallpa in the Peruvian province of Ucayali, but such a project still remains distant, especially as it would have to cross the Serra do Divisor National Park.

Given the dismal record that road-building policies have had in the Brazilian Amazon in terms of impacts on the forest, it may come as a surprise that the Viana and Lula governments – of all governments – should favour the consolidation of the Amazonian road network to such an extent. Environmental critics have been numerous in denouncing the potential effects of road paving in Acre.

However, in its defence, the Viana government has come up with two main arguments. First, especially along the BR364 between Rio Branco and Cruzeiro do Sul, a number of state forests will be or have been created, maintaining (at least in legislation) forest cover along the road. Secondly, the state government claims, the improvement of public infrastructure is essential in making Acre's development model economically viable, as it reduces transport costs and allows forest products to access new markets, whether in the Brazilian southeast or in Peru or Bolivia. Last but not least, road building and paving has always attracted much support from isolated towns and places along the roads in question, and the government's infrastructure policy has no doubt increased its popularity among Acreans.

The paving of certain stretches of the BR364 is actually part of a large-scale project that the state government submitted to the Inter-American Development Bank in 2002. This project, humbly called the "Sustainable Development Programme for Acre" (*Programa de desenvolvimento sustentável do Acre*), was approved by the Bank and the project officially began in June 2006. Its main aim is to "promote economic and environmentally sustainable growth, as well as the diversification of Acre's production in order to improve the quality of the life of Acreans and preserve the state's natural heritage" (Governo do Estado do Acre 2006). In practice, it should focus on environmental and socio-economic data collection, institutional reforms among Acre's public organisation structure and improving the state's communication infrastructure, hence road-paving.

3.3.5.4 Transborder issues

Improved means of communication with Peru and Bolivia meant that several actors began being concerned with transborder issues. The question of forest fires provided one such issue. Every dry season, a number of fires burn up entire forests in Acre but also in the neighbouring provinces of Pando in Bolivia and Madre Dios in Peru. Most cases are the result of intentional fires with the aim to clear forest without having to resort to heavy machinery, but other than deforestation, forest fires have the main disadvantage of often getting out of control – especially in the dry season – and producing considerable quantities of smoke.

By its airborne nature, the issue of smoke goes beyond borders and when fires are started in one country, the smoke produced come have a greater environmental impact in a

neighbouring country. In 2005, at the height of an exceptional drought across the Amazon, the smoke got so bad that it created a major public health issue in Acre as it settled in cities and in homes. A small group of individuals, however, took an innovative approach to tackling transborder issues such as forest fires.

In 1999, a researcher at the Federal University of Acre (UFAC) created MAP, a transborder initiative aimed at promoting dialogue between actors in the three neighbouring regions of Madre Dios, Acre and Pando. MAP meetings were to be organised on a regular basis to discuss transborder issues such as the environment (both forests and rivers), public health and frontier-related issues such as smuggling and drugs trafficking. 33 representatives made it to the first MAP meeting in 1999 and by the fifth such meeting in 2005, over 1000 people took part.

In terms of forest management, MAP has attracted considerable interest from a number of actors, including international NGOs and donor organisations. This might be explained partly because MAP adopts a new and maybe promising way of tackling long-standing issues such as forest conservation, but also because it promotes an all-inclusive approach which is very much in line with international principles such as participation in decision-making. Another of MAP's major audiences has been the academic community where researchers have benefited from MAP to share findings but also to tackle issues directly related to international borders themselves.

Further along the border, in western Acre, actors in the upper Juruá region have emulated the MAP initiative and promoted exchanges between Acre and the Peruvian province of Ucayali. In the western half of Acre, forest-related problems concern illegal cross-border logging more than forest fires, but just like for MAP, this problem is border-related and many actors believe it can only be prevented through transborder cooperation. In particular, Peruvian logging companies have been known for the past decade or so to cross the border into Acre and remove timber from indigenous territories such as that of the Ashaninka of the Rio Amônia, or inside the Serra do Divisor National Park.

In the case of the national park, IBAMA complains that its means of intervention are limited as the loggers usually successfully escape, access to the park being much easier from the Peruvian side than the Brazilian one. In one instance in 2006, IBAMA personnel was even left for several days inside the park before they could be rescued, the Brazilian army having refused to intervene on the grounds that national security was not at threat. More recently still, reports from seringueiros inside the park claim that groups that smuggle drugs from Peru into Brazil are now heavily armed.[67]

The Ashaninka have been the main proponents of dialogue between Acre and Ucayali since their indigenous territory of the Rio Amônia has faced major problems due to Peruvian loggers. They have successfully brought together a number of actors on both sides of the border on a number of times, to the extent that MAP has considered including Ucayali into the process in the near future.

[67] Western Acre is an ancient route for drugs smuggling, especially since the Peruvian guerilla known as Shining Path (*Sendero Luminoso*) was set up in the Ucayali province and often spilled into Brazil. Despite the fall of the Shining Path, the upper Juruá region remains one of Brazil's main points of entry for drugs. Drugs trafficking is allegedly so frequent that many local people joke that the upper Juruá's official economy is based on production of cassava flour, but its unofficial economy is based on "the other flour".

3.3.5.5 Dissenting voices

The Viana government has set a precedent in Acre by turning a loose coalition of grassroots movements into a major political force and a oft-quoted example of sustainable development both in Brazil and abroad. In spite of divergences among the seringueiro, environmentalist and indigenist movements, the government adopted policies that appeared to favour all three movements and emphasise their common demands. By doing so, it has succeeded in creating a mega-network of actors running from the Ashaninka village of Apiwtxa and the seringueiro settlement of Cachoeira right up to Marina Silva, Minister of the Environment in Brasília, and international organisations such as WWF and IBD.

Jorge Viana's government, however, has not gone uncriticised. Many members of the environmentalist movement notably have expressed their frustration at seeing the term *Florestania* being branded more as a government trade mark than as a philosophical concept. In particular, Andrade de Paula (2005) accuses the government of turning such concepts into marketing tools rather than trying to implement them. Others have shown their concern at the government's road-building policy, pointing out that the paving of roads could have adverse effects on the state of Acre's forests. One actor, fearing that Acre would turn into a through way for exports from other states to the Pacific, even accused the state government of turning Acre into a place of "whores and petrol stations" (*putas e postos de gasolina*).

On the other side of the political spectrum, representatives of the cattle-ranching sector have also voiced their discontent at a state government which appears to have left them out of its policies. Despite the existence of a State Secretariat for Agriculture and Cattle Ranching (*Secretaria estadual de agropecuária*), they claim that the Viana government has jeopardised Acre's economic viability for choosing a forest-based development model, although they also recognise that previous governments were not any more efficient in this respect.

The President of the Acrean Federation of Agriculture (*Federação de agricultura do estado do Acre* or FAEAC) which was founded in 1968 openly recognises the incompatibility of forest cover and cattle ranching. However, on the basis that cattle ranching is economically more viable than forest products, he has repeatedly called for cattle ranches to be expanded to ensure Acre a future. To illustrate his argument, he points out that agriculture-based products yielded R$ 150 million as opposed to a mere 44 million for forest-based products in 2004. Other opponents such as former Federal Deputy Márcio Bittar have accused Jorge Viana of siding with international environmental organisations in a conspiracy to prevent Brazil from developing economically, using nature conservation as a pretext (Alves de Souza 2005:110).

However, even within the "mega-network" that Viana contributed to uniting under his government dissenting voices can be heard. His government built its policies and thus its legitimacy on two main equations: first, that a forest-based development model – and thus community forest management – is economically viable *and* ecologically sustainable; and secondly, that traditional populations, namely indigenous societies and seringueiros, are inherent forest conservationists.

Concerning the first equation, the community forest management projects described above show that results are mitigated, partly due to a lack of enthusiasm among communities. However, even among organisations which have taken part in such projects, discreet scepticism is frequently encountered. When interviewed on a personal basis, several

participants have expressed doubts as to the ultimate success of these projects. It is often said that problems arise because of a difference in timescales set by the government on the one hand and the executive organisation (CTA, Embrapa, etc.) on the other. The government, participants claim, have often pushed for immediate results to keep to political deadlines such as elections, which has had adverse effects on processes which are said to require many years, if not decades, to develop.

A number of actors in the environmentalist and seringueiro movements have also been reluctant to accept the ecological sustainability argument of low-impact logging practices. Within the seringueiro movement, it is often reminded that Chico Mendes himself was unfavourable to any type of logging in his proposal of RESEXs. Likewise, to this day some of the timber producers and manufacturers often encounter hostility from certain components of the environmentalist movement who continue to view any type of logging as a threat to forests.

As for the second equation, the debate above on the indigenous issue provides an insight into the relationship between the indigenist and the environmental movements, and whether indigenous societies should rightly be considered as inherent conservationists. On his study of the Ashaninka mentioned above, Pimenta (2006) demonstrates that it is actually the image of Indians as conservationists that finally rubbed off and indeed made indigenous leaders environmentally aware. Whether consciously or not, the FUNAI and indigenist NGOs selected Antônio Piyãko over Thaumaturgo as *kuraka* because the former fitted the "Conservationist Indian" model more than the latter, and by doing so, succeeded in eliminating indigenous political structures that fell outside this model. Therefore, although evidence shows that indigenous societies are by no means inherent conservationists, their relationship with the indigenist movement has contributed to this *cliché* becoming true, at least in part.

The image of "Conservationist Seringueiros" is a more complex issue. At the time of *empates* in the 1970s and 1980s, this image certainly seemed to fit observations as seringueiro movements struggled for the forest to remain standing in the face of cattle ranch expansion. However, since the 1990s, a new trend has appeared that is of great concern to the environmentalist movement – the expansion of cattle ranching *inside* RESEXs. In a study on the Chico Mendes Extractive Reserve, Gomes (2004:3) notes that Acre has had the highest rate of herd growth in the Brazilian Amazon between 1995 and 2001 (12%) and that between 1999 – the time when Viana assumed power – and 2004, cattle production increased by 30%. He also claims that the paving of roads has probably encouraged export of Brazilian beef to Peru.

His findings are corroborated by the patterns of cattle ranching inside the Chico Mendes Reserve, whose southern border lies along the BR317 which runs from Rio Branco to the border with Peru. Overall, the deforestation rates inside the reserve doubled between the 1986-1992 and the 1992-1998 periods, and that the rates reached peaks in the seringais closest to the BR317. Legislation on RESEXs allows seringueiros a small number of cattle as a means of subsistence but also stipulates that the forest cover inside such reserves cannot go below 90%. However, in the case of the seringal of Fazenda Carmem, the area cleared reached 12.8% in 1998, as opposed to 4.3% back in 1992.

Additional figures confirm the hypothesis that many seringueiros are gradually moving away from a forest to a cattle-based livelihood. In the seringal of Paraguassú, which is close to the

BR317, the total rubber production was 14,180 kg in 1995, which was reduced to 12,040 kg in 1998 and which suffered a drastic decrease in the following two years, with a total yield of only 2,110 kg in 2000. Cattle ranching, on the other hand, increased from 129 heads in 1995 to 255 in 1998 and 344 in 2000, representing an increment of 167% over five years (Gomes 2004:6).

Studies focusing on perceptions be seringueiros of forest products versus cattle also show that cattle herding ranks higher in their interests than extractivism (Gomes 2004:7), despite the fact that they are aware that cattle ranching has a significant impact on the environment. Many believe that this trend towards cattle ranching is a generational issue as the younger generation, most of whom were born after the era of *empates*, do not share the same values *vis-à-vis* the forest as their parents once did. More significantly, Gomes points out that the state authorities have so far turned a blind eye to this trend as it seriously puts into question the sustainable development model that RESEXs are based on, and strongly recommends that this issue be recognised and tackled head-on rather than being further ignored.

Current policies in Acre are thus partly the result of the state's tumultuous history, from its creation in the context of the rubber boom to the rise of the seringueiro, indigenist and environmentalist political movements. The Viana government has presented itself as the culmination of this decades-long struggle in the form of a new development model based on a forest economy, but recent indications show that this model might be cracking at the seems and that it still needs to be worked on if it is to retain political credibility.

4 FOREST POLICIES IN AMAZONAS

4.1 GEOGRAPHY

With a total surface area of 1,571,000 km², the Brazilian state of Amazonas is almost three times the size of France and the largest state in Brazil with 18.4% of the country's territory. It is located in the northwest corner of the Brazilian Amazon, and has the longest border of any Brazilian state, with more than 3,600 km of border with Venezuela to the North, Colombia to the North West, and Peru to the West. Despite its size, Amazonas is home only to inhabitants, making it the state with the lowest human density (1.3 inhabitants per km²). In fact, Amazonas is one vast expanse of dense tropical rainforest that is only interrupted by large, meandering rivers and small towns that lie few and far between.

Among its rivers, the Amazonas is of course the main one, whose source lies in the Peruvian Amazon. When it reaches the triple frontier between Peru, Colombia and Brazil at the level of Tabatinga, it changes its name into Solimões for several thousand kilometres before meeting the Rio Negro a few miles downstream from Manaus, where it changes back to Rio Amazonas. By the time it enters Pará, the Rio Amazonas has collected waters from a number of affluents that all run in a North West to South East fashion on the northern side of the Solimões/Amazonas, and South West to North East on its southern side:

- In the southern half of Amazonas, from West to East, the Rio Jutaí, Rio Juruá, Rio Purus and Rio Madeira;

- In the northern half of the state, from West to East, the Rio Içа, Rio Japurá, Rio Negro and Rio Uatumã.

The layout of the rivers of Amazonas is essential not only from a biogeographical viewpoint but also has major implications for the history, social and political aspects of the state. Apart from a dozen airline connections within the state and a few roads, rivers remain the main means of communication and transport of both passengers and goods. The political division of the state into municipalities also reflects the fact that rivers are genuine axes of communication.

The road network is limited to the AM010 that runs from Manaus along the Amazonas to Itacoatiara, the BR174 that links Manaus to Boa Vista, capital of Roraima (and ultimately to Caracas in Venezuela), the BR319 from Manaus to Porto Velho, and the BR230 – the infamous Transamazonian Highway (*Transamazônica*). Both the BR319 and the BR230 are only passable in the dry season.

Given the low human densities and level of infrastructure characteristic of Amazonas, the state also enjoys a low level of deforestation, retaining 98% of its original forest cover. According to geographers, Amazonas (along with the small states of Roraima and Amapá) remains behind the arc of deforestation, although the south western edge of the state is

affected by the gradual migration of cattle ranching and industrial timber production, both along the BR230 and along the border with Rondônia and Mato Grosso.

Due to various policies and economic conjectures, the forests of Amazonas are virtually empty and the state's capital, Manaus – which lies where the Rio Negro meets the Solimões – is home to over half of the state's population. With a population of almost two million, it is the second largest city in the Brazilian Amazon after Belém and lies at the heart of regional means of transport and communication.

Amazonas can be divided into four areas where different geographical and socio-economic forces are at work:

1. The North, *i.e.*, the part of the state that lies North of the Solimões and Amazonas, is home to the Rio Negro Basin. Human density populations are very low but the proportion of indigenous group is the highest in Brazil – in some municipalities such as São Gabriel da Cachoeira, it makes up more than 50% of the population.

2. The Southeast is home to slightly higher densities of population, many of whom are migrants from the second half of the twentieth century who settled along the Transamazonian Highway and practice agriculture and cattle ranching. More recently still, timber companies have spilled over from Rondônia and Mato Grosso, some geographers claiming that they are the main cause of recent change in land cover of Amazonas.

3. The Southwest was the last part of Amazonas to be "discovered" and shares a common history with the neighbouring state of Acre as it was populated by seringueiros in the late 19th and early 20th centuries. It is also home to a large number of indigenous societies and has extremely low population densities. Both the Purus and the Juruá rivers are means of overland access to Acre.

4. Manaus and its surroundings constitute a region in itself. Once a small town built by the mouth of the Rio Negro, it has become the Brazilian capital of high tech and electronic manufacturing with the creation of a free zone in the 1960s. Ever since the inception of the free zone, Manaus has steadily increased in size with the arrival of migrants both from the interior of Amazonas and outside.

4.2 HISTORY

4.2.1 Indians and Early Explorers

Archaeologists now believe there is irrefutable evidence that indigenous societies scattered along the rivers Amazonas and Solimões reached a high degree of urbanism and technological complexity prior to the arrival of Europeans. A brief encounter between the first European explorers of the Amazon Basin and these societies might well have fuelled the El Dorado legends in the region which later prompted dozens of expeditions.

While the Spanish quickly conquered the Aztec Empire in Central America and from the Pacific, quickly invaded the Inca Empire in Peru, the Portuguese hesitatingly settled on the East coast of South America without venturing far inland at first. The Amazon, however, offered an easy route deep into the continent which Portuguese and Spanish were eager to penetrate into to fix the boundaries of their respective empires. The first explorer to venture down the Solimões and Amazonas, however, was a Spaniard by the name of Orellana who set out from Quito and reached the mouth of the Amazon by 1542.

The Iberian Union (union of the Spanish and Portuguese Crowns in the late sixteenth and early seventeenth centuries) was a golden opportunity for the Portuguese to venture far into the Amazon (well beyond the line set by the Treaty of Tordesilhas) without encountering any Spanish opposition. Portuguese explorer Pedro Teixeira seized this moment in 1639 to sail up the Amazon and fix the limit of the Portuguese empire at Tabatinga, which remains a border town to this day.

From then on, for over a century hunters scoured the Amazon in the search for live Indians to be captured as slaves. In so doing, the Portuguese decimated entire indigenous populations, although in many cases they were met with severe resistance. In the face of repeated attacks, however, the vast majority of Indians died, fled, were taken away as slaves or were forcefully settled into missionary camps where they were converted to Catholicism and blended with other indigenous groups. The church thus also played a key role both in protecting the remaining Indians but also contributing to profound social changes and the loss of a large number of indigenous cultures.

As the Portuguese suffered territorial losses in Asia as the result of the growth of the Dutch as a colonial power in the seventeenth and eighteenth centuries, Portugal turned to the west and focused on Brazil as a provider of spices and other *drogas do sertão*. As a result, a number of forest products gained attention, such as wild cocoa, forest cinnamon, Brazil nuts and timber. The development of the trade in *drogas do sertão* soon enabled the province of Grão-Pará (roughly the equivalent of Today's Pará, Amapá, Amazonas and Roraima) to overtake that of coastal Maranhão whose economy relied on sugarcane. This period was also marked by the first scientific expeditions that helped identify the richest regions in *drogas*.

The eighteenth century also saw the creation of the *capitania* of Rio Negro, which was maintained as a means of consolidating Brazil's weakest frontier with the Spanish-speaking world. Barcelos, a town of 2,000 inhabitants on the lower Rio Negro, became capital but by 1791, it was replaced with the faster-growing town of Barra do Rio Negro (Manaus). At the turn of the nineteenth century, the *capitania* still mostly relied on *drogas do sertão* as agriculture remained underdeveloped. It relied on Belém for many products such as grains, cotton and soap. Without counting the indigenous societies that still remained secluded from colonisation, the population of the Amazon Basin mainly consisted of Indians living in villages. European settlers and African slaves and their descendants remained small minorities (Table I).

Year of census	Europeans and descendants	Settled Indians	African slaves and descendants	**Total**
1790	1,176	11,320	468	**12,964**
1793	1,365	11,789	574	**13,728**
1796	1,485	12,154	492	**14,232**

Table XII. — Censuses of the *capitania* of Rio Negro in the 1790s (after Dos Santos *et al.* 2002:106).

4.2.2 Independence and the Rise to Provincehood

By the time Brazil became independent in 1822, the Portuguese Amazon was still a separate entity from the rest of Brazil (known as the state of Grão-Pará and Rio Negro), with direct links to Lisbon. Its borders had already been fixed by a series of Treaties with Spain (Madrid 1750, Santo Ildefonso 1777, Badajós 1801). This state was home to two *capitanias*, Pará and Rio Negro, the latter being subject to the former. However, during the Napoleonic wars, the Royal Court stayed in Rio de Janeiro, which consolidated Pará's links with Brazil rather than Portugal. When Brazil became independent in 1822, Grão-Pará and Rio Negro remained Portuguese until a year later, Brazilian Emperor Dom Pedro I sent troops to the Amazon to bring it under Brazilian control.

As a result of its incorporation into the new independent nation of Brazil, the status of Grão-Pará e Rio Negro changed from state to province, as did all other states of the Brazilian empire. However, Rio Negro retained its inferior status *vis-à-vis* Pará and became a *Comarca* (the next administrative division beneath that of *província*). In 1825, the capital of Rio Negro moved from Barcelos to Barra do Rio Negro (later known as Manaus).

The 1830s marked the beginning of an autonomist movement in Rio Negro, led by the local elite which wanted the *comarca* to become a fully-fledged province. In 1832, the Chamber of Deputies of Rio Negro even proclaimed the *comarca* a province, which was met with military retaliation on behalf of neighbouring Pará. Grão-Pará e Rio Negro was then divided into three *comarcas* (Pará, Lower Amazonas and Upper Amazonas, which meant that Rio Negro lost its western region to the new *comarca*). This and further measures, such as the creation of corps of town guards, were strongly resented by the political elite of Rio Negro.

The *Comarca* suffered a number of threats, beginning which the *Cabanagem* which raged through the region's towns in the 1830s. During the 1840s, several incursions by the British from their Guianese colony were reported, which worried both Belém and Rio de Janeiro. The *comarca* of Rio Negro continued to be a poor and economically dependent hinterland that remained vulnerable to foreign invasions in the eyes of the Government in Rio. Many in the Government believed that creating a separate province would equip Rio Negro with greater presence of the state and would thus protect it against foreign interests.

However, southern states such as São Paulo and Minas Gerais reacted violently against the proposition as they feared that it would foment autonomist movements in their own provinces. Despite such reluctance, when the Assembly of Rio Negro submitted a new demand in 1850, the Emperor seized the opportunity and accepted to turn the *comarca* of Rio Negro into the Province of Amazonas.

4.2.3 Rubber Booms and Busts

The rubber boom era changed the face of Amazonas like no other period ever did. As the demand for rubber grew in Europe and North America, and as the trade developed in the Brazilian Amazon, Manaus increased both in terms of demography and as the centre of the rubber trade. By 1864, the Amazon river was internationalised and a customs house built in Manaus ten years later.

Of course, the sharp rise in international demand for rubber was reflected in profound social and economic changes in the makeup of the Brazilian Amazon, and especially the Province of Amazonas (State of Amazonas after the abolition of the Empire in 1889). Between 1850 and 1889, the population of Amazonas rose from 30,000 to 148,000, mostly due to immigration from Pará and Northeast Brazil. However, the Portuguese also formed a non-negligible percentage of immigrants into Amazonas, followed by Spanish, German, Italian, Syrian and Lebanese immigrants. Migrants started arriving as early as the 1850s but peaks were reached in the periods 1877-1879 and 1888-1889 due to famines which ravaged the provinces of the Northeast.

Until then, the vast majority of Amazonenses were of indigenous descent, but the sudden influx of Northeasterners suddenly modified the cultural makeup of Amazonas. The Portuguese language quickly replaced Nheengatú (an indigenous *lingua franca*) which was still widely spoken in the 1850s and the foundations were laid for today's society of Amazonas.

The forests of Amazonas were not the only places to undergo significant changes during this period. Towns sprouted up in places where rubber was extracted and Manaus consolidated its hold as the centre of all Amazonense trade routes. As Manaus welcomed an increasing white community that benefited from the rubber trade, the capital of Amazonas turned from a provincial and mostly indigenous town into a large, modernised Western city. Between 1850 and 1880, roads were paved, metal and stone bridges replaced wooden ones, sewers were built, streets were equipped with lighting and large public buildings were erected. Dos Santos *et al.* (2002:169) claim that it was during this period that Manaus finally "got out of Belém's shadow".

However, as the rubber trade increased, so did competition with Belém which inevitably attracted more investment, banks, public infrastructure and consulates than Manaus as it lay nearer to the rest of the world. In order to overcome its geographical handicap, the Amazonense government decided to lower taxes on rubber exports by 5% as well as subsidise transport from Manaus to New York and Liverpool. Despite complaints by the Government of Pará to Emperor Dom Pedro II, these measures had the desired effects and attracted many large companies involved in rubber trade to Amazonas. Another significant innovation was the arrival of steamboats in the 1850s which shortened a return trip between Belém and Manaus from a staggering five months to just 22 days. The American company *Amazon Steam Navigation* quickly overtook its competitors and ruled over many of the province's waterways for several decades.

Amazonas also happened to be one of the country's leading provinces in the abolition of slavery. By 1884, slavery had been officially abolished in the province, several years before slaves were freed in the rest of the country. Many claim, however, that only Amazonas could afford such a measure given the small number of slaves in the province, as well as the fact that it did not affect its main source of revenue – rubber extraction.

As international demand for rubber steadily increased over the years, Manaus turned into the "capital of rubber" as its economic elite enjoyed lavish lifestyles, known as the "rubber delirium". By the late 1890s, the city was equipped with the country's first electric tram; it also had electric lighting throughout the city, gas, and an innovative floating port built by the British who had also imported the new customs house from London in prefabricated chunks. During this *Belle Époque* period, the wealthier inhabitants learned about British engineering whilst indulging in French culture.

A public library was built, along with the Adolfo Lisboa markets and Teatro Amazonas, modelled on Paris' Les Halles and Opéra Garnier respectively. The Teatro Amazonas (built 1891 to 1896), which was described as "an opera in the jungle", came to symbolise this period as its interior was decorated by leading French artists and with marble imported from Italy. Large department stores called "Au bon marché", "La Ville de Paris" and "Parc Royal" sprouted around the city as the upper classes wore the latest French clothing fashions in spite of the heat of the Amazonian sun. Private *Art nouveau* mansions began lining the streets of the city centre. As Dos Santos *et al.* (2002 :213) put it, "Manaus was without doubt politically linked to Rio de Janeiro, depended commercially on London and culturally on Paris".

However, the insolent lavishness which Manaus bathed in was short-lived and the seeds of the rubber bust sown as soon as the boom had started. In 1876, Henry Wickham smuggled rubber tree seeds to Kew Gardens in London and by the late 1890s, the first plantations appeared in British India and Malaya, followed by the Dutch East Indies, French Indochina and Siam.

Decision-makers only anticipated the economic catastrophe it was facing a couple of years in advance. In 1910, a "Commercial, Industrial and Agricultural Congress" was held where it was decided that the only way to face Asian competition was to invest in rubber tree plantations. A couple of years later, the Brazilian Government – under pressure from those of Pará and Amazonas – launched a "Defence Plan for Rubber", reducing taxes and encouraging rubber production. However, by then it was too late and in 1913, Asian rubber production overtook that of Brazil for the first time (see Figure II), just as rubber prices reached an all-time high. From then on, as prices fell, Brazilian production began waning.

Asian production was not only cheaper in terms of collecting and transporting rubber, but the quality was also better. As Asian production increased, foreign investments were suddenly pulled out of Brazil, and within a decade all that was left of the past glory of Amazonas was the Teatro Amazonas and rows of slowly decaying mansions. After decades of population increase across the state of Amazonas, the 1920s were marked by significant rural emigration and the growth of Manaus' first slums or *favelas*.

In a bid to boost public revenue, the successive governments of Amazonas carved up the state's forests and handed them out to private investors in the form of concessions. Most of these were foreign – Jorge Dumont Villares (with American capital), Kossaku Oishi (Japan), Towartzystwo Kolonizacyjni Warszawie (the Warsaw Colonisation Company), American-

Brazilian Exploration Corporation, Canadian Amazon Company Ltd and Gensabure Yamanishi & Kinraku Awazu (Japan).

In fact, the Japanese played a major role in the history of Amazonas following the rubber bust of the 1910s. In the late 1920s, the Japanese Embassy in Rio strongly encouraged Japanese immigration to the Brazilian Amazon and in the 1930s, the *Companhia Nacional Amazonense S.A.* was created with Japanese funds to promote jute production. This new industry somewhat provided relief to the state coffers prior to the Second World War.

The rubber boom was kick-started into existence again in the 1940s when the Allies saw their access to Southeast Asian rubber cut by the Japanese. During that time, between 100,000 and 150,000 Northeasterners were sent into the Brazilian Amazon to work as "soldiers for rubber" (*soldados da borracha*). However, the boom was shortlived as the Washington Agreements signed with the United States in 1942 only guaranteed a market for rubber until 1947. The 1940s also saw a number of institutional innovations, notably the creation of additional federal territories (including Roraima, cut out of Amazonas) and the foundation of the Bank for Rubber Credit (*Banco de Crédito da Borracha*). The 1950s were marked by the creation of the SPVEA and the *Plano de valorização da Amazônia*, as well as the creation of the concept of Legal Amazonia.

4.3 FOREST-RELATED POLICIES SINCE 1964

Depending on the sector describe, the policies of the state of Amazonas have evolved in different directions and at different speeds. Two main periods of change can be identified – the late 1960s and early 1970s for industrial and infrastructure policies, and the late 1980s and 1990s for timber, environmental and indigenist policies.

4.3.1 Industrial Policies

The military coup of 1964 in Brasília marked the beginning of a long period of "development planning" for the whole of the Legal Amazon. In 1966, the SPVEA was replaced with the SUDAM (Superintendence for the Development of the Amazon or *Superintendência de desenvolvimento da Amazônia*), which from its inception launched a series of Amazonian Development Plans (*Planos de Desenvolvimento da Amazônia*).

The military government was quickly confronted with a problem for Amazonas: its geographical isolation and its vast expanses of forested land unconnected by road meant that the agricultural development model applied elsewhere was bound to fail in the Western Amazon since the products would not be evacuated easily. Instead, it was decided that Manaus would be turned into an industrial centre for exports.

In fact, the capital of Amazonas already had a free zone (*Zona Franca de Manaus* or ZFM) since 1957, created under the SPVEA as a way of providing local products with added value. The idea was that the SPVEA would cover the costs of transport of products from the Western Amazon (*e.g.*, Brazil nuts) to Manaus, where they would be transformed and exported to

foreign markets. The focus was therefore regional. The military regime gave the ZFM a new boost by extending these rules to all materials from all over Brazil, although cattle products were excluded from the list in 1975.

The Law 3.13/57, modified by the Decree Law 288/67, stipulates that "the Manaus free zone is an area of free trade for imports and exports and with special tax incentives, established with the aim to create in the interior of the Amazon an industrial, commercial and agricultural centre which benefits from economic conditions that enable its development in spite of local factors and great distances that separate it from centres that consume its products" ("*A Zona Franca de Manaus é uma área de livre comércio de importação e exportação e de incentivos fiscais especiais, estabelecida com a finalidade de criar no interior da Amazônia, um centro industrial, comercial e agropecuário dotado de condições econômicas que permitam seu desenvolvimento, em face dos fatores locais e da grande distância que se encontram os centros consumidores de seus produtos*"). The Drecree Law 288/67 also created the Superintendence of the Manaus Free Zone (*Superintendência da Zona Franca de* Manaus or SUFRAMA) as the entity in charge of managing the ZFM.

Throughout the late 1960s until the late 1980s, Manaus turned into a genuine industrial pole. During the military period, the Federal government imposed strong restrictions on imports of manufactured goods so as to boost domestic production, but Manaus remained exempt from these restrictions and could import an unlimited quantity of products from abroad. However, the situation soon began worrying industries of the state of São Paulo who produced most of Brazil's manufactured goods, and in 1975, quotas were set for imports into the ZFM. From then on, São Paulo became a major provider of goods to the ZFM.

Throughout the 1970s and 1980s, the ZFM attracted a constant flux of immigrants from across the Amazon but mainly from the interior of the state of Amazonas. By the 1970s, extraction of rubber and other forest products had become totally unviable since the military regime had put an end to subsidies for rubber production. Today, most analysts credit the ZFM with the near-pristine state of the vast majority of forests in Amazonas, on the basis that it emptied the forests of its people and concentrated production in Manaus, thus reducing pressure on the rest of the state. The ZFM also partially explains why Manaus is home to over half of the population of the state. Forest conservation was certainly not one of the objectives of ZFM at the time – at least it was never mentioned as such.

After the transition of Brazil to democracy, the ZFM hit a turning point in 1992 when President Collor decided to open Brazilian markets to foreign goods and Manaus lost its advantage in terms of access to imports. However, it managed to remain on the sharp end of production of manufactured goods by encouraging large foreign companies to the ZFM through further tax incentives.

To this day, the ZFM is a major producer of electronic, chemical and computer goods as well as motorbikes – a much used means of transport in the Amazon Basin, in Brazil and abroad. It benefits from large amounts of foreign investments, mostly Japanese, American and Korean, and exports mostly to the United States and neighbouring Latin American countries (Carvalho de Noronha 2003:156-157). The ZFM also provides tens of thousands of jobs in a state with few alternative economic options.

In recent years, SUFRAMA has added a "sustainable development" twist to its policies. First, it has greatly contributed to the creation of the Amazonian Biotechnology Centre (*Centro de*

Biotecnologia da Amazônia or CBA) whose official aim is to promote technological innovations to give economic value to Brazil' biodiversity. Secondly, with the taxes it collects from the industries in the ZFM, SUFRAMA has been able to fund small-scale "sustainable development" projects in the Western Amazon (Acre, Amazonas, Rondônia and Roraima) such as local marketing projects for forest products (*e.g.*, açaí and cupuaçú).

As it approaches its 50th anniversary, the ZFM has therefore proved to be a particularly versatile element of Amazonense industry, successfully adapting to the priorities set out by successive governments, whether they be "national integration" or "sustainable development". In the meantime, it has – probably non-intentionally – contributed to maintaining most forests in Amazonas in a near-pristine state. Its near future has just been ensured as it should benefit from federal subsidies at least until 2023.

4.3.2 Infrastructure Policies

Public infrastructure was one of the central elements of the Development Plans of the military regime in the 1960s, 1970s and 1980s, in an era known as the period of "pharaonic works" (*obras faraônicas*). In a nutshell, the military government's plans for the Amazon Basin were mainly to attract people and agriculture (mostly cattle ranching) to a place deemed uninhabited. In order to attract these migrants, an extensive road network was devised. In the case of Amazonas, it was decided that one road would link Manaus to Boa Vista (Roraima) and Caracas (Venezuela), namely the BR 174, and another one would run from Manaus to Porto Velho in Rondônia (the BR 319). Both roads were inaugurated in the early 1970s, although the BR 174 was paved in the 1990s only and the BR319 remains unsealed to this day. The BR230, better known as the Transamazonian Highway, runs through the southeastern corner of the state and despite being unsealed has been an axis of colonisation and deforestation.

The evolution of infrastructure policies is illustrated through the different building projects that took place within a single geographical area and which all had a profound impact on a single indigenous society – that of the Waimiri-Atroari (also known as Kinja or Kinã [Do Vale 2001]). First contacted during João Barbosa Rodrigues' botanical expedition in the early nineteenth century, this Karib-speaking group were known to be violent warriors although there is no evidence to suggest that such a reputation was based on any historical facts. Ever since their existence was first reported, they have lived on the northern bank of the Rio Negro on today's border between Roraima and Amazonas.

When the Federal government decided to build the BR174 from Manaus to Boa Vista and realised it was going to cross Waimiri-Atroari territory, they got the building company Parapanema to call for help from the 6th Engineering and Construction Battalion (*6° Batalhão de Engenharia e Construção* or 6° BEC). In 1968, when the Waimiri-Atroari found out about this building project, they manifested their discontent by murdering both missionaries and workers from the FUNAI. The works still went ahead and as an illustration of the violent situation that had arisen, the 6° BEC was forced to remain along the BR174 after its construction to protect road users from any retaliation by the Waimiri-Atroari.

Very little is known about what happened during the 1970s along this stretch of the BR174. Historians claim that between 1968 and 1975 the government imposed a total ban on

information from that part of the state, but it was later discovered that 19 Waimiri-Atroari villages disappeared as their population fell from 3,000 to 1,000. As a means of compensation, the Waimiri-Atroari indigenous reserve was recognised by the Federal Government in 1971 with help from the FUNAI.

However, works within Waimiri-Atroari territory did not stop there. As Governor of Amazonas Danilo Matos Areosa put it, they "occupied the richest parts of the state and prevent their exploration" (Dos Santos *et al.* 2002:233). By this he not only meant the building of the road but also mining as this part of the Brazilian Amazon, which geologically belongs to the Guianese plateau, is particularly rich in valuable stones and gold.

It should not come as a surprise, therefore, that the road-building company, Parapanema, changed its name to Parapanema Mineração, Indústria e Construção (Parapanema Mining, Industry and Construction) in 1971. Beside building the BR174, Parapanema also undertook a large mining project in the early 1980s. In the face of further indigenous resistance, the company even managed to have the creation of the indigenous reserve annulled in 1981 and have it labelled as a "Forbidden zone for reasons of exploration and pacification" (Do Vale 2001). The FUNAI, which had been instrumental in the creation of the reserve ten years back, could only watch as events unfolded. Members of the FUNAI who worked in this region claim that they were submitted to major "pressure" to let the government, the army and Parapanema deal with the situation single-handedly.

In the late 1980s, when the population of Waimiri-Atroari hit an all-time low (374 people in 1988), a third construction project was undertaken within their territory although this time, specific measures were taken to alleviate impacts on the indigenous group. On the eastern edge of the territory, the government decided to allow the construction of a hydroelectric dam known as Balbina, which partly flooded the indigenous territory. Observers claim that the constructor Parapanema falsified maps and redrew rivers so as to legitimise the expulsion of resident indigenous groups from over 500,000 ha of their territory (Droulers 2004:131). Despite this fact, the construction project adopted a more conciliatory stance towards the Waimiri-Atroari than previous works.

A special programme was set up funded by the company running Balbina, Eletronorte, whereby the Waimiri-Atroari were provided with health care such as 100% vaccination programmes. Likewise, schools were built and environmental projects were set up within the indigenous territory. These measures partly resulted from the consolidation of the indigenist movement in the second half of the 1980s, as well as the shift to democracy in 1985-1986 which allowed increased access to information and prevented Eletronorte from using the same methods as those used previously.

In 1997, when the government decided to pave the BR174, it also agreed (upon demand from the Waimiri-Atroari leaders) to fund an environmental vigilance project to protect the territory of the Waimiri-Atroari from potential impacts of greater amounts of traffic. The Waimiri-Atroari programme, which is still funded by Eletronorte and run partly by FUNAI, partly by indigenous leaders, boasts positive results: since 1997, there has been no report of non-indigenous presence within the territory, whether it be from gold-diggers, missionaries, loggers, hunters or fishermen. More importantly, the population of the territory has picked up again and reached 1,120 in December 2005 (Programa Waimiri-Atroari 2006).

The government of Amazonas has adopted a similar position with regard to the construction of the gas pipeline between Coari and Manaus. Situated on the Solimões several hundred kilometres upstream from Manaus, the municipality of Coari is already home to a plant built by Petrobrás (the Brazilian petrol company) but the gas extracted has to be shipped to Manaus. In the early 2000s, Petrobrás thus submitted a project to build a gas pipeline all the way to Manaus, cutting through the forest on the north bank of the Solimões.

In reaction to the pipeline, many conservationist organisations denounced what they regarded as an economically driven project with little consideration for the environment. The main fears are that the pipeline could burst or that people might take advantage of the opening in the forest to extract timber or animal products. However, the state government claims that the construction of the pipeline should lead to no more than 8 km² of forest clearing and has come up with an elaborate programme involving numerous "compensation" measures for local populations living up to 5 km away from the projected pipeline under the name "Sustainable Development Programme of the Coari-Manaus Gas Pipeline" (*Programa de desenvolvimento sustentável do gasoduto Coari-Manaus*).

As an agreement between Petrobrás (which will fund the programme) and the government of Amazonas, this programme has six major components:

1. "Coordination and evaluation" (overseeing the other components of the programme and coordinating different aspects within each of the municipalities affected);
2. "Participative diagnosis and planning" (involving data collection with the help of local communities on land ownership and use);
3. "Support to community income-generating activities" (such as forest management and collection of forest products);
4. "Sustainable development structuring actions" (including the building of a waste-processing plant);
5. "Environmental management support for municipalities" (*e.g.*, providing environmental education courses); and
6. "Support for the use of gas in means of transport" (especially Manaus' fleet of taxis).

The municipalities that lie along the projected pipeline should also benefit from the *Zona Franca Verde* boat (see section on environmental policies) which provides local populations with health care and the opportunity to register and get ID cards. The Coari-Manaus gas pipeline project is thus equipped with state-of-the-art (and somewhat politically correct) measures of "sustainable development", "environmental awareness" and "participative planning" that appear to have protected it successfully against criticism – at least for the time being.

4.3.3 Indigenist policies

In a state the size of Amazonas, it is obvious that the indigenous issue is a complex one because of the variety of indigenous societies, their history and the nature of their relationship with non-Indian society. In terms of figures, Amazonas is home to 27% of Brazil's indigenous population (*i.e.*, approximately 120,000 people) distributed in 66 different ethnic groups – which makes this state the most culturally diverse in the country. The state's 175 indigenous territories cover about 30% of its surface area with almost 460,000 km² (COIAM 2006:2-3).

Historically speaking, it is necessary to divide Amazonas into the half that lies south of the Solimões/Amazonas, and the half that lies north of it. To the north, namely the Rio Negro basin, contacts between indigenous societies and the Portuguese goes back to the second half of the 17th century, the first Portuguese entrance in the Rio Negro dating from 1657. From then on, the inhabitants of the Rio Negro region were subjected to a slow decrease in their population due to incessant attacks of Portuguese groups in search of slaves and epidemics, such as those of smallpox in 1740 and measles in 1749 (known as *sarampo grande*) (Eloy *et al.* 2005:6).

Even once indigenous slaves became superfluous with the arrival of African ones, Indians were subjected to forced labour, especially during the rubber boom period (1870-1910) when they were recruited as *caucheiros* or *seringueiros*. However, both Ribeiro (1970[2004]:48) and Eloy *et al.* (2005:7) agree that it was the highly puritan missionary order of the Salesians which was the last nail in the coffin of many of these indigenous societies. Ribeiro is especially severe concerning the Salesians: "(…) Despite a number of differences, missionaries should be placed alongside traffickers [*caucheiros* and *regatões*] as a soldier for the same cause. Each of these categories, in its own way, open the way for a society built on top of tribal cemeteries" (1970[2004]:48) (*(…) Apesar das diferenças, o missionário deve ser colocado ao lado do traficante como soldado da mesma causa. Um e outro, cada qual a seu modo, abrem caminho para a sociedade que cresce sobre os cemitérios tribais*). .

As soon as the Salesians arrived in 1916 in the middle and upper Rio Negro where Indians formed an overwhelming majority of the population, children were separated from their parents and educated in boarding schools and *malocas* were destroyed in favour of individual *tapiri* huts. Ribeiro is especially critical of the latter decision because the *maloca* (or large communal house that most indigenous societies have adopted as a dwelling "since times immemorial") is fundamental in the spatial representation, kinship configuration and cosmology of these societies.

However, to the eyes of Salesians, *malocas* were the epitome of the backward, uncivilised Indian since nuclear families sharing their domestic space was perceived as unhygienic and even incestuous. By destroying the *maloca*, the Salesians were – whether consciously or not – destroying much of the social structure and traditional culture of the populations they were trying to convert. Moreover, by doing this, Ribeiro claims, they were teaching the Indians the "inherent superiority" of Western civilisation.

During the 1970s and 1980s, the military regime undertook various construction and "integration" projects in these remote parts of the country. The upper Rio Negro was considered especially vulnerable (i) because of the proximity of the border with politically-volatile Colombia and (ii) because the resident population was mostly indigenous and therefore – in the eyes of the military – more open to foreign interests and influence. First, the Federal government refused to recognise any indigenous territories in the region on grounds of national security. Secondly, it was decided that a road called the Northern Ring Road (*Perimetral Norte*) would be built through this area known as the Dog's Head (*Cabeça do Cachorro*) as a result of the shape of the border between Brazil and Colombia. However, only a few stretches of this road were ever completed before the project was abandoned.

It was also during that time that leaders began emerging among these populations with the aim of forming a political movement to defend indigenous societies both along the Rio Negro

and nationally. The shift to democracy in the mid-1980s and the sudden influx of foreign ideas, especially from Europe and North America, was paramount in ensuring the growth of an indigenous and indigenist movement.[68] In 1981, a number of indigenous leaders took the Salesian missionary order to the Russell Tribunal and played a major role in the discussions prior to the 1988 Constitution which provided the country with a number of advances in terms of indigenous rights (Eloy *et al.* 2005:7-9).

Further east, on the border with Roraima live the emblematic Yanomami who in the late 1980s voiced their discontent with the *Perimetral Norte* project and especially the uncontrolled incursion of tens of thousands of individual gold prospectors onto the land they traditionally occupied (Albert 1999). At a time of heightened national sensitivity on indigenous issues and with the help of several anthropologists, the Yanomami successfully got the federal authorities to side with them and throw the gold prospectors out of their territory which was finally recognised in 1992.

In contrast, indigenous societies residing in the southern half of the state remain relatively unknown. Whereas Indians make up a majority of the population in the upper Rio Negro to this day, they remain restricted to dispersed geographical regions along the Madeira, Purus and Juruá rivers. The history of contacts with non-Indians is much more recent, only dating back as far as the rubber boom. Until the mid-nineteenth century, southwestern Amazonas had remained largely unexplored, and it was only in the 1860s that explorers realised the potential of this part of the state in terms of rubber tree densities. From then on, waves of Northeastern immigrants poured into the region and settled along the main rivers to bleed rubber trees and thereby decimated a large number of indigenous societies.

The events that followed are largely similar to those of indigenous societies in Acre with the *tempos* suggested by anthropologist Terry Aquino (see section on Acre): the times of running (*tempo das correrias*), of captivity (*tempo do cativeiro*) and of rights (*tempo dos direitos*). Possibly as a result of (i) more recent contact with non-Indians, (ii) lower population densities and (iii) the absence of "integration policies" during the military regime, the area south of the Solimões/Amazonas has not witnessed such a strong development of indigenous or indigenist movements. Likewise, indigenous territories were on the whole recognised and demarcated several years after those of northern Amazonas.

The southwestern tip of Amazonas is home to Brazil's largest indigenous territory, the Vale do Javari IT, demarcated in 2000. With an area of 84,500 km², it is larger than the whole of Benelux but is home to only 4,000 people. It also concentrates the largest number of isolated Indians who are believed to be divided into six societies, among which the Flecheiros ("Archers") are probably the most famous. After the head of the Department of isolated Indians of the FUNAI, Sydney Possuelo, authorised a National Geographic team to accompany him on a reconnaissance of Flecheiro territory, this group became known to the world although in theory, the world (as we know it) remains unknown to them.[69]

[68] In the case of Amazonas, there is both an indigenous *and* an indigenist movement (that strongly overlap each other) in the sense that many organisations were formed solely of indigenous leaders. Moreover, to some extent this movement evolved independently from the indigenist movement, mainly made up of national and international NGOs (Instituto socioambiental, Rainforest Peoples' Alliance, etc.) which also place a strong emphasis on environmental matters.

[69] The Flecheiros were the main feature of the National Geographic Magazine August 2003 edition.

Today, the state of Amazonas has several dozen indigenous organisations which are structured hierarchically. Most of these organisations are geographically based, such as the Federation of Indigenous Organisations of the Yauareté District (*Federação das Organizações Indígenas do Distrito de Yauareté* or FOIRN), one of the most politically visible organisations. Officially, most indigenous organisations in the Amazon are represented by the Coordination of Indigenous Organisations of the Brazilian Amazon (*Coordenação das Organizações Indígenas da Amazônia Brasileira*), created in 1989 and based in Manaus. However, given the weight of *Amazonense* organisations in the COIAB, some indigenous leaders took the initiative of creating the COIAM – a COIAB-like confederation limited to the state of Amazonas.

Relations between the indigenous movement and the state of Amazonas were practically inexistent until the State Foundation for Indigenous Peoples (*Fundação estadual dos povos indígenas* or FEPI) was set up in September 2001. Given that indigenous issues are theoretically managed by federal entities (FUNAI/IBAMA for indigenous territories, Ministry of Education for indigenous education and Ministry of Health and FUNASA for indigenous health), the state government has little official responsibility with regard to indigenous peoples.

FEPI thus mainly acts as a forum of communication between different stakeholders of the indigenous issue, such as the federal organisations mentioned above, the indigenous and the indigenist movements. Representatives of the indigenous movement claim to enjoy a very fruitful relationship with FEPI and like to emphasise the fact that the President of the FEPI himself is an Indian, José Bonifácio.

In contrast, members of the indigenous movement point out that the relationship with the indigenist movement – *i.e.*, with national NGOs such as Instituto socioambiental – is a more complicated one. Both movements greatly collaborated throughout the 1990s when the main issues concerned land demarcation and basic rights such as health care and education. The latter themes are still being discussed today but new themes have also emerged, notably income-generating activities. Throughout the 1970s, the military regime always underlined the fact that indigenous societies lived in areas with large amounts of natural resources with great logging and mining[70] potential.

Some representatives of both the COIAB and the COIAM claim that the use of such resources could be of great benefit to indigenous societies. The management of natural resources within ITs, they add, could fund both education and health care projects which many Indians are still in great need of. However, demands for such issues to be discussed at federal level have not been echoed by the indigenist movement which is also concerned with the environmental sustainability of these activities. This even led one indigenous leader to accuse non-indigenous NGOs of "being more worried about preserving indigenous territories than the welfare of the indigenous societies themselves".

Just like in the case of the Kayapó in Mato Grosso and the Ashaninka in Acre, a closer focus on the relationship between indigenist, indigenous and environmental movements once again shows that the link between Indians and environmental conservation is not an obvious one. These political movements might converge when it comes to promoting the image of

[70] Much of the Rio Negro basin is geologically part of the Guianese Shield which is particularly rich in minerals.

indigenous societies as "inherent conservationists", but these examples demonstrate that this equation remains a social concept rather than a fact-based truth.

4.3.4 Timber, environmental and sustainable development policies

The environment and timber sectors have traditionally remained distinct, but recent policies have tended to bring both issues closer in a bid to apply the concept of "sustainable development".

Despite the considerable abundance of forests in Amazonas (which cover a staggering 98% of the state's surface area), the timber industry is relatively small. In terms of direct and indirect jobs, it officially employs almost 7,000 workers, which is only twice as much as Acre (despite having a population five times greater) and barely more than a tenth that of Mato Grosso (Lentini *et al.* 2005:43). The small size of the timber industry today is partly the result of a strong decline that began in the 1990s, as witnessed by the fall in production between 1998 and 2004: in the space of just six years, consumption of logs fell from 710,000 to 490,000 m^3 and production of processed timber dropped from 281,000 to 189,000 m^3 respectively.

The trends are actually more complicated as evolution of the timber industry differs according to the geographical region and the size of the exploitation. Southeast Amazonas, close to the borders with Pará and Mato Grosso, has recently started being affected by the "Front of Deforestation" (*Frente do desmatamento*) that has moved into Amazonas from its neighbouring states in the past few years (Lentini *et al.* 2005:62). The BR230 or Transamazonian Highway has enabled timber companies to migrate more easily and connects logged forests with timber markets outside the state.

However, in Manaus and along the Amazonas, the large-scale timber industry appears to be agonising. Once a thriving industry, the increasing number of restrictions that IBAMA imposed on logging activities have forced many sawmills (which make up the majority of companies in the *Amazonense* timber industry) to close down, mostly because they could not provide title deeds to the lands where the timber was logged. Timber representatives at the FIEAM (Federation of Industries of the State of Amazonas) bitterly complain that as a result, large companies created several decades ago, such as Amaplac, Compensa and Carolina, were forced to close down in the last few years. Even FSC-certified company Gethal followed suit, leaving Mil Madeiras, the first timber company to be certified in Brazil in the mid-1990s, as the only large certified company left in the state.

The latest government, headed by Eduardo Braga (elected in 2002), created an agency to foment forest-based economic activities, known as the Amazonas Agency for Forests and Sustainable Trade (*Agência de florestas e negócios sustentáveis do Amazonas* or AFLORAM) which aims at promoting the production and trade of timber and non-timber forest products. Along with the Institute for Environmental Protection of the State of Amazonas (*Instituto de proteção ambiental do Estado do Amazonas* or IPAAM), these two organisations reflect a similar division of labour as the one found between IMAC and SEF in Acre. AFLORAM – just like SEF in Acre – is responsible for the promotion of forest-based production whereas

IPAAM[71] – just like IMAC – aims at controlling it. In this sense, one is the carrot and the other the stick of forest-based activities. Both organisations are answerable to the State Secretariat for the Environment and Sustainable Development (*Secretaria de Estado do Meio Ambiente e Desenvolvimento Sustentável* or SDS), which FEPI, the State Foundation for Indigenous Peoples, is also part of.

The Braga Government thus appears to have equipped itself with a number of organisations supposed to regulate timber production and trade in Amazonas, yet representatives of the large-scale timber industry claim that the state government never tried to stop the decline in the timber industry. In fact, government members agree that little has been done to revert this trend in Amazonas, but members of AFLORAM also recognise that the large-scale industry is not their primary focus.

Instead, ever since the agency's inception, efforts have concentrated on small-scale timber production. The reason given for this is that large companies already have the funds to fend for themselves and that focusing on small-scale logging has two effects: not only does it promote sustainable forest management (because it is primarily low-impact production) but it also contributes to poverty alleviation, thus fitting the concept of sustainable development much better than large-scale logging.

In order to promote small-scale and low-impact timber production, AFLORAM funds the elaboration of simplified management plans (*planos de manejo simplificado*), provides forest technicians and engineers, searches for markets and carried out training courses in forest management. Between 2003 and 2006, over 400 simplified management plans have thus been funded by AFLORAM and approved by IPAAM, primarily in areas such as the upper Solimões and the river Juruá where small-scale non-legal logging was rife.

The possibility of carrying out community-based and/or small-scale timber production within certain categories of protected areas (such as RDSs and RESEXs), along with the 2006 law on public forests, provides many further opportunities for simplified forest management across the state of Amazonas. Moreover, AFLORAM also promotes non-timber forest products such as oils, seeds, Brazil nuts, *cipotitica* (a liana with similar uses to rattan cane) and rubber. In this regard, the government of Amazonas recently followed on the footsteps of Acre by agreeing to subsidise rubber production. For every kilogramme of rubber produced (at a market value of approximately R$ 2.50, *i.e.*, about € 0.90), the government pays the producer a further R$ 0.70 (about € 0.25).

Box VIII
The Zona Franca Verde

"*Florestania* is to Acre what the *Zona Franca Verde* is to us in Amazonas", claimed a member of the Braga government. The Manaus Free Zone or ZFM has certainly been the *pièce de résistance* of the economy of the state of Amazonas over the past half century. The Braga Government, in a bid to promote the state's environmental policies, has given a green twist to the concept by applying the idea of state subsidies to everything "sustainable" in Amazonas.

[71] Just like IMAC in Acre and SEMA in Mato Grosso, IPAAM recently signed an agreement with IBAMA to hand over responsibilities in terms of approving and watching over forest management plans, as part of a nation-wide decentralisation of environmental matters.

The Zona Franca Verde programme aims at "improving quality of life in the interior of Amazonas through the sustainable use of our forests, rivers, lakes, *igarapés*,[72] *várzeas*[73] and natural savannas and, and through the permanent care of the conservation of our natural heritage" (Governo do Estado do Amazonas 2003:9). In fact, the programme has come to cover all of the state government's policies that apply to the "interior", including the compensation plans that are part of the Coari-Manaus gas pipeline project:

1. Social policies through the promotion of health care, which includes the Zona Franca Verde boat (*Barco da Zona Franca Verde*) which travels up the state's main rivers to deliver ID cards and bring doctors to isolated populations;
2. Education policies with a focus on environmental education in towns and villages of the interior; and
3. Employment and environmental policies through the creation of simplified forest management plans and the search for markets for forest-based products.

The policies concerning forest-based production and especially timber have thus contributed to shift the timber away from large-scale, industrial production focused on the region around Manaus to small-scale, low-impact forest management scattered across the state – although there is a new trend appearing in the southeastern corner of the state that appear to have evolved independently of state policies.

Likewise, state policies have helped the environmental conservation sector to move away from a people-free conservationist perspective to one that integrates protection of natural resources with "low-impact" economic activities. It is at the level of these activities that the state has tried to bring together its economic and environmental policies for the interior under a "sustainable development" banner.

Several major changes have been observed in the state's environmental conservation policy. First, the state organisations responsible for Indigenous affairs (FEPI) and forest management and conservation (AFLORAM and IPAAM) have been re-organised under a new banner, the State Secretariat for Sustainable Development (*Secretaria do Desenvolvimento Sustentável* or SDS).

The Amazonas Institute for Environmental Protection (*Instituto de Proteção Ambiental do Estado do Amazonas* or IPAAM) has actually existed since 1989, when its federal equivalent (IBAMA) was also created. However, it had undergone radical changes in recent years as it became an agency dependent on SDS and greatly grew in size to take over IBAMA's role in approving and monitoring forest management plans in the past two years. The other reason for its sudden growth is the expansion of the state's conservation unit network whose management it is responsible for.

In terms of environmental conservation policy, the main instrument – apart from controlling forest management and timber production – is that of conservation units (UCs). In the past few years, the network of conservation units in Amazonas has grown substantially, reaching a total of 31 conservation units in 2006, covering almost a third of the state's surface area. The creation of these units, representatives of IPAAM claim, is partly based on the concept of ecological corridors[74] of which there are four in Amazonas:

[72] *Igarapé*: stream or small river in the Amazon Basin.
[73] *Várzea*: seasonally flooded forest.
[74] An ecological corridor is a biological concept that can be defined as a strip of protected land that connects animal and plant populations together so as to avoid population fragmentation and its consequences (notably

1. The corridor that runs from the "Dog's Head" (the municipality of São Gabriel da Cachoeira) to the border with Roraima mostly includes indigenous territories and FLONAs or national forests;

2. The Negro-Japurá corridor, of which Jaú National Park and RDS Mamirauá are part, links the lower Rio Negro with the middle and upper Solimões through a series of national parks, ecological stations and RDSs;

3. The central Amazonian corridor is made up of three very large protected areas, namely the RDS Cujubim (the largest conservation unit in Amazonas) which is sandwiched between the Rio Biá and the Vale do Javari Indigenous Territories (the latter being the largest indigenous territory in Brazil); and

4. The southeast Amazonas corridor is the most recent one in the state and runs along the southern border with Pará, Mato Grosso and Rondônia as a strategy to halt the advancing deforestation front.

Figures III and IV show that policies concerning UCs have followed two historical trends in the past three decades: first, there has been at least a partial shift from federal to state UCs in the past decade, with the state catching up in the 2000s; and secondly, one can observe a move away from integral protection UCs in favour of sustainable use UCs.[75]

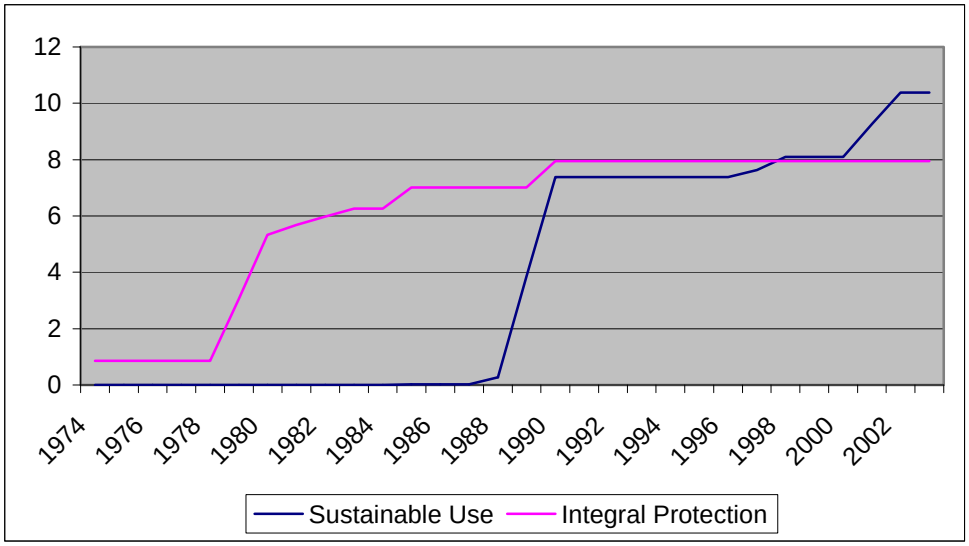

Figure XI. — Surface area covered by federal conservation units in Amazonas, 1974-2003 (based on data provided by Rolla & Ricardo 2004).

genetic drift and local extinctions). In terms of policy, the concept of corridor can be translated as a strip of contiguous protected areas (indigenous territories and conservation units).

[75] For a discussion on different categories of conservation units, please refer to the section on federal environmental conservation policies above.

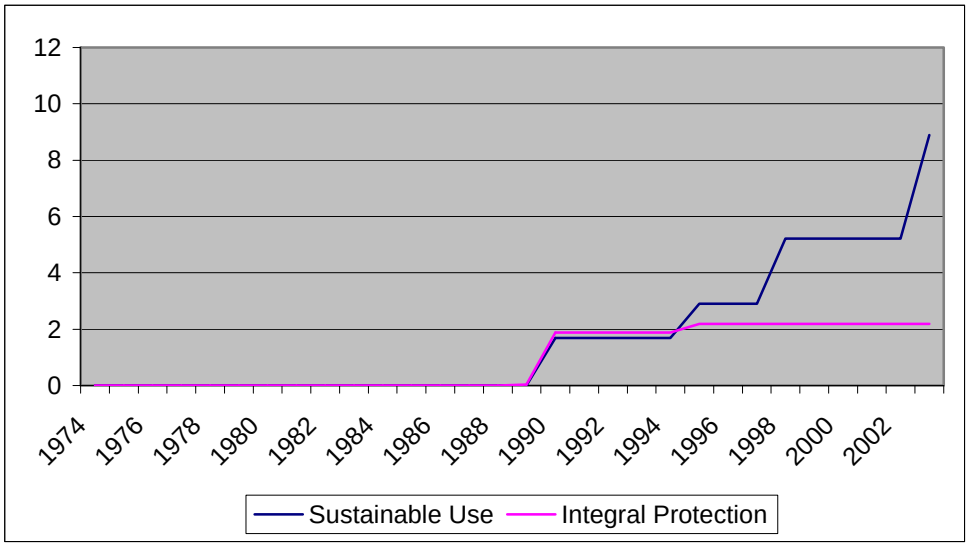

Figure XII. — Surface area covered by state conservation units in Amazonas, 1974-2003 (based on data provided by Rolla & Ricardo 2004).

In order to better understand these two trends, several examples of conservation units in Amazonas are described below: Jaú National Park, a federal integral protection UC created in 1980; the RDS Mamirauá, a state sustainable use UC created in 1990; and the RESEX do Médio Juruá, a federal sustainable use UC created in 1997. A brief comparison of these three cases is followed by an in-depth study of an example of one of the most recent waves of UC creation in Amazonas, that of RDS Cujubim.

4.3.4.1 Parque nacional do Jaú

Jaú National Park, created in 1980 and situated some 200 km north of Manaus on the Rio Negro, was among the first protected areas in the country. Given its dismal record in "development projects" in the Amazon, it might seem as a paradox that the military regime gave birth to Brazil's environmental conservation policy. However, between 1964 and 1985 (the length of the military regime), the Federal government created more protected areas (12 million hectares) than had ever been created before in the history of the country.

Following the "rediscovery" of the Amazon Basin with the RADAM project, the Federal government undertook a study of the biological conservation value of the Brazilian Amazon in 1976, with the help of American scientists. The salient point of this study was that it identified conservation priorities for the region, mostly based on the biological theory of refuges[76] which was very much in vogue at the time. The Jaú area was identified as one such historical refuge of "utmost conservation priority" (Fundação Vitória Amazônica 1998:20).

[76] The refuge theory suggests that at some point in history such as during the Pleistocene, the Amazon Basin (or any other part of the world) was fragmented by savannahs, leading to the reduction of forests to small pockets which acted as refuges for forest-dwelling species. In later periods when the climate warmed up again and water became more readily available, these refuges expanded in size and joined up together again to form the Amazon Basin we now have. The refuge theory is often used to explain the geographical patchiness of biodiversity whereby the existence of these historical refuges is supposed to explain the localisation of biodiversity "hotspots".

A couple of years later, Wetterberg & Jorge-Padua published a new study in which the development of a conservation policy was discussed. The authors mentioned a number of pragmatic criteria to take into account when creating conservation units, such as: (i) the absence of colonisation schemes and indigenous populations, (ii) the absence of commercially valuable mineral deposits, (iii) borders that would be easily delimitated and defended (*e.g.*, following waterways or division between river basins), and (iv) scenic beauty and potential for recreation as well as relatively easy access.

This whole concept of conservation units and particularly national parks very much reflected the model in existence in the United States, where vast expanses of aesthetically pleasing natural landscapes were set aside and where human activities were strictly restricted to tourism. Wetterberg himself, one of the scientists who played a major role in Brazilian conservation policies in the 1970s, was himself American.

Jaú fulfilled all these conditions, except that a scientific expedition in 1977 led by INPA (the National Institute for Amazonian Research or *Instituto nacional de pesquisa Amazônica*) pointed out that "there was nothing particularly exciting about the scenery, although the INPA team did mention the rare beauty of the landscape" (Fundação Vitória Amazônica 1998:22). However, the region was described as demographically empty, with no Indians, known gold deposits, development plans or national security issues, and only very rare claims of private property. As for the historical, cultural and anthropological value of the park, it was declared "inadequate". In 1980, therefore, Jaú was declared a national park by IBDF and only narrowly escaped being an ecological station (*estação ecológica*), one of the most "stringent" types of conservation units, thanks to decree no. 84.017 legalising the category of national park in 1979.

This decree described national parks as "goods which belong to the Union destined for common use by the people, and which under the responsibility of authorities are to be preserved and maintained untouched". Obviously, it also excluded the possibility of anybody living within this type of conservation unit, and at first, the park was declared void of people. It is not known whether IBDF knew or not that people actually lived there at first, but it was certainly aware of it by 1985 when it elaborated plans to expel the *ribeirinhos* who still lived within the park. Brazilian legislation already stipulated that the Union had to compensate anybody with a land title within a park, even those who could only prove *posse* rather than a fully-fledged ownership title. In 1988, therefore, IBDF (soon to be IBAMA) undertook the park's first socio-economic study and identified 98 families and 31 private property titles.

In 1990, the Fundação Vitória Amazônica (FVA), an *Amazonense* NGO, was founded in Manaus, named after an emblematic species of the Amazon, the large and impressive Victorian water lily (*Victoria regia*). From its inception, it focused on academic research in the Rio Negro region and within a couple of years zoomed on Jaú National Park as its main area of work. After quickly realising the lack of financial and human resources of IBAMA in the management of Jaú, it got IBAMA to sign a co-management agreement in 1993 over the park.

However, difficulties soon arose between the two organisations. Whilst IBAMA at first persisted in its plans on displacing the populations living within the park, FVA adopted a radically different approach, based on new principles such as inclusion of local populations and participation in decision-making. Given the greater financial means at FVA's disposal,

however, IBAMA accepted this position in the mid-1990s, although to this day, local populations continue to believe that the federal organ wants to expel them.

FVA applied the participation principle in the elaboration of the first management plan for Jaú but of course came across several difficulties. The most important one was getting concrete input from the local populations, (i) many of whom were illiterate or had very little education, (ii) had no political organisation or representation and (iii) were highly sceptical of FVA's intentions. However, over the decade of the 1990s FVA provided the population with courses on environmental education, rural extension and community organisation and the management plan finally saw the light in 1998 (Pinheiro 1999) and was listed two years alter as a World Heritage Site by UNESCO, thereby acknowledging the presence of both natural and cultural assets.

In fact, human occupation in the region goes back to at least a thousand years, as witnessed by the "Black Indian Lands" (Heckenberger 1997) which thanks to their high organic content are characteristic of the cyclical presence of humans across the centuries. The neighbouring town of Airão, founded in 1694, was the first Portuguese settlement on the Rio Negro but it was not until the 1880s that non-Indians settled in Jaú which became one of the main rubber producing zones in the Rio Negro.

Nowadays, the 115 families still residing in the park are categorised as "traditional populations" as a virtue of "their lifestyle and relationship with the natural environment" (Fundação Vitória Amazônica 1998:43). The extractivist means of subsistence of these populations has been said "not to cause any important alterations to the forest cover as the methods used to access resources are defined by low rates of visitation to explored areas, since the trails and paths are temporary and narrow" (ibid. 1998:44). None of the species recorded is locally endangered as a result of human activities, although some turtle species have been qualified as vulnerable given precedents in other parts of the Amazon Basin.

Since the SNUC Law (2000),[77] current legislation regarding national parks allows the existence of human populations "on a temporary basis" but does not set a deadline for their expulsion. FVA uses this "loophole" as a means of continuing to work with local populations and promoting environmental projects such as NTFP use and commercialisation and differential education in terms of environmental courses. This NGO also enjoys partnerships with IUCN, WWF and Conservation International, as well as INPA, the Federal University of Amazonas, and the National University of Brasília in terms of research, whilst receiving funding from the Moore and Ford Foundations. However, people around the park continue to view FVA as a conservationist organisation whose objective is to prevent economic development in the region, which has made dialogue outside the park particularly difficult.

Concerning the "problem" of local populations within Jaú National Park, the authorities managing the unit thus went through three stages. First, they claimed that nobody lived there (1978-1985). Then, they recognised the existence of local populations but sought to expel them from the park (1985-1992). Thirdly, they accepted the existence of people within the park and sought to include them in decision-making processes (1992-1998) and finally, with the inclusion of the park on the World Heritage List, the presence of human populations was actually celebrated as an asset for the park and their culture and history valued.

[77] The SNUC law, as well as the 1978 Decree on national parks stipulates that the land covered by national parks should be in the hands of the Union, but to this day the 1.7% of the park that is owned privately has still not been dispossessed, and the remaining 98.3% still belong to the state of Amazonas.

4.3.4.2 RESEX do Médio Juruá

The RESEX do Médio Juruá has a very different history given that since its inception in 1997, this conservation unit was aimed at preserving the "harmony" between local populations and their natural environment. Lying on the banks of the Juruá halfway between Cruzeiro do Sul and Manaus, this isolated region was affected by a very similar history to that of Acre around the turn of the century, when rubber prices boomed and Northeasterners settled in their thousands in the southwestern Brazilian Amazon to collect rubber for international markets.

However, as in most cases, by the 1990s rubber prices had fallen so low that the descendants of the *seringueiros* had come together in small settlements and primarily lived off a small amount of rubber production but mostly from other forest products, notably fish. At the same time, a few businesses from Carauari (the nearest town) and elsewhere logged timber in and around these *seringais*, many of which were supposedly owned by these very businesses.

Although the Médio Juruá region had not been submitted to the same political pressure that Acre went through in the 1970s with the arrival of *Paulista* cattle ranchers, the social makeup appeared to resemble that of the RESEXs of Chico Mendes and Alto Juruá upstream in Acre. The absence of *ribeirinho* rights to their land and their apparently submissive relationship with self-proclaimed landowners (*patrões*) who collected rent and produced timber from the forest was strongly reminiscent of the unfair system of aviamento that had ruled over those parts of the Amazon during the rubber boom. In order to put an end to this "injustice" as well as help conserve the environment the *ribeirinhos* lived in, there appeared to be only one solution – create a RESEX, just like in Acre.

Both the local MEB (*Movimento de educação de base* – see section on Acre for further details) and the CNS (*Conselho nacional de seringueiros*) thus submitted a demand for the creation of a RESEX within the municipality of Carauari on the grounds that it would provide local *ribeirinhos* with an official acknowledgment of their rights to the land they lived on, as well as contribute to the area's conservation by stopping *patrões* from logging within those same lands.

Pinton & Aubertin (1996:151) recall the schism that appeared around that time between (i) local people of the town of Carauari, some of whom had economic interests in the future RESEX but had little knowledge of the plans for the creation of the reserve, and (ii) IBAMA, Dutch NGOs and Brazilian and foreign researchers, all of whom had actively supported the creation of the RESEX. Despite these problems, the RESEX do Médio Juruá was created in 1997 by IBAMA with a population of approximately 700 distributed in 45 different communities.

As stipulated in the Law regulating RESEXs, entities representative of the local population are to sign the concession contract with IBAMA and receive the authorisation of use of the RESEX. In other words, an organisation representative of the local population needed to be created, which was no easy task given that until then "the sense of solidarity and capacity to mobilise was at an embryonic stage after generations of strongly individualised relations in submission to the *patrão*" (Pinton & Aubertin 1996:146). Chaves Gonçalves (2004:141) claims that the organisation created, the Association of Producers of Carauari (*Associação de produtores de Carauari* or ASPROC), was riddled with problems from its beginnings,

including members refusing to commercialise their products through the cooperative and questioned leadership.

Moreover, IBAMA and its branch specialised in the management of RESEXs, the National Centre for the Sustainable Development of Traditional Populations (*Centro nacional do desenvolvimento sustentável das populacões tradicionais* or CNPT) have been accused of inefficiency. Chaves Gonçalves (2004:142) mainly blames the fact that CNPT lacks independence from IBAMA and thus accumulates contradictory functions such as encouraging sustainable use of the forest whilst imposing strong environmental restrictions.

The problems inherent to both ASPROC and IBAMA/CNPT expressed themselves in the absence of zoning or management plans for the RESEX by 2004, and the projects implemented have only been met with mitigated success. One example is the project entitled "Vegetable Oils to generate energy and value biodiversity in isolated communities of the RESEX Médio Juruá", initiated by the Federal University of Amazonas in 1998.

The objectives of this project were not only to generate income for these isolated populations and to provide a means of valuing the natural environment, but also to generate electricity for these populations. However, the project generated more enthusiasm followed with disappointment than electricity. The price of the seeds and nuts collected to produce the oil remained extremely low (R$ 2.50 for 11 kg, *i.e.*, € 0.90) and the low levels of income produced became a hot debate when those who had not taken part received some of the money from the project. Finally, the electricity project never came to fruition and the vast majority of the inhabitants of the RESEX remain without electricity (Chaves Gonçalves 2004:155-159).

The brief description of this particular case-study demonstrates that in accordance with researchers such as Mary Alegretti, RESEXs appear to have retained a primarily social focus. Until 2004, only one specifically conservation-oriented project had been undertaken in the RESEX do Médio Juruá – that of turtle protection – and this only involved placing a guard on certain beaches during egg-laying seasons. The management of RESEXs by IBAMA and their classification under the SNUC system as a type of conservation unit – albeit of sustainable use – thus appears to contradict observations that clearly show that the creation of the RESEX do Médio Juruá mainly arose from a will to change to social networks operating in the area.

4.3.4.3 RDS Mamirauá

The Sustainable Development Reserve (*Reserva de Desenvolvimento Sustentável* or RDS) of Mamirauá was created again under very different circumstances. Situated in the triangle formed by the confluence of the Japurá and the Solimões, upstream from the town of Tefé, this RDS is mainly composed of várzea and igapó, both being different types of seasonally flooded forest. The proposal for its creation resulted from the aspirations of an emblematic Brazilian biologist, José Márcio Ayres, who studied Mamirauá in the 1980s for his PhD and has since died of cancer. The main criterion upheld for the creation of this conservation unit was that it was home to a population of endangered red-headed uacaris (*Cacajao calvus calvus*). In March 1990 it was turned into a state ecological station (*estação ecológica do Estado*), a category which prohibits the existence of human populations.

In 1993, Mamirauá was designated a Wetland of International Importance under the 1978 Ramsar Convention on wetlands and began attracting international attention. During the period that followed, intense political discussion on the incompatibility of the presence of human populations inside Mamirauá with its official status led to the creation of a new category of conservation unit in Brazil – that of Sustainable Development Reserve.

In 1996, Mamirauá thus became the country's first RDS, to be managed by the state agency IPAAM rather than IBAMA. Its aim was to "ally objectives of nature preservation with the improvement of the quality of life of its inhabitants" (Chaves Gonçalves 2004:85). The "mentor" of Mamirauá, Márcio Ayres, agreed with this principle and suggested the creation of a mosaic of different uses, where some areas would be of "sustainable use" whereas others would be preserved.

Once the RDS was created, an NGO was formed, *Sociedade Civil Mamirauá*, responsible for elaborating a management plan with a zoning project and which benefited from national and international funding (CNPq, Overseas Development Administration, Wildlife Conservation Society, WWF and the European Union). In the late 1990s the NGO was renamed "Institute of Sustainable Development of Mamirauá" (*Instituto de desenvolvimento sustentável de Mamirauá* or IDSM) which carried out a number of projects.

These projects include management of lakes so as to control fishing activities; sustainable forest management based on low-impact timber production; management of caiman populations with the objective of selling caiman meat on the Manaus market; and an ecotourism project which has flourished in recent years with the increase in tourism in Amazonas since the early 2000s. Moreover, to this day Mamirauá remains very popular among researchers who have carried out a wide array of studies on the ecology, politics, economic viability and sociology of the reserve.

Mamirauá is generally considered as a success story, which has without doubt greatly contributed to the growing popularity of the RDS as a category of conservation unit. It has also attracted much international attention, as witnessed by the number of donor organisations mentioned above. RDSs have been particularly popular with the government of Amazonas which succeeded in having it included in the SNUC law of 2000 as a separate type of "sustainable use" conservation unit.

What are the differences between these three cases and what seems to account for them? In the eyes of the law, very little differentiates RDS from RESEX apart from a subtle yet essential phrase: in the SNUC law, a RESEX is defined as being "of the public domain (…) given that the privately owned lands within its borders have to be dispossessed in accordance with existing legal dispositions" (Article 18, §1), whereas an RDS is said to be "of the public domain (…) given that privately owned lands within its borders have to be dispossessed, *when deemed necessary*, in accordance with existing legal dispositions" (Article 20, §2, emphasis added). In other words, dispossession of private lands is compulsory for RESEXs but not for RDSs.

In a comparison of the RDS Mamirauá with the RESEX do Médio Juruá, Chaves Gonçalves (2004) lists a number of criteria that could explain the theoretical difference between these two categories of conservation unit. These include natural environment (várzea in RDSs such as Mamirauá versus *terra firme* for RESEXs), history, land tenure, research and political

interests. However, none of these criteria seem to differentiate the two categories convincingly:

1. Both Mamirauá and the Médio Juruá in fact have both types of forest environment (várzea and terra firme);

2. The history of both sites certainly differs but the history of other RDSs (such as Cujubim, described below) is no more similar to that of Mamirauá than it is to the Médio Juruá;

3. Research has certainly played a major role in Mamirauá, but it has too in certain RESEXs such as Chico Mendes in Acre;

4. The land tenure system does not convincingly account for the difference between the two categories either since private lands in the RESEX do Médio Juruá have yet to be dispossessed;

5. Political interests appear to play an important role in differentiating RESEXs from RDSs since the state of Amazonas has been a major champion of the latter category, whereas RESEXs are primarily a federal conservation unit. However, the recent creation of a state-run RESEX (Catuá-Ipixuna) suggests that this criterion is not as clear-cut as some researchers claim it to be.

In the light of the case-study of Jaú National Park, these comments could actually be widened to other types of conservation units as well. In theory, "integral protection" conservation units are supposed to reflect a preservationist model which excludes direct human activities, whereas "sustainable use" units are supposed to be based on the idea that traditional populations can live in natural environments without harming them. However, in all three cases mentioned, there appears to be a considerable overlap – even between integral protection and sustainable use conservation units – in terms of the following elements: the political organisation of the inhabitants of the reserve, the objectives stated in management plans, the nature of the projects undertaken and the land tenure problems. In fact, the resemblances in these respects are so strong that one could question the need for having such a large number of different categories of conservation units.

The categorisation of conservation units as defined by the 2000 SNUC Law thus fails to account for the differences observed between the cases of Jaú, Médio Juruá and Mamirauá. Instead, it would be more appropriate to view these differences in terms of two other variables:

1. Time: a diachronic comparison of the objectives of Jaú National Park reveals much greater differences than does the comparison of different categories of conservation unit. The evolution of a "no-people policy" to a "participation policy" in Jaú actually suggests that conservation policies have shifted from a preservationist to a sustainable stance over the past three decades.

2. Policy networks: the examples provided above show that each case is unique as it reflects a delicate balance of social and ecological demands from different actors. No generalisations can thus be made, as the policies implemented in each conservation unit

depend more on the priorities set out by the specific network of actors involved in the unit than anything else.

4.3.4.4 A case-study of "sustainable development": the RDS Cujubim

The Cujubim Sustainable Development Reserve (or RDS Cujubim) occupies a staggering 2.4 million hectares (five sixths the size of Belgium), making it the largest conservation unit in Amazonas. Despite its size, the reserve is home to a mere 56 families, *i.e.*, approximately 290 people. In other words, the human population density is of 0.01, making it one of the areas with the lowest human densities on earth. The reserve is filled with endless expanses of dense uninterrupted forest and the odd meandering river that ensures a connection to the rest of the world.

Cujubim occupies the upper (southern) half of the basin of the river Jutaí in southwestern Amazonas. Unlike the other main rivers in the state which connect the Amazonas and Solimões to large towns, the Jutaí, which runs right through the reserve, goes "nowhere". Upstream of the reserve, where the Jutaí gets narrow enough to limit transport to small canoes, the famous Flecheiro Indians are said to live – one of the most famous uncontacted indigenous societies in Brazil who roam along the northern border of the Vale do Javari Indigenous Territory. In 2005, it was claimed that they attacked some *ribeirinhos* living nearby in Cujubim, killing an infant. A year later, the Kanamari Indians who also live in Vale do Javari denounced further attacks by the Flecheiros who remain at large to this day.

Downstream, on the other side of the reserve live the Katukina Indians in the Rio Biá Indigenous Territory (of which one of the four villages also remains uncontacted), and further downstream still lies the RESEX do Rio Jutaí. Cujubim, Rio Biá and Rio Jutaí are all part of the municipality of Jutaí, the state's fifth largest municipality in terms of surface area. The municipality covers the entirety of the river Jutaí, from its source in the Vale do Javari to its mouth on the Solimões, where the town of Jutaí lies. Together with the town of 7,700 inhabitants, the municipality is home to some 22,400 people scattered along the river Jutaí in 97 different villages and communities.

The inhabitants of Cujubim remain in extreme isolation and until 2006 lived in scattered houses sometimes several days away from each other. Despite being situated on the main artery of the state of Amazonas, transport to the town of Jutaí from Manaus remains infrequent as it lies 1,000 km away by river from the state's capital. From the town of Jutaí, it takes a further six days by canoe to reach the entrance to the reserve, at the confluence with the river Mutum. Most of the population lives 10 days or more from the mouth of the Jutaí, deep in the reserve. However, within a few days, they can also get to the town of Eirunepé which lies on the nearby Juruá, which is connected to the southern edge of the reserve thanks to a 36-hour trail.

The closest airstrips are in Eirunepé and Fonte Boa, some 12 hours downstream on the Solimões from the mouth of the Jutaí. The nearest schools and hospitals are in Eirunepé and Jutaí town, although the Rio Biá Indigenous Territory is equipped with a health post (3 days by canoe from the entrance to the reserve) and two of the villages a few hours upstream from Jutaí also have schools. Isolation is a central issue for the inhabitants of Cujubim reserve, because unlike indigenous societies who have lived independently in the forest as far as their collective memory can remember, these people descend from *seringueiros* who have always

perceived the forest as the "end of the world", despite having "chosen" it as a place to live. Communication with the outside world thus remains a social "lifeline", in spite of the fact that the inhabitants of Cujubim have learned to live off the forest rather than manufactured goods.

History. The history of this area remains an oral one. The river Jutaí totally escaped the waves of immigrants from the Nordeste who sailed up the Juruá, Purús and Madeira in the search for rubber in the late nineteenth century. In fact, for the first half of the twentieth century, the river Jutaí was still *terra incognita* and remained the land of "fierce Indian tribes". The Second World War put an abrupt end to this as the Federal government launched the *Batalha da Borracha* (Battle for Rubber) and hundreds of "soldiers", both male and female, settled along the river Jutaí for the first time.

Despite some skirmishes with Indians who later retreated, the arrival was mostly a peaceful one, but the migrants – many of whom came from Acre and other parts of Amazonas as well as the Northeast – found a largely inhospitable forest teaming with *pium*s.[78] At the height of the *Batalha da borracha*, it is estimated that some 500 to 600 families lived in the area covered today by the Cujubim. Several villages existed, such as Monte Verde on the Rio Mutum, and steamboats sailed upriver several times a week to deliver goods to the *barracões* and collect the rubber produced. Most of the area was the property of a man living in Manaus, Moises Israel, and managed by a single *patrão*, Benjamin Alfonso, whose family had also founded the town of Porto Alfonso, near Fonte Boa.

Once the war was over and rubber prices collapsed again, many seringueiros who populated the river Jutaí left almost as soon as they had arrived. They settled at the mouth of the river, on the Solimões, and founded the town of Jutaí which was to splinter off from Fonte Boa to form its own municipality in 1955 (Santa Luzia 2005:1).

However, many others stayed as different types of trade started alongside that of rubber, notably timber production and turtle eggs.[79] When Benjamin Alfonso died in the 1960s, his sons took over and were said to be particularly violent when seringueiros failed to produce their yearly 60 kg of rubber. In 1967, a seringueiro living by the river Mutum refused to produce his due and when the Alfonsos returned with the federal police, the seringueiros armed themselves with rifles and killed all the of policemen but two. This riot on the Jutaí is narrated in a book by the local priest, Padre Dionísio, called *The River that Weeps Blood* (*O Rio que Chora Sangue*). Following the riot, many more families left the Jutaí as the Alfonsos lost their monopoly, opening the river to a number of *regatões* or mobile merchants.

From then on, life in the upper Jutaí was set by the comings and goings of regatões who ensured contact with the outside world for the dwindling population of the area. By the 1990s, the ribeirinhos had all but abandoned rubber production, replacing their source of income instead with timber, vegetable oils, fish, turtle eggs and a little bushmeat. By the turn of the 21st century, there were some six regatões which each traded with some 10 to 15 families, so as to limit competition amongst themselves, and three timber traders. The latter usually brought their own labour force to cut trees but increasingly resorted to local labour to limit the number of comings and goings as IBAMA showed increasing concern for this unregulated trade.

[78] The pium (*Simulium amazonicum*) is a minute blood-sucking fly found in swarms throughout Cujubim reserve that can cause fevers unless the skin is covered to prevent multiple bites.

[79] Throughout Amazonas, turtle eggs have always been considered a delicacy, whether in town or in the country, and can fetch high prices in Manaus.

Both regatões and timber traders sold manufactured goods to ribeirinhos (such as candles, sugar, coffee, tobacco, salt, bullets and gunpowder for rifles, etc.) at very high prices, allegedly to cover the costs of carrying the goods over such great distances. On top of the regatões and timber traders, many small-scale gold prospectors arrived in the upper reaches of the Jutaí, Mutum and Bóia rivers in the 1990s with specially-made boats that dragged along river-beds to find the previous metal.

Trade with the interior of the municipality is what appears to run the economy of Jutaí town which ranks among the poorest in Amazonas. The municipality has little other income than what it extracts from the interior in terms of natural resources, although unofficially its economy is also propped up by drug trafficking as it lies on one of the country's main drug routes (which runs from Colombia and Peru along the Solimões). Like most other towns along the Solimões, the timber trade was thriving as logs extracted from surrounding forests were sent to sawmills in Manaus, but since most of these closed down recently due to more stringent regulations by IBAMA, income from this particular sector has dropped dramatically.

Jutaí is also said to rank first municipality in Brazil in terms of fish production, which is explained by the exceptional richness of the river in fish. Over half is exported to Colombia where some of it goes to the United States, the rest being sent to the states of São Paulo and Minas Gerais but also to Manaus. Jutaí also increasingly exports live ornamental fish, mostly to developed countries, especially the much-coveted arawana (*aruanã*, *Osteoglossum bicirrhosum*). Other types of production include acaí,[80] bushmeat and turtle eggs.

Towards the Creation of the Reserve. During that time, however, IBAMA and other environmental organisations were increasingly worried about the potential threats of logging, overfishing, and gold prospecting, at a time when calls were made to increase the protected area of the Brazilian Amazon. The Ministry of the Environment (MMA) first identified the area as a priority for conservation in 1996. During the Macapá meeting (state of Amapá) in 1999 to identify priority areas for conservation units in the Amazon, again the upper Jutaí was nominated as a potential protected area. Its ecological value was emphasised three years later at a meeting in Rio Branco, Acre, where WWF designated the area as being of "extreme importance" for conservation (Bensusan 2003:43).

In 2003, the Braga government took power in Manaus with the stated objective of greatly increasing the protected area of Amazonas, and within a few months, the upper Jutaí had been identified as a potential conservation unit. Within SDS and IPAAM, it was discussed whether the unit would be "integral protection" or "sustainable use". However, after the first expedition was carried out in July that year and it was discovered that people lived there, albeit in low densities, it was decided that the unit would be a sustainable development reserve, since there was little demand from anybody for it to become a RESEX.

The inhabitants of the area were informed that a reserve was going to be created to which they were not opposed. A public consultation meeting was also held in the town of Jutaí during which many voiced their discontent at the project, mainly because of the potential loss of natural resources as a source of income. Despite the opposition in Jutaí town, the upper Jutaí

[80] Açaí (*Euterpe precatoria*) is a palm fruit that is used to produce a highly energetic drink of the same name. Unknown outside the Amazon only a decade ago, demand in Brazil and beyond has soared in recent years.

was declared a protected area under the name "RDS Cujubim"[81] by Virgílio Viana, director of SDS, during his trip to the World Parks Congress held in Durban, South Africa. The reserve immediately gained in international fame partly thanks to its size, having a leaflet published about it in Portuguese and English (del Rio do Valle 2005) and its own website.

Box IX
The RESEX do Rio Jutaí

Cujubim is not the only sustainable use conservation unit in Jutaí. A year earlier, the RESEX do Rio Jutaí had been created on the eastern bank of the lower Jutaí, only a few hours away from the mouth of the river. However, the creation of this reserve was the result of over a decade of social mobilisation among local inhabitants against what they perceived as unfair and excessive use of the natural resources available in the area – notably timber and fish – by "outsiders" (townspeople).

With the help of the local *Movimento de educação de base* of the Catholic Church, people grouped up into communities and successfully carried out environmental projects such as fish management in natural lakes. Community leaders also attended courses on health care and leadership and received basic education. In 2000, IPAAM held a public consultation in Jutaí town over the possible creation of an RDS. However, the inhabitants of the future reserve voted overwhelmingly in favour of a RESEX to ensure that non-residents lost their legal rights to the area's natural resources, and two years later the category was approved by both the state and IBAMA.

Activities. The Cujubim reserve is managed by SDS, more specifically the State Secretariat for Extractivism (*Secretaria do Estado de Agro-extrativismo* or SEAE) with help from IPAAM. The North-American NGO Conservation International, through an agreement with the state of Amazonas, and the British Embassy in Brasília, provide the funding to this day for the projects carried out in the reserve. In order to ensure regular contact between the reserve and Manaus, an office of the RDS Cujubim Project was set up in Jutaí in 2003 with a staff of three. Half a dozen expeditions to the reserve have already been carried out (Carvalho 2005), bringing back information on the inhabitants' lifestyles as well as on the reserve's considerable biodiversity and potential sources of "sustainable" income such as rubber and vegetable oils.

As SDS began to focus on Cujubim, it found a large expanse of forest populated with a few dozen families scattered across the reserve, cut off from the rest of the world and living in dire poverty. The only means of communication were by boat, which required several days. Further expeditions carried out in 2004 to carry out censuses found that a staggering 84% of the population was completely illiterate and that a large majority were not even registered as Brazilian citizens. Given the low population size and their isolation, most of the families are linked to each other by kin and inbreeding is relatively common.

Many of them had in fact never been to town in their life – to Jutaí *or* Eirunepé. The population was also riddled with malaria which reached a prevalence of 90% in certain areas. As one interviewee at SDS put it, "we started from nothing". However, one thing that abounded was food, as the Jutaí is one of the richest rivers in fish in the entire Amazon. Along

[81] The cujubim (*Pipile cumanensis*) is a large ground bird found in the upper reaches of the Jutaí. Several RDSs in Amazonas have been named after emblematic animal species, such as the RDS Uacari on the Juruá.

with locally grown fruit, cassava and bushmeat, the diet of the inhabitants of Cujubim is said to be very healthy.

The staff at the RDS Cujubim Project in Jutaí has extensive experience with the management of the RESEX do Rio Jutaí which was created in 1997 following intense social mobilisation among the reserve's inhabitants against timber traders and fishermen from town. However, in the case of Cujubim, social organisation and mobilisation was just about non-existent: families lived several days away from each other and most of the contacts that went on in the area were with regatões and timber traders.

SDS and the Project, with financial help from Conservation International, carried out a series of expedition and consultations to collect information about the wishes and expectations of local inhabitants. The most important consultation to date was carried out in July 2005 when the entirety of the population of the reserve was brought to Jutaí town where they were given ID cards and an action plan was defined for managing the reserve (Carvalho & Junqueira 2005).

From this event and others, a number of priorities were identified for the management of the reserve: (i) provide the inhabitants with basic education and health care and (ii) end the trade with regatões. Two reasons were given for the second point: first, these activities were considered unsustainable since they were not regulated and a fall in fish stocks, for instance, had already been observed. Secondly, the relationship between regatões and ribeirinhos was described as one of swindling and even "domination" and "against human dignity". According to some allegations, regatões had been physically violent with some ribeirinhos. Just like the creation of a RESEX was a way for seringueiros to free themselves from oppression, so the creation of the RDS should enable ribeirinhos to put an end to the apparently archaic relationship they had with regatões.

SDS sought to meet these objectives with a number of measures. Concerning the first objective, the provision of public services such as schools and health posts could not be met, the municipality of Jutaí claimed, without the inhabitants grouping themselves up into communities. Between 2003 and 2006, therefore, with strong encouragements from SDS and the project in Jutaí town, four communities were formed. By 2006, only a minority of families officially still lived outside the four following villages:[82]

- Paraíso, a community of five houses, lying at the northern entrance to Cujubim on the river Jutaí so as to guard the reserve and prevent (or at least report) the entrance of regatões;

- Goiabal and São Raimundo, two settlements of nine and five houses respectively, only lie about 15 minutes from on another at the mouth of the river Curuena; they were originally planned to be a single village, but some inhabitants refused to settle on firm land, whereas others refused to move to várzea, hence the division into two communities;

- Pirarucú is the largest settlement with over 20 houses. Lying near the mouth of the Juruazinho, it is closer to the town of Eirunepé than it is to that of Jutaí.

[82] It is interesting to see that the community leaders claim that they chose the sites for the settlements, although the elderly point out that the locations and names actually come from *barracões* which were placed at the same strategic spots back during the *Batalha da Borracha*.

Both Pirarucú and Paraiso, as the two entrance gates to the reserve, were equipped with radios to communicate with the town of Jutaí. Since geographical proximity was not considered sufficient to form communities, the inhabitants were asked to elect community presidents, which was duly carried out. The denunciation by the president of Paraiso of a timber trader in 2006 and his subsequent arrest was hailed as a great advance by SDS and the Project. At last, it appeared that the community of Paraiso had finally mobilised against their "oppressive relationship" with regatões and used the reserve's new equipment to this means.

As for schools, they are currently under construction and are planned to open sometime in 2007, pending availability of teachers in the municipality who would be willing to live in the reserve. Projects to establish health posts remain more distant, but in the meantime every new expedition is accompanied by a nurse who carried out basic treatment, mostly concerning malaria.

Concerning ending the relationship with regatões, given that isolation prevents effective control of access to the reserve, SDS has instead tried to promote alternative economic relationships with the inhabitants of Cujubim. First, the ribeirinhos have been strongly encouraged to pick up rubber production again as members of SDS have promised economic viability of the product thanks to government subsidies. In 2006, rubber production "kits" (with a special tool to bleed the trees and cups to collect the rubber) were distributed to ribeirinhos. However, the industry has been particularly slow to pick up as all but the oldest inhabitants had never collected rubber in their life, and many estimated that its economic viability was dubious in any case. In the first half of 2006, only a few dozen kilograms of rubber were produced.

SDS members have also promoted other forest products as potential sources of income, such as copaiba and andiroba oils, breu, patauá, açaí and buriti as well as cipó titica[83] by providing courses with forest technicians (Zingra 2006:10-11). More recently still, the issue of low-impact timber production has been mentioned and its economic viability is currently under study. Ribeirinhos are most keen on harvesting timber as they are aware of the income that it could produce, but this activity is likely to remain a challenge as it requires complex skills that might be difficult to teach to a largely illiterate audience.

Secondly, SDS and the Project in Jutaí town have suggested that their own expeditions could replace the function of the regatão as a provider of manufactured goods and a customer for products extracted from the forest. Each expedition, of which there are about four a year, has already fulfilled this role by bringing goods to the inhabitants of Cujubim and going back to town with the few products that the ribeirinhos have provided them with.

Current challenges. All these initiatives have been met with a number of problems. The grouping up of ribeirinhos into communities did not go unchallenged, as some families were reluctant to leave their homes and were unused to living in groups. The concentration of inhabitants within a single place goes against the traditional mobility of many ribeirinhos who generally have two homes at any one time. During the dry season, many migrate to the várzea where the soil is more fertile and seek refuge on terra firme during the wet season when the

[83] Both copaiba (*Copaifera officinalis*) and andiroba (*Carapa guianensis*) oils are potent traditional medicines that are used as anti-inflammatory. Breu (*Protium icicariba*) resin is used as a medicine and in the construction of boats; patauá, açaí and buriti are all Amazonian forest fruit, and cipó titica (*Hetereopsis flexuosa*) is a fiber used in manufacturing furniture and baskets.

várzea is flooded. On top of this yearly cycle, many ribeirinhos move house every five or six years to prevent animals from going extinct in heavily hunted areas close to their homes.

Moreover, the choice of location of the four villages was based more on strategic elements (*e.g.*, guarding the entrances to the reserve) than on "traditional" variables such as soil fertility and low concentrations of pium and other insects. In Paraíso, for example, many complain that "nothing grows" and that "pium are the real winners in this community-building process". The social implications of living in a community also constitute a challenge as the legitimacy of the elected leader is often questioned and threats of breakaway communities have occasionally been mentioned. Despite these difficulties, however, by 2006 all four communities had been built and leaders elected, in the hope that public services such as education and healthcare will be forthcoming in the near future.

The reserve's extractivist activities promoted by SDS and the Project, however, have failed to produce any viable results so far. The expedition that visited the reserve in May 2006 found that only very few of the ribeirinhos who had asked for a rubber extraction kit had actually used them. The concentration of copaiba trees prevented any inhabitants from extracting any oil and the market for andiroba oil had yet to be located, despite the fact that SDS has an agreement with the cosmetics company Beraca for the purchase of products from Cujubim.

Two additional problems have mired SDS's and the Project's efforts in promoting economic viability in Cujubim. First, although timber trade with Cujubim has now ground to a halt, a handful of regatões still travel inside the reserve to buy fish and turtle eggs off the local inhabitants. When asked about regatão traffic inside the reserve, the ribeirinhos claim that regatões no longer come as far as the reserve and that all trade has stopped. However, direct observations have proven that they have carried on trading with regatões who travel to Paraíso and beyond up to a dozen times a year. It appears therefore that denunciations by inhabitants of the reserve are more an exception than the rule.

The other problem is that the expeditions organised by SDS and the Project are unable to compete with the frequency with which regatões are able to provide local inhabitants with manufactured goods and petrol. Many inhabitants openly complain that an expedition every three months is vastly insufficient to ensure a regular supply of the goods that these populations need.

In the face of these problems, many ribeirinhos remain hopeful that schools, and maybe healthcare, will one day be provided, but are sceptical as to the economic viability of the model that SDS and the Project are attempting to impose. Given the choice between trading with SDS expeditions versus regatões, many have only very rationally opted for a combination of the two whilst often retaining a discourse that strongly favours expeditions. However, they also express a certain lack of faith with members of expeditions by questioning the prices at which the goods are sold, some even suspecting that the expeditions are competing with regatões with the aim of making a profit on this newly found trade.

Interpretation. While some ribeirinhos have openly questioned the benefits of the creation of the Cujubim reserve, representatives of SDS and the Project claim that the problems faced are only due to the fact that the reserve is in its infancy and are confident that all ribeirinhos will eventually rally to their "cause".

In fact, the problems stem from a departure in the ribeirinhos' behaviour from the expectations that SDS and the Project had set. As was mentioned, two objectives had been set: (i) provision of public services (education and healthcare) through the organisation of communities, and (ii) the interruption of trade with regatões through the promotion of economic alternatives. The managing organisations of the reserve had hoped that these objectives would be met by basing their predictions on two assumptions:

1. Ribeirinhos want to preserve their "traditional" lifestyle in harmony with the forest from outside pressures;

2. Ribeirinhos are inherent conservationists and want to preserve their natural environment which also enables them to maintain their traditional lifestyle; and

3. In order to preserve both their environment and lifestyle, they are willing to group up in communities mobilise in a struggle against their apparently oppressive relationship with regatões and timber traders who not only swindle and dominate them but also exploit natural resources to extinction.

All three assumptions differ, however, from observations made among ribeirinhos in the Cujubim reserve. In fact, one of the ribeirinhos recalls that "when they first arrived, the people from Manaus [representatives of SDS] told us that regatões were swindling us, that everything we bought from them was very expensive and that we had to fight against it. They also added that with the reserve, everything would get better, but we can't live with just three or four expeditions a year".

It appears, therefore, that the managers of the reserve have tried to impose a specific blueprint of social relations or a "network model" in order to try to solve the problems encountered in the RDS Cujubim. The classic "Noble Savage" image has no doubt played a non-negligible part in creating a network model where ribeirinhos are perceived as "inherent conservationists" (an idea which has permeated the environmentalist and indigenist movements in Brazil and elsewhere), as suggested in the second assumption mentioned above.

More specifically, it is probable that the precedent of the RESEX do Rio Jutaí played a crucial role in creating this network model. Observations made on the RESEX seem to concur with the three assumptions made above, especially the third one: inhabitants of the RESEX did indeed mobilise against regatões, fishermen and other "outsiders" who exploited the natural resources in the area they lived in. When those who had worked with the social movement in the RESEX turned to RDS Cujubim, they probably found what appeared to be similar ecological and social contexts and quite justifiably decided to apply the blueprint they had developed with the RESEX.

However, due to the role that this network model has played in policies concerning Cujubim, a certain number of essential factors were ignored, notably the importance that regatões play in the social and economic life of the inhabitants of the reserve. Cujubim's managers also seem to have overlooked the hopes and expectations of the inhabitants themselves, as shown in Table II.

Interviewee	Expectations and Hopes
Local ribeirinho	I would like education for my children and too see our village grow in size.
Local ribeirinho	I would like to see the population of the reserve grow and see the region become what it used to be, with more people, more trade, healthcare, and easier access to town.
Local ribeirinho	None of these propositions [made by SDS] will work. I would like to see people develop agriculture so that we can have both food and income.
Local ribeirinho	My dream is that one day this village [one of the four in the reserve] will grow and will have drinking water, electricity, a hospital, primary and secondary schools, a football field and an airport.
Local ribeirinho	I want my children to have more knowledge and see the community grow in size. The more the merrier.
Local ribeirinho	I don't want to see things finish here. I want to be able to make enough for my family to eat, to stop people from coming here to threaten us, and I want to see us wealthier. Also, I would like to see my children learn to read and be educated.
Representative of the RDS Cujubim Project	My hope is that economic alternatives will be found based on forest resources, that lakes and beaches will be preserved, and that the forest will be protected against the "timber culture" promoted by regatões. There will always be problems but I hope it will work out and that everybody will be happy with the reserve.
Representative of SDS	Our aim is to see Cujubim's environment and natural resources preserved. I don't want to see the community grow – hopefully with some education most of the youth will emigrate to town, which will reduce human pressure on the reserve. The main objective is not production; this is an RDS. Economy is not a priority, biodiversity conservation is.

Table XIII. — Hopes and expectations from different stakeholders of the RDS Cujubim.

Clearly, hopes and expectations strongly differ between stakeholders. Whereas ribeirinhos emphasised social priorities (education and population growth), "outside" stakeholders focused on environmental objectives (notably forest protection). In brief, each problem that has been encountered in the management of the RDS Cujubim actually reflects a departure from the "network model" that both SDS and the Project had imposed on the inhabitants.

* * *

Together with the three other examples of conservation unit described here, the case of Cujubim thus clearly shows the existence of a "network model" that has not only been imposed on this particular RDS, but also to some extent to Mamirauá, Médio Juruá and Jaú. All four examples may show their particularities but also display much uniformity in the way they are managed and the nature of projects carried out, despite the fact that they theoretically fall into radically different categories of conservation units.

In terms of change, the legal picture shows that conservation policies have evolved from a small number of models to an array of different categories of conservation units, as witnessed by the 2000 SNUC law. However, diversity appears to be lower in synchronic comparisons than in diachronic ones, suggesting that change over time is the principal factor of differences observed between cases.

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