

Environmental Reforms in Brazilian Amazonia under Collor and Sarney

Explaining some contrasts

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ABSTRACT

This paper provides a discussion of environmental policies with special reference to Brazilian Amazonia in Brazil under the Sarney (1985-1989) and Collor (1990-92) governments. Three areas of contrast between the two governments are focused upon; indigenous policies, environmental surveillance and international positions on Amazonia. Different explanations of the contrasts are tentatively evaluated, including explanations focusing on external dependence and internal political and social conditions.

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1. INTRODUCTION

Environmental policies in Brazil attracted considerable publicity in the run-up to the Rio summit especially because of the global effects of deforestation in the country's share of Amazonia. There have been intense debates both over the real content of reforms as well as over factors determining the pace and range of reforms.

In this paper, I examine differences between the Sarney and Collor governments in three different policy areas relevant to the deforestation issue. These are indigenous policies, policies regarding international cooperation on Amazonia and environmental inspection policies; policy areas in which I argue that the Collor government implemented considerable changes. After this introduction, a discussion of the pace of deforestation and its ecological impacts follows. In section 3, I discuss the contrasts between the environmental policies of the Sarney and Collor regimes and the relationship between changes of policies and the deforestation problem. Four approaches suggesting variables for explanations of the contrasts between the two regimes are discussed in section 4.

2. DEFORESTATION: ITS ECOLOGICAL EFFECTS AND THE ROLE OF BRAZIL

The deforestation and degradation of the world's tropical moist forests¹ has attracted increasing attention during the 1980s. The main reason for this is the discovery of the global environmental functions of tropical moist forests that took place in this period. This new knowledge adds up to well-known local beneficial functions of forests like watershed protection and regulation of microclimate.

Though such forests cover only 7 percent of the earth's land area, they contain about one half of the 1,9 million named species in the entire world biota, as well as innumerable species yet unnamed (World Bank 1991:27). These species have a high potential economic value through their usefulness for pharmaceutical and other research. Thus, deforestation and forest degradation reduce genetic variation substantially.

¹ The World Bank defines tropical moist forests as: "Forests situated in areas receiving not less than 100 millimeters of rain in any month for two out of three years, with a mean annual temperature of 24^o C or higher; mostly low-lying, generally closed. Subdivided into tropical rain forest and tropical moist deciduous forest" (World Bank 1991:95).

Because of their high density of biomass tropical moist forests account for about 55 percent of the world's organic carbon (World Bank 1991:30). The clearance of tropical moist forests contributes significantly to atmospheric loadings of CO₂, accelerating the buildup of this most important "greenhouse" gas. The UN Intergovernmental Panel on Climate Change (IPCC) estimates the average contribution of deforestation to annual loadings of CO₂ in the atmosphere in the period 1980-89 to be between 9 and 47 percent of average emissions from the combustion of fossil fuels in 1989 and 1990 (IPCC 1992:31).

The clearance of moist tropical forests is the most important source of anthropogenic carbon emissions from third world countries, substantially higher than emissions from energy use (Worldwatch Institute 1990:21). Though being a highly industrialized region in a Third World context, this is true also for Latin America mainly due to rampant deforestation in the Amazon basin and the Central American jungles. In Peru, Ecuador, Colombia, several countries in Central America and Brazil, emissions from deforestation are much higher than emissions from the combustion of fossil fuels in industry and transport (World Resources Institute 1992:346-348, table 24.1, 24.2). Both in Venezuela and Mexico emissions from deforestation take a lower, but still very substantial share of total emissions (World Resources Institute 1992:346-348, table 24.1, 24.2). Latin America is a key region when global deforestation is focused upon. The region contained nearly 49 percent of the world's remaining tropical forests in 1990, most of it concentrated in the Amazon basin (FAO 1991:2). Latin America has experienced the highest absolute deforestation rates of any region during the 1980s, a fact which emerges from Table 1:

TABLE 1: FAO estimates of area of tropical forests depleted annually 1981-1990²

REGION/SUBREGION	AREA DEFORESTED ANNUALLY (1000s of hectares)	RATE OF CHANGE ANNUALLY (%)
LATIN AMERICA	8400	0,9
Central America & Mexico	1400	1,8
Caribbean	200	
Tropical South America	6800	0,8
ASIA	3500	1,2
AFRICA	5100	0,8
TOTAL	17000	1,2

Source: FAO 1991:1, table 1.

²See FAO 1991:2, table 1.

These rates may be considered as a proxy to Latin America's contribution to losses of biodiversity and emissions of "greenhouse gases" related to biomass reduction and emphasize the international role of Latin America as Asian and African deforestation rates include a much larger share of open and dry forests than Latin America.

Brazilian Amazonia is the largest area of tropical closed forests in the world, taking about 35 percent of the global total (World Bank 1991:86). Different observers seem to agree on the point that deforestation rates in the region accelerated during the 1980s and climaxed in the dry seasons of 1987 and 1988. Since then, rates have decreased. Differences in methodology have led to huge differences in estimates. Especially the use of data from satellites detecting forest fires has caused exaggerations of estimates (Fearnside 1992:3-6). Recent estimates based on pictures from different years taken by NASA's LANDSAT satellites have led to these estimates :

TABLE 2: Fearnside et. al.'s estimates of deforestation rates in Legal Amazonia 1978-1990

In *thousands of km²* - flooding of forest by hydroelectric dams excluded.

Political unit	Deforestation Rate			
	1978-88	1978-89	1988-1989	1989-1990
Acre	0,6	0,6	0,6	0,6
Amapá	0,1	0,1	0,2	0,3
Amazonas	1,6	1,5	1,3	0,5
Maranhão	2,7	2,4	1,4	1,1
Mato Grosso	5,1	5,1	6,0	4,0
Pará	7,3	7,0	5,8	4,9
Rondônia	2,3	2,3	1,4	1,7
Roraima	0,2	0,3	0,7	0,2
<u>Tocant/Goias</u>	<u>1,7</u>	<u>1,7</u>	<u>0,7</u>	<u>0,6</u>
<u>Legal Amazon</u>	<u>21,6</u>	<u>21,1</u>	<u>18,1</u>	<u>13,8</u>
Flooded by hydroelectric dams	0,4	0,4	1,0	0,0
<u>Total</u>	<u>22,0</u>	<u>21,5</u>	<u>19,0</u>	<u>13,8</u>

Source: Fearnside 1992:2, table 1.

According to Fearnside's most recent estimates, Legal Amazonia contained about 3,864 million km² of forest in 1990 (Fearnside 1992:2, table 1). This implies that 415.200 km² or 9,7 percent of the original forest area of

Amazonia had been depleted in the period before August 1990 (Fearnside 1992:2 table 1).

These estimates are substantially higher than the Brazilian Space Agency INPE's 1988 estimate which suggested that only 215.000 square km or 5,12 percent of the entire area of Legal Amazonia had been deforested. INPE's recent estimates for this period are very close to Fearnside's (INPE 1992). Fearnside's estimate in table 2 is lower than Dennis Mahar's World Bank estimate from 1988 which concluded that 598.921 square km of forest had been removed before this year. Mahar's study was flawed by extrapolation of rates from the early 1980s and a lack of a clear distinction between forests and *cerrado* savannas (Fearnside 1990:215).³

Other high estimates presented by World Resources Institute in 1990 (World Resources Institute 1990:348-349, table 24.2) and Norman Myers in 1991 (Myers 1991:7-11) are flawed by the methodological problems connected to the use of fire detection data as indicators of the extent of deforestation. It is important to be aware that all important sources share the view that deforestation rates have declined since the late 1980s.

Future estimates will hopefully be more accurate after the launching of 4 Brazilian satellites especially designed for the surveillance of natural resources in February 1992.

3. SARNEY AND COLLOR: THREE CONTRASTS IN POLICIES RELEVANT TO AMAZONIA

The decline of deforestation from the peak years of 1987 and 1988 has been the object of much discussion. On the one extreme we have the former secretary of the environment José Lutzenberger who in a mix of biased interpretations of deforestation estimates and very positive accounts of government policies gives political changes under Collor the main share of the explanation of this change.⁴ On the other hand, several experts ascribe the decline of deforestation chiefly to lack of investment funds for ranching in the wake of the economic depression after 1990.

Our task is to explain some important contrasts between policies *related* to deforestation in Amazonia under the two presidents rather than addressing

³The INPE study was launched by the Sarney government as a reaction to Mahar's estimates. The percentage emerging from the INPE study was flawed by a confusing methodology, estimating deforestation as a percentage of the total size of Brazilian Amazonia and not as a percentage of originally *forested* Amazonia. The political circumstances around this study also seem to have influenced the scientific process (Anderson 1990:20). This caused attacks from the Brazilian scientific community and public opinion. See Antônio 1989, *Jornal do Brasil*, 8. April 1989:7.

⁴*Gazeta Mercantil*, 7. January 1992:15.

the difficult task of estimating the *exact contribution* of political changes to variations in deforestation. Therefore, in this paper the only "deforestation-criterion" for the selection of policy changes for examination is that they can be assumed to be *relevant* to Amazonian deforestation.

I will describe changes in three policy-areas related to the effort to reduce deforestation: changes in *environmental surveillance and inspection*, changes in *indigenous policies* and changes in Brazil's *positions on international cooperation* to address the problem of deforestation in Amazonia.

Environmental surveillance of Amazonia to implement federal laws prohibiting deforestation was introduced by president Sarney in 1989. This policy implied an increase of federal presence in Amazonia. Under Collor, these efforts were increased substantially through what has been known as "Operation Amazonia". Field personnel and journalists reported a substantial increase of IBAMA inspection in Amazonia in the dry season of 1990 compared to the year before (Margolis 1992:308). The amount of fines distributed increased and routines for their collection were considerably improved.⁵ Politicians from Amazonia speaking on behalf of economic interests punished by IBAMA in 1990 and 1991 complained about the change.⁶ According to IBAMA sources, the body was able to detect and punish trespassers of prohibitions of deforestation at an area of 96.305 hectares in the dry season before October 30, 1991.⁷ This was just below 9 percent of estimated deforested area this year according to INPE, a number which strengthens the assumption that "Operation Amazonia" had a substantial demonstration effect in many areas. This was implemented even though Collor's economic austerity programme had a negative impact on the general capacity of IBAMA and that the body had problems with its organization and organizational culture.⁸ The important point is, however, that differences in implementation capacity not seem to explain the increases of IBAMA activity in Amazonia. Rather, this change should be classified as a change in political priorities.

In indigenous policies, there is a substantial difference between the willingness of the Sarney and Collor governments to support the native inhabitants of the forests. This is most pronounced in decisions regarding

⁵Interview with former IBAMA leader Tania Munhoz November 1990.

⁶Jarbas Passarinho, senator from Pará, concluded in interview that there had been a change and that the implementation of rules became stiffer from 1990. See also the discussion later on in this paper regarding the opposition against "Operation Amazonia".

⁷Sources at IBAMA.

⁸One should have in mind that financial obstacles in 1992 became a serious threat to Operation Amazonia as funding for air surveillance dried out. See *Correio Braziliense* 24. May 1992:18. In an interview on the TV channel "TV-Pará" (Belém) in November 1992, the head of the Pará branch of IBAMA Reginaldo Anaisse complained that funding for air surveillance had decreased to a very low level.

the huge Yanomani territory in Roraima. Sarney's response to the influx of miners poisoning the forest ecosystem and its native inhabitants in 1989 was to break the territory up in 19 pieces and facilitate further migration. This decision was reversed under Collor. In November 1991, he recognized the entire reservation. Even though efforts to demarcate the territory proceeded very slowly in 1992, the contrast between the two governments is substantial.

The third important area of contrasts addressed in this paper is the change of Brazil's positions on international cooperation in controlling deforestation in Amazonia. Sarney's position was widely known as defensive and nationalist, in spite of reforms in other areas. The following statement from the Minister of the Interior, João Alves and IBAMA's first president, Fernando Mesquita, during a visit to Amazonia is typical for the Sarney government's position (my translation from Portuguese): "(-) the Brazilians do not permit the improper interference of strangers in the preservation of the ecology of Amazonia and consider this as an offense to our sovereignty."⁹ Collor's position in this field was a profound contrast from the outset. In his inaugural speech, only the economic liberalization programme received priority over ecological questions (Cleary 1991:117). The change of positions under Collor is demonstrated by the following statement by Ambassador Marcos Castrioto de Azambuja, secretary-general for foreign policy, in December 1990 (Brazil 1991:9): "It is precisely because these are also concerns of the Brazilian society and of Brazil's Government that we understand that the international community has a right to be concerned by the violation of human rights and by the damage done to the environment wherever they may occur. In dealing with these and other issues, Brazil *no longer* [my Italic] resorts to allegations of sovereignty to deflect criticism. Instead, it shoulders its responsibilities, conscious that its actions have repercussions for the whole planet."

4. SOME VARIABLES CONTRIBUTING TO AN EXPLANATION OF REFORMS

After the outline of these contrasts between the Collor and Sarney governments, they are discussed in the light of four commonly used approaches to the explanation of barriers and driving factors behind environmental reforms. This discussion is carried out by evaluating the explanatory power of different independent variables suggested under each approach.

In the following, two approaches focusing on the effects of external actors and structures (approach 4.1 and 4.2) and two approaches focusing on actors

⁹"Exército não permita ingerencia na Amazônia", *Correio Braziliense* 10. February 1989:9.

in the Brazilian bureaucracy and the Brazilian civil society (approach 4.3 and 4.4) are outlined.

4.1 The dependence approach

The dependence approach focuses on the economic constraints on Third World states emanating from a global economic order designed to the advantage of the industrialized countries. According to this approach, because of mechanisms like unfair terms of trade and unfair debt regimes the state has to abandon all environmental considerations and focus on the maximization of export income.

A popular hypothesis is that balance of payments constraints imply that products from forest areas must be extracted at maximum speed and without considering the environmental consequences of activities (Wood 1990, Agarwal & Narain 1991). Guimarães formulates the logic of this situation (Guimarães 1991:124): "The financial resources needed for (..) development must be paid back, which in turn creates a need to earn dollars, which means more exports, which means intensified exploration of already overexploited resources".

If we take a look at the three mentioned political changes in question and start with the increase of environmental surveillance, this reform does not seem to have threatened exports. Most illegal deforestation has been the burning of forest for the extension of pasture. However, the contribution of beef exports from Amazonia to exports has been negligible as the productivity of the huge investments in this business has been very low.

For indigenous policies, the fact that the Yanomani reservation contains mineral resources makes decisions in this area relevant to the balance of payments constraint. However, there were no substantial changes neither in estimates of the value of these resources nor in the balance of payments restriction between the Sarney and the Collor government.¹⁰ Thus, the balance of payments constraint as a motive for unrestricted exploitation was constant for the two governments. Consequently, the change of policies under Collor seems to be more adequately explained as a change of priorities than by pointing to variations in this constraint.

The change of Brazil's positions on international cooperation in Amazonia does not seem to have any direct connection with the balance of payments constraint as this is principally a change of attitude. However, at a deeper level, the increases of linkages between Brazil's environmental policies under Sarney and issues relevant to the external crisis like the debt regime, foreign investments and access to World Bank financing and northern markets may suggest a different relationship between reforms and balance

¹⁰In fact, the current account balance deteriorated from a surplus of about 4 billions USD in 1988 to a deficit of about 3 billions USD in 1990 and 1991, see World Bank 1993:42.

of payments constraints than our initial hypothesis. Changes towards the end of the 1980s connected several export- and investment-related issues to an improvement of environmental policies and a more cooperative stance regarding Amazonia.

These potential restrictions on the balance of payments also had potentially alleviating effects as foreign financing of environmental reforms became available. After Collor's takeover in 1990, both the World Bank and the G-7 countries have funded environmental reform plans with special attention to Amazonia. After the government announced a less hostile attitude to "debt-for-environment-swaps" in June 1990, this debt-reducing opportunity has been included in the agreement on aid with the G-7.¹¹

These examples illustrate that the balance of payment constraint had contradictory effects on policies. Generally, the export losses produced by the mentioned political reforms seem much lower than the potential export losses caused by international sanctions against Brazil that could be triggered by a denial to implement reforms and change international positions. An essential point is that foreign funding for the Brazilian environmental sector may be seen as a positive sanction, opening the way both for reforms and alleviation of balance of payments constraints.

4.2 The international political pressure approach

The external pressure on the Brazilian state regarding environmental reforms has come from two principal categories of actors in the international system, international organizations like the World Bank, the G-7, and individual countries, principally the US.

The decision to make tropical forests the top issue made by US NGOs in the early 1980s has been decisive for the intensity and shape of external pressure. These NGOs focused their criticism on World Bank projects with large forest impact like the POLONOROESTE migration project in Rondônia or the Carajás mining project. Due to this pressure, the World Bank went a long way to force the Brazilian government to obey the green clauses in the loan agreements. A climax of NGO pressure on the World Bank came with the negotiations over an energy investment plan for Brazil comprising a series of large dams in Amazonia, the so-called PLANO 2010. The World Bank gave in to the pressure, and in 1989 any decision on the Power Sector II plan was postponed indefinitely. Early in 1989, World Bank statements that funding for Amazonian development was to be transferred to poorer countries were published alongside news on other external pressure on the Sarney government, clearly demonstrating the growth of linkages between

¹¹*Gazeta Mercantil*, 11. June 1990:2.

the environment and issues essential for growth and investment in Brazil.¹²

The pressure from NGOs also provoked bilateral pressure from Brazil's main trading partners and investors. US politicians like senator Al Gore tried to link environmental reforms in Amazonia to a more liberal debt regime and the inflow of fresh investments in the Brazilian economy.¹³

Together, various sources of pressure contributed to raise the Amazonian issue on the agenda of the Brazilian government. The "Nossa Natureza" environmental plan for Amazonia was introduced in October 1988, after one year of rapidly increasing international pressure. Advice from the working groups under this plan were published in the spring 1989 and contained many important reforms like the establishment of IBAMA and the temporary abandonment of fiscal incentives for ranching and annual crops.

However, as we have seen, there was no corresponding response in Brazil's international positions. Sarney's reluctance to change Brazil's position on Amazonia towards a more cooperative attitude had strong links to other conflicts especially with the US. The US-Brazilian relationship was already characterized by increasing hostility. Disputes on the protection of the Brazilian computer market and the debt regime were important points of friction (Hurrell 1992:407, Bandeira 1989:192-93). To the extent that US pressure was perceived as a crucial element both in the redirection of World Bank policies and more general international pressure, these points of friction seem to have decelerated reforms of Brazil's international positions under Sarney.

External pressure had more far-reaching implications for Collor as one of his main political goals was the improvement of relations to the North, and especially the US, to facilitate his project of economic modernization through liberalization (Hurrell 1992:417). The change of international positions on cooperation in Amazonia was a rapid success measured by general external pressure on the Brazilian government. From its high level under Sarney, external pressure "almost ceased" already in the middle of 1990.¹⁴

Indigenous policies in Amazonia attracted much pressure. This was especially focused on the conflict between miners and the Yanomani tribe in the Yanomani reservation in Roraima that involved both environmental and indigenous problems. Sarney resisted strong international pressure and a decision from the federal court and divided the territory into 19 areas,

¹²*O Globo*, 31. March 1989:7.

¹³"Visita influi na divida", *Correio Braziliense*, 18. January 1989:12.

¹⁴Interview with Minister Luiz Filipe Macedo Soares, Ministry of External Relations, November 1992.

ensuring the free entrance of miners. Collor changed this decision after some hesitation and passed the whole territory over to the Yanomani in November 1991.¹⁵ This contrast in outcome between Sarney and Collor seems difficult to explain only by pointing to variations in external pressure, which rather decreased than increased between 1989 and 1991. The mentioned differences in political programme as well as differences in the regime's relations to the military and economic interests discussed below seem to be crucial to understand the effects of external pressure.

To summarize, like the dependency approach, external pressure as an explanation of the contrast between policies under Sarney and Collor seems to be dependent on internal intermediate variables. While external pressure clearly put the environment on Sarney's agenda, its leverage seems to have been limited by the hostile relationship to the US. Thus, areas like international positions and indigenous policies remained unchanged. Under Collor, there were important political reforms in both these areas without substantial changes in the intensity of external pressure. Strong contrasts between the political programs of the two governments and differences in the access of military elites and business groups to decision-making seem to be other important intermediate variables of an essentially internal character.

4.3 The bureaucracy-centered approach: technocrats and officers against SEMA, IBAMA and SEMAM

There is an extensive literature addressing the role of the Brazilian bureaucracy in recent development efforts in Amazonia (Allen 1989, Hecht & Cockburn 1989). The thoughts of the grey eminence behind the military governments, general Golbery do Couto e Silva, provide a set of basic geopolitically inspired arguments and plans for the settlement of Amazonia (Allen 1989). This ideological commitment inspired the creation of SUDAM in 1966, a body responsible for the economic development of Amazonia mainly through its administration of fiscal incentives for ranching, agriculture and industry. During the 1980s, the capacity and legitimacy of SUDAM was undermined as funding for subsidies distributed by this body dried out and criticism against a very liberal policy of subsidy approval soared (Yokomizo & Gasquez 1986). This implied that demands for reforms increased in a period marked by great difficulties for SUDAM.

A more important bureaucratic organization influencing environmental policies during the Sarney government was the inheritor of the National Security Council, the Secretariat for the Assessment of National Defense (SADEN/PR). General Rubens Bayma Denys was leader of SADEN/PR as well as Secretary of State under the Sarney government. Denys and

¹⁵For descriptions and analyses of the Yanomani-issue under Sarney and Collor, see Monbiot 1991:95-102 or Margolis 1992:317-318.

SADEN/PR were responsible for the Calha Norte programme which was implemented to increase the presence of military and civilian authorities in Brazil's northern border regions. Denys was also the top coordinator of "Nossa Natureza". As we have seen, one of the weaknesses of this programme was the failure to address the indigenous problem adequately. The Yanomani territory was perceived as a security risk and consequently the military supported the miners that invaded the reservation.¹⁶ Also for Brazil's international position, the military expressed much resistance to the idea of including Amazonia in international agreements in fear of giving away sovereignty over the region. In the Collor government, the military ministers were main opponents of reforming policies in Amazonia.¹⁷ ADESG, a diplomatic affiliation of the war college ESG joined in the campaign against environmental reforms with their support to the campaign against the "internationalization of Amazonia" in 1991.¹⁸ So did also the military institutions *Escola de Comando e Estado Maior do Exército* (ECEME) and *Centro Brasileiro de Estudos Estratégicos* (CEBRES) by hosting a seminar on the external threat to Amazonia in October 1991 in which high-ranking officers as well as regional politicians as Gilberto Mestrinho and Atila Lins participated.¹⁹

Equally important, Couto e Silva's geopolitical orientation may have penetrated the Brazilian bureaucracy in a more general way as lots of technocrats and government advisers have participated in ESG's courses in "politics and strategy".²⁰

The military's political influence on environmental policy-making decreased considerably under Collor. In the first place, the centrality of SADEN/PR (under Collor: SAE/PR) in the coordination of policies decreased. Environmental policies were instead taken more directly into governmental discussions, where proponents of reforms as Lutzenberger and Goldemberg were able to influence Collor often at the expense of the military ministers.²¹ The waning influence of the military on government decisions is also indicated by the military's participation in media campaigns against reforms of international positions and indigenous policies in this period. Several statements by military leaders were shaped as protests against the government indicating the alienation of these interests in the Collor government.

¹⁶"Forças Armadas rejeitam Estado Ianomami", *Correio Braziliense*, 14. July 1991:8, "Mestrinho diz que faria guerra pela região", *Folha de São Paulo*, 25. July 1991:A-12.

¹⁷Information given in interview with former Secretary of the Environment, José Goldemberg November 1992.

¹⁸*Folha de São Paulo*, 25. July 1991:A-12.

¹⁹*O Globo*, 14. October 1991:7.

²⁰*Folha de São Paulo*, 25. July 1991: A-12.

²¹Information given in interview with Goldemberg, November 1992.

Before 1989 only the small federal environmental agency SEMA played any role as an environmental opposition to the bureaucratic coalition of the military and technocratic bodies. According to Guimarães (1991), it seems very difficult to trace any direct influence on the use of a natural resource like forests as SEMA seems to have worked mostly with narrow issues like urban pollution. Viola (1992) stresses that SEMA increased its efficiency under the dynamic leadership of Messias Franco 1986-88. In this period, SEMA raised the environmental issue internally in the state apparatus and promoted both internal cooperation and cooperation with the scientific community. However, this impulse should not be overestimated. Though acting more dynamically, SEMA was still quite inefficient due to its peripheral position inside the state apparatus, organizational deficiencies and the Sarney administration's ambiguous attitude to environmental questions (Viola 1992:9).

When it came to the definition of the Brazilian positions in environmental negotiations, the Ministry of External Relations (Itamaraty) seems to have been an important barrier to reforms. In the Brazilian bureaucracy, this ministry is associated with a general outlook quite similar to the geopolitical outlook of the military.²² Though Brazil's positions were defined in groups including NGO representatives, Itamaraty's interpretation of the mandate given by these groups seems to have been in favor of more defensive positions. Goldemberg, who participated in the groups that defined Brazil's international positions in the preparations for the UNCED conference describes the ministry's role in the negotiations like this: "(..) Itamaraty was always defensive and at one point they were ordered to follow instructions on the Climate Convention and take less confrontational attitudes to the industrialized countries."²³

The institutional newcomers IBAMA (1989) and SEMAM (1990) undoubtedly increased the importance of environmental issues in the bureaucracy. For Amazonia, the new law of SUDAM incentives in 1991 implied that IBAMA and SEMAM had to approve projects supported by SUDAM before implementation. The establishment of SEMAM also implied that environmental questions for the first time were raised to the level of government. This involved for example the participation of SEMAM as a voice of environmental concerns on line with other secretariats and ministries in the working group on the agro-ecological zoning of Amazonia established by Collor in 1990.

On the other hand, reforms seem to have rested very much on the personal initiative of government members and not on the environmental bureaucracy.²⁴ It is difficult to see any signs of SEMAM or IBAMA becoming

²²See for example Miyamoto 1989.

²³Personal communication with Goldemberg January 1993.

²⁴The decision to recognize the whole Yanomani reservation seems to have been strongly influenced by the personal engagement of Lutzenberger.

bureaucratic segments of high importance for general coordination and the introduction of new issues in environmental policies in this period. The federal deputy Fabio Feldman pointed to the failure to construct a strong and adequate environmental bureaucracy making these questions less vulnerable to political conjunctures as one of the most far-reaching failures of the Collor government.²⁵

To summarize, the influence of the military segment over environmental policies seems to be quite important in the explanation of differences in environmental policies between Sarney and Collor. The influence of the military on environmental policies decreased under Collor, facilitating less defensive international positions and a more reform-minded stance in indigenous policies. On the other hand, reforms do not seem to have been a consequence of a major increase of the strength of the environmental bureaucracy. Rather, the change of indigenous policies and international positions seems to have been a consequence of initiatives from persons within the government. Thus, the decline of military power in decision-making facilitated reforms, but was also followed by military protests against reforms in the media. On the other hand, the establishment of IBAMA and SEMAM did not imply a strengthening of bureaucratic pressure corresponding to the decline of military influence. Rather, reforms were consequences of initiatives on government level.

4.4 Societal impacts: Professional NGOs against regional interests

While environmental protests were perceived as subversive by the military governments and confined to scattered explosions in urban polluted areas, the democratization of Brazil seems to have facilitated a rapid increase of new and professional NGOs critical to the government. Important NGOs created after the democratization have been the São Paulo based *SOS Mata Atlantica* and the Brasília based *FUNATURA*.

Also the business community has responded, most importantly through a new organization called the *Brazilian Foundation for Sustainable Development* established in 1991. This new business NGO organizes large companies like Petrobrás, Aracruz, Jari, Shell and Varig, trying to change their policies in a green direction and differ significantly in outlook from the smaller business interests in ranching and logging in Amazonia which seem to resist reforms at any cost.

A third source of civil society drives for reforms has been the "green congressional block" established by the *paulista* deputy Fabio Feldman in 1987 (PSDB). This block managed to include several environmental clauses in the 1988 constitution.

²⁵Interview with Fabio Feldman, federal deputy from São Paulo for PSDB, November 1991.

There is, however, scant evidence that these civil society organizations had any major impact on reforms under Collor. With Collor's austerity program, their financial basis was undermined as several NGOs were dependent on various kinds of government funding. Such funding seems to have been more generous under Sarney.²⁶ Lutzenberger's eccentric mode of governing the environmental sector seems to have contributed to the lack of NGO influence. According to Fabio Feldman, the Secretary of Science and Technology and later Minister of Education José Goldemberg was a much more useful channel of NGO influence regarding environmental policies than Lutzenberger.

When it comes to societal actors resisting environmental reforms, the differences in the influence of these seems much more able to explain differences in the range and pace of reforms under Sarney and Collor than differences in NGO influence. Most prominent among these actors were networks of regional economic and political interests based in forest-rich states both inside and outside Amazonia.

These interests were well integrated in environmental decision-making under Sarney as politicians of the North were consulted in the shaping of the "Nossa Natureza"²⁷ while NGOs seem to have been excluded. This influence was very clear in the case of the miner invasion into the Yanomani territory in 1989. Together with military interests, the miners and other business interests seemed to have high access to decision-making; contributing to the government's denial to obey the federal court that judged the invasion illegal (Monbiot 1991:97).

This pattern of elite influence was broken under Collor. According to Goldemberg, Collor leaned towards his and Lutzenberger's proposals in most affairs and frustrated the representatives of the military and the North like the Minister of Justice Jarbas Passarinho.²⁸ This increase of government independence of vested interests provoked a political counteroffensive based among deputies, senators and governors from states with a large forest estate, mainly the Amazonian states, but also to some extent from the state of Santa Catarina.

The offensive was especially motivated by the increases of ecological inspection in forest areas by IBAMA. Several politicians and political clients were caught for trespassing ecological rules.

Politically, arguments against reforms in Amazonia tended to concentrate on security issues rather than the environment. The proponents of

²⁶Interview with Maria Tereza Jorge Padua, president of FUNATURA and former president of IBAMA, November 1992.

²⁷*Estado de São Paulo*, 30. March 1989:A-17.

²⁸Interview with Goldemberg in November 1992.

environmental reform were accused of deception and willingness to internationalize Amazonia.²⁹ These accusations were promoted both by regional politicians like Gilberto Mestrinho, the governor of Amazonas, and military bureaucrats like the commander of the general staff of Amazonia, Thaumaturgo Sotero Vaz.

The political elite of Amazonia was also active in attempts to influence IBAMA decisions in environmental regulation and inspection. In interviews, three IBAMA presidents in the Collor period, Munhoz, Martins and Padua, identified a regional political elite very active in asking for political favors to themselves and their political clients. This was favors like the cancellation of fines, licenses for environmentally dubious projects and employment of political clients. The most active among these seem to have been the governor of Amazonas, Gilberto Mestrinho,³⁰ senator Jorge Bornhausen from Santa Catarina,³¹ and senator Carlos de Carli³² from the state of Amazonas. The activity of other politicians like Jader Barbalho,³³ Aluizio Bezerra³⁴ and João Maia,³⁵ seems to support the view that this pressure was a common phenomenon among politicians from Amazonia and Santa Catarina.³⁶

Especially Martins and Padua stressed that this pressure was a big problem as it occupied much time. On the whole, they seem to have been able to resist it. Newspapers brought reports on Munhoz' stubborn resistance to cancel fines for deputies and their clients and Bornhausen's attacks on José Goldemberg for Padua's employment policies at IBAMA.³⁷ Bornhausen's motive for the last attack was according to Goldemberg:
" (...) to force Padua to appoint political nominees, which were involved in illegal activities in the past. Some of them were linked to local politicians that favoured deforestation and other commercial interests."³⁸

²⁹"Militares temem internacionalização", *O Globo*, 14. October 1991:7.

³⁰Mentioned by Munhoz and Martins.

³¹Mentioned by Padua and an anonymous SEMAM adviser as well as Goldemberg.

³²Mentioned by Padua and Martins.

³³Governor of Pará, mentioned by Martins.

³⁴Senator from Acre, mentioned by Martins.

³⁵Federal deputy from Acre, mentioned by Martins.

³⁶Goldemberg indicated in personal communication in January 1993 that also federal deputies from Santa Catarina were active.

³⁷For Munhoz, see *Folha de Sao Paulo*, 3. October 1991:A-10, for Goldemberg, see *Jornal do Brasil*, 4. May 1992:2.

³⁸Personal communication with Goldemberg, January 1993.

Amazonian politicians were involved in the dismissal of Tania Munhoz as president of IBAMA in 1991.³⁹ Bornhausen used his position as Secretary of State to push for the firing of Lutzenberger.⁴⁰

Politicians from Amazonia involved in the pressure against IBAMA and SEMAM also participated in a major media campaign against environmental reforms as well as against the most important proponents of reforms at IBAMA and in government. Gilberto Mestrinho, the governor of Amazonas, was very active against the reforms of the Collor government. He was also central in the campaign against the "internationalization" of Amazonia⁴¹ as well as in efforts to establish a separate, liberal law for commercial activity in Amazonia.⁴² Senator Carlos de Carli attacked Lutzenberger on several occasions and blamed him for corruption.⁴³ Aluizio Bezerra attacked Lutzenberger heavily for resisting the construction of a road from Acre to Peru, linking Western Amazonia to Pacific ports.⁴⁴ A special congressional investigation (CPI) on the "internationalization" of Amazonia in 1991 was led by Atila Lins, deputy from Amazonas. The CPI was widely supported among Amazonian politicians. Among the proposals of the CPI were the reduction of indigenous territories, limitations on IBAMA's surveillance and inspection activities in the region, the creation of new investment funds and the revitalization of the Calha Norte project.⁴⁵ During the investigation, the special committee also demanded the dismissal of Munhoz and Lutzenberger.⁴⁶

Decisions like the firing of Lutzenberger and Munhoz, were consequences of the increasing impact of this coalition of Amazonian politicians as Collor's political programme lost congressional support.⁴⁷

However, the coalition was not able to conquer the Collor government as they conquered the Sarney government. A clear indication of this was the fact that Collor resisted their pressure when giving the final recognition of the Yanomani-territory as exclusively belonging to the Yanomami tribe in November 1991, at a time when the pressure of regional politicians was at an all-time high. Neither should the dismissal of Lutzenberger and Munhoz be seen as full victories for these interests as they were replaced by competent and dedicated persons like Goldemberg, Martins and Padua.

³⁹*Folha de São Paulo*, 3. October 1991:A-10, own interview with Goldemberg November 1992.

⁴⁰*Correio Braziliense*, 23. March 1992:5, interviews with Feldman and an anonymous SEMAM adviser.

⁴¹*Folha de São Paulo*, 25. July 1991:A-12, 23. September 1991:A-6.

⁴²*Jornal do Brasil*, 17. July 1991:13.

⁴³See for example *Correio Braziliense*, 24. March 1992:5.

⁴⁴*Jornal do Brasil*, 3. May 1990, page unknown.

⁴⁵*Jornal do Brasil*, 29. November 1991:4.

⁴⁶*Folha de São Paulo*, 10. September 1991:A-14.

⁴⁷See for example *Folha de Sao Paulo*, 3. October 1991:A-10.

To summarize, the access of NGOs to government, which is a variable in the societal approach on which a high score should be expected to increase the pace and range of environmental reforms, was not high neither under Sarney nor Collor. On the other hand, there are clear differences on the other societal variable in focus, the degree of access of regional interests to decision-making. High scores on this variable should be expected to impede reforms. Under Sarney, regional politicians were included in decision-making on environmental reforms to a degree that made them able to shape indigenous policies and to become a strong supporter of the government's resistance to change its international positions. Under Collor, these interests were excluded along with military interests. The outcome was political fights in the media, in Congress and the bureaucracy between government representatives and a coalition of military and regional political interests trying to resist especially changes of international positions on Amazonia, changes of indigenous policies and the increase of IBAMA enforcement of the law in forest areas both in Amazonia and Santa Catarina.

5. CONCLUSION

In this paper we have discussed variables explaining differences in environmental reforms in forest areas between the Sarney and Collor governments. We have focused upon three policy areas in which differences have been demonstrated; international positions regarding Amazonia, indigenous policies and the stiffness of IBAMA surveillance and inspection in forest areas.

We have examined some approaches to the explanation of these political changes. Our operational definitions of both the dependency and international pressure approach give weak and somewhat contradictory answers. The international financial restraints on Brazil did not wane in this period. At the same time, we also pointed to factors that questioned the contradiction between considerations for reforms and exports in Amazonia. Reforms in the three areas mentioned had the potentials to attract foreign funding, thus disconnecting balance of payment considerations and reluctance to environmental reforms.

The international pressure approach seems to give few clues to explain the differences between Collor and Sarney. Clearly, this factor was important in raising the issue. However, it seems as we have to examine the differences between the political programs of the governments to demonstrate that this variable has had major impact on policy change. Collor's basic political project was much more dependent on good connections with the international community than Sarney's. Thus, the interplay of differences between the two regimes and a quite stable external political pressure rather

than variations in external political pressure seems to have produced the contrasts in environmental policies.

In the bureaucracy-centered approach to environmental reforms, a focus on differences in the degree of the influence of the military bureaucracy over decision-making seems to give clearer contrasts than differences in the degree of the influence of the environmental bureaucracy. Under Sarney, the military was important as coordinators of environmental policies in Amazonia. The centrality of military actors seems to have contributed both to the defensive international policies of the Sarney government and the lack of will to redefine indigenous policies. Under Collor, the military bureaucracy lost much of their access to decision-making in environmental policies. This facilitated reforms of indigenous policies and international positions, but also produced a strong bureaucratic opposition operating through media in coalition with regional political actors.

The societal approach suggests similar constellations. Though there has been a considerable mobilization of environmental NGOs since the democratization of the regime, their ability to influence policy-making seems to have been quite weak both under Sarney and Collor. Under Collor, this inability to influence decision-making seems to have been increased by the special characteristics of Lutzenberger's style as a leader as well as by the decrease of government funding for NGOs. Differences in societal influences between Sarney and Collor are much more visible measured by another indicator, the access of regional elites to decision-making. Under Sarney, politicians representing the states of Amazonia were integrated in decision-making for example on the "Nossa Natureza" environmental plan. The Yanomani case indicates that these interests were able to influence the government to a high degree in coalition with representatives of the military. Also when it comes to IBAMA inspection and international positions, they seem to have been able to pursue their own interests as political protests on these issues were non-existent.

Under Collor, this picture changed as regional politicians lost their access to decision-making. Both the changes of international positions, the changes of indigenous policies and the increase of the stiffness of IBAMA inspection caused strong protests. The government met a well-conducted campaign from a coalition of regional interests and the military. The regional component of this campaign had its main participants among federal politicians and governors from Amazonia. Amazonian politicians dominated the media coverage of the environment in 1991. They were also able to bargain for some concessions from the president on personnel in the environmental sector and to press very hard to resist the implementation of environmental legislation. However, these interests did not experience any breakthrough in their search for access to the government. This is clearly demonstrated by the government's decision on the Yanomani reservation in 1991, Goldemberg and Padua's denial to open IBAMA to the employment

of Jorge Bornhausen's political clients in 1992 and the lasting cooperative international position of the government. Rather, these interests influenced the public discourse and the congressional coalitions in a direction hostile to the government, thus increasing the political costs of further reforms.

When seen through the lenses of comparative environmental policies, the main characteristic of the Sarney government was the high access of well-organized regional and bureaucratic elites at the expense of less organized and resourceful NGOs and environmental bodies. The change of policies under Collor was facilitated by democratic elections giving a political outsider access to the presidential post. This mandate also provided the Collor government with the power to make environmental decisions challenging the interests of traditionally influential groups like the military and regional politicians. The new policies seem to have been strongly connected to the liberalization programme with its dependence on better relations with the industrialized countries. Internally, reforms met a strong barrier in the asymmetric development of the Brazilian civil society and bureaucracy, where military actors and regional elites are better organized and more resourceful than the "green sectors" of civil society and the bureaucracy. These findings suggest that formal democracy has to be followed by a more equal distribution of power in civil society and the bureaucracy to facilitate lasting environmental reforms.

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