

70 The Brazilian Amazon in an Environmental Security and Social Conflict Framework

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70.1 Introduction: The Argument

This chapter offers an overview of the key historical factors influencing the contemporary Brazilian Amazon that responds to a dynamic that has emerged since the discovery and colonial period combining two myths of the richness of the Amazon basin, and of its open and unexploited space. This is essential for understanding the environmental security and social conflict approach to this region (70.2). Then this chapter analyses the dynamic link between environmental factors and security and social conflicts as a result of continuous interactions between systemic (Amazon) and supra-systemic factors (70.4). These interactions explain why environmental matters have been politicized (70.6) and to a certain extent militarized (70.7). This chapter attempts to explain why social conflicts are mainly a product of two systemic constraints of a misallocation of resources and of skewed land distribution (70.8). Thus, in most cases environmental change is no direct source of social conflicts, but an important aggravating factor through its side-effects. Finally, in the Brazilian Amazon in most situations environmental scarcity is no key factor for social conflicts, rather in the northern state of Roraima abundance is crucial (70.9). Thus, the environmental scarcity hypothesis¹ claiming the more natural resources are available in the system, the less likely conflicts are among its components must be revised.

1 This thesis was presented by Thomas Homer-Dixon (1999, 2000, 2001; Homer-Dixon/Blitt 1998; chap. 20 by Homer-Dixon/Deligiannis) who argues that environmental scarcities will have profound social consequences – contributing to insurrections, ethnic clashes, and other forms of civil violence, especially in the developing world. However, the claim that resource stress is a *necessary* cause of violence has been refuted with reference to cases of violence not preceded by resource stress (Bann/Collier 2003; Peluso/Watts 2001).

70.2 Discovery, Occupation and National Integration of the Amazon

The Amazon and its affluents is the largest river system on earth that transports one fifth of all fresh water to the oceans. The Brazilian Amazon covers almost 5 million km², or 55 per cent of Brazil's territory. It contains one third of the earth's remaining tropical forest and a very high biological diversity. It also has an outstanding cultural diversity with indigenous groups, peasant communities, Caboclos², miners, forest dwellers, etc. The Brazilian Amazon is not flat nor entirely covered by rainforest; many areas are grassland (*campo*), upland savannah (*cerrado*), and annually flooded wetlands (*várzea*).³ Its population is primarily urban.

The occupation of the Amazon by outsiders began in 1500 with the expedition by Vicente Yanez Pinzón who only reached the mouth of the Amazon, which he named Santa Maria de la Mar Dulce (freshwater sea). The European impact began at the end of the 15th century, with the interest of Spanish and Portuguese navigators to explore the New World. The first expedition (1541–1542) was by Francisco de Orellana and described by Gaspar De Carvajal in: *Do Novo Descobrimento do Famoso Rio Grande das Amazonas*. Its purpose was to find the country of cinnamon what was then a lucrative commodity for trade.

The colonial period is marked by Portuguese domination and the impact of the Pombal era on its management, with the military, the merchant, and the mis-

2 They are the local people along the Amazon river, too often illiterate, and dependant on a hard exploitation of the natural resources to survive.

3 Approximately 60 per cent of the Brazilian Amazon are covered by tropical rain forest, grassland and savannahs occupy another 35 percent. Finally, a very small area is composed of flooded wetlands.

sionary as key actors. The military assured control over the area by building forts, the merchants integrated the region into the royal economy by exploiting some forest products, and the missionaries controlled the labour force (basically Indians).

With the treaty of Madrid, after 1750 a new period began aiming to preserve the area conquered by Spain and Portugal. Under the principle of *uti possedetis*⁴, Spain granted to Portugal the Amazon up to the mouth of the Madeira River. This period marked the beginning promotion of an agrarian rural class able to control social tensions in the region supporting the colonial powers. A first attempt to ‘modernize’ the Amazon was carried out during the so-called Pombalina era that began in 1750 with the appointment of José de Carvalho e Mello, Marquis de Pombal, as secretary of Foreign Affairs and War by King José I of Portugal (Messias 1995: 25).

This led to major modifications in Portuguese colonial policy for the Amazon that included taking control of social relations by expelling the Jesuits, and appointing lay directors responsible for allocating Amerindian labour to colonist and colonial authorities, the so-called directorates. This made Indian labour available to civil authorities in villages, thus replacing Jesuit missions, and promoted the economic expansion of the Amazon, using the crown as a sponsor. Pombal founded the *Companhia Grão Pará e Maranhão*, a semi-state company promoting foreign investment, giving incentives and offering military protection for investors, especially during the transport of products produced in the region (Messias 1995: 25). The economic integration concept emerged from the Pombal project, and was developed further almost 200 years later by the military governments when the *Superintendencia do Desenvolvimento da Amazonia* (SUDAM) was set up. Although widespread European contacts with the Amazon occurred during the 16th and 17th centuries, only in the late 19th century the exploitation of rubber reached significant levels and became a driver of the Amazonian economy.

The occupation and national integration of the Amazon has been a major objective of Brazilian governments since the 1930’s when the region was considered as an empty space started by the four times president Getúlio Vargas (1930–1934; 1934–1937; 1937–1945 and 1951–1954) who announced in 1940

that the Brazilian government was planning to open up and to occupy the Amazon region.⁵ As the first Brazilian president he travelled throughout the Amazon and established the *Estado Novo*.⁶ Vargas supported the ‘nationalist developmentalism’ based on concepts by the economists Prebisch and Celso Furtado of the *United Nations Commission for Latin America* (CEPAL). These ‘structuralists’ saw the state as the engine of development and argued that the formula of their conservative rivals would condemn the country to perpetual underdevelopment (Schneider 1989: 171). With Vargas the integration of the Amazon into the rest of Brazil started with a state-led development of its economy with road construction and economic incentives for investments. To implement this objective in 1953 the *Superintendence for the Economic Valorization of the Amazon* (SPVEA) was set up.

The geopolitical interest to populate the Amazon was developed later under the military regime by General Golbery do Couto e Silva (1964). In his view Brazil needed “to inundate the Amazon forest with civilization” (cited by Schmink/Wood 1992, quoting Hecht/Cockburn 1989). A basic problem of its economy was the manpower shortage during the Pombal period and the rubber boom. While General Golbery responded to this concern there were other important issues, such as protecting Brazil’s international borders, and the need to promote immigration and colonization in those empty spaces.

70.3 Military Years: Security and Economic Growth

During the last decades the Amazon basin has been defined as a huge homogeneous flat region of humid tropical forest, as a demographic vacuum, a world’s reserved ‘El Dorado’, and as an empty space. Since the 1930’s most of programmes for the Amazon basin were based on these assumptions. Concerns for economic growth and national integration were very high during the military years, as reflected in the following

4 A concept of international law that defines borders of newly sovereign states on the basis of their previous administrative frontiers.

5 President Vargas defined the Amazon as an empty space in a speech in Manaus in 1940 when the Amazon was seen as a network of demographic islands connected by rivers running through an uninhabited forest.

6 The *Estado Novo* can be characterized by being highly centralized and authoritarian as well. Moreover, the state would use the powerful institution of patronage to effectively control the organized labour into a system of State tutelage and control.

activities: *Operation Amazônia* (1964); the first *Amazonian Development Plan* (1972); the second *Amazonian Development Plan* (1975) formulating *Polamazônia*; and the third *Amazonian Development Plan* (1980) including *Polonoroeste* and the *Great Carajás Programme* (PGC).

The military regime linked the economic approach with a geopolitical one by combining security (human occupation, extension of territorial control) with economic growth. As a matter of high priority they used the state apparatus to promote development and to assure control over the country. In 1964 president Castelo Branco stated that the “Amazonian occupation would proceed as though it was a strategically conducted war” (Hecht 1984: 370). The state should maintain a central role in promoting greater efficiency in regional planning by trying to improve the role of private enterprises in Amazonian development. The government would provide the infrastructure and funding for economic growth, while entrepreneurs would basically carry out the task of regional development. The main areas sponsored by the military were agriculture, livestock, mining and metallurgy.

The military government established the development agencies, among them the *Superintendência do Desenvolvimento da Amazônia* (SUDAM) that replaced SPVEA, and a regional Development Bank, named the Amazon Bank (BASA). “Operation Amazônia” was the first plan of SUDAM that was oriented at “establishing development poles, self-sustaining population groups especially in frontier areas, encouraging immigration, providing incentives to private capital, infrastructure development, and research on the potential of natural resources” (Mahar 1979: 11).

This strategy implemented developmentalist ideas whose core goals were capital accumulation, extra-regional investment, and large economic projects. Manaus and Araguaia-Tocantins were considered as basic areas for investment; the former for industry and a new free trade zone, and the latter for cattle ranching. This policy of promoting livestock, industry, and crops tried to free the Amazon from its dependence on extractive commerce.

Operation Amazônia introduced generous fiscal incentives basically through SUDAM and the Amazon Bank (BASA). According to Hall (1997) from 1971 to 1987, US\$ 5.15 billions were used for incentives and subsidies particularly for large ranchers. These fiscal incentives were described by several authors as the major force behind deforestation promoting the expansion of cattle ranching, which resulted in environ-

mental degradation. Due to these incentives the land became the main factor of dispute among social actors. Thus, the variable resource allocation is significant for understanding the frequency and intensity of social conflict in the Amazon.

For livestock in the Amazon, “between 1959 and 1973 the World Bank lent Brazil an estimated amount of US\$ 839.2 million, plus US\$ 1,004 million in counterpart funds, for small-scale livestock projects. The largest allocation of these funds occurred between 1966 and 1970” (McCleary 1990: 13). The subsidies for cattle ranching exceeded those for industry and agro-industry. While “there were only 4 ranches that received SUDAM incentives in 1966, the number had increased to 162 in 1969” (Hall 1989: 7). It was defended in the 1960s and 1970s that Brazil had the conditions to become a leading beef exporter. The World Bank endorsed this idea by giving a credit line for the sector. In the Amazon the economic advantages of investment in livestock were clear: land was perceived as promising, plentiful and inexpensive, subject to rapid capital gains, and requiring only a minimal workforce. Industrial development was hampered by shortages of skilled labour, limited local markets, lack of credits, and competition from extraregional industry.

This interrelationship between economic growth and security caused an incompatibility between two opposing priorities. On one hand, there was an emphasis on private property, incentives for capital accumulation, and promotion of livestock and agricultural projects. On the other hand, there were the provisions for state intervention to reduce poverty and to make land available to those who worked for it. This contradiction partially explains the so-called land question.

Here the expression ‘land question’ is used because land reform has been the hottest issue in contemporary Amazon. The military dealt with the land question by allocating plots of land to settlers in the Amazon as the immediate answer to poverty and unemployment in Brazil, above all in the north-east. Among the misconceptions that stopped land reform was the misunderstanding of the basic character of the extractive nature of its economy, which made it difficult to define property rights compatible with bureaucratic procedures.⁷ Land property was determined by the effective use, thus both large and small holders clear as much as they can to assure the principle of *uti possedetis*. This tradition of land rights comes from the pre-independence period, when small and large producers were permitted to establish legal access to land based on habitual occupation and/or

effective cultivation. There was a misallocation of land to small farmers in the sense that most of the Amazonian soils are not suitable for agriculture because of their deficiency in inorganic nutrients such as nitrogen and phosphorus. As in the Amazon basin land seems to be plentiful compared with capital and workforce, the bureaucratic structure tends to use land extensively as the cheapest production factor. This contradiction (leading to the agrarian question) contributed to social tension and conflicts, thus also contributing to the militarization of the land issue.

70.4 Amazon: Result of Systemic and Supra-systemic Interactions

The systemic perspective, based on the assumption that 'the whole is more than the sum of its parts', implies that current events in the Brazilian Amazon cannot be understood by looking solely at the subsystems (federal Amazonian states) but by observing the web of relationships linking subsystems, the system, and the suprasystem. Since its discovery the Amazon has been characterized by an externally oriented model, for which the Pombal period, the rubber boom, and the developmentalism strategy are good examples.

During the military period since 1964 strong links were established with foreign capital. The Brazilian market was open to public and private enterprises and the government obtained foreign credits, especially from the World Bank and the *Interamerican Development Bank* (IDB) for mega-projects, such as the Trans-Amazon highway, the *Polonoroeste Programme*, the *Greater Carajás Programme* and hydroelectric projects.⁸ These programmes led to heavy immigration, an invasion of the Indian land and a high rate of deforestation.

7 It can be argued that the economic history of the Brazilian Amazon has been shaped by extractivism. Thus, forest products (cacao, rubber, spices) were important since the colonial period. Extractivism was not limited to forest products. The extraction of minerals (gold, diamonds etc.) has been of great importance. Fishing has always been important, and the major source of protein for the local population.

8 The World Bank co-funded the Trans-Amazon highway. For the *Polonoroeste* the World Bank provided a US\$350 million credit for the highway through Rondônia and Mato Grosso. In 1986 the World Bank approved a US\$500 million power sector loan to *Eletrobás* (Brazilian state electricity company). For the *Greater Carajás Programme* the World Bank approved US\$300 million.

The discussion of environmental security and social conflicts in the Brazilian Amazon and the particular contribution of environmental change will be placed in a systems perspective because:

- a.) The Brazilian Amazon as an ecogeographical entity constitutes an open system.
- b.) The Brazilian Amazon is not a homogeneous, but a highly complex open system.
- c.) Therefore, no single component can exist entirely separate. Rather, each component somehow affects and is affected by all other components.⁹
- d.) The behaviour of the social groups in the study area are strongly influenced by the components of the Brazilian Amazon. Thus, to a certain extent one can understand the dynamics of *garimpeiros*, *fazendeiros*, Indians, *caboclos*, *posseiros*, *sem terra*, etc. by looking at the relationship between the system and the subsystems, as well as the type of structure resulting from their interrelation.
- e.) The governments have been subject to intense influences from the suprasystem. The international sphere has influenced the environmental variable positively and negatively.

Traditionally many external factors have influenced the Amazon. Lately, most influences are related to the protection of the Amazonian forest, indigenous communities and the idea of establishing Amazonia as a global common (even though it is a shared natural resource), based on the argument that the Amazon is crucial for the global environment. There are also influences from the system to the suprasystem due to the transboundary externalities of environmental change. Therefore, the issue of Amazonian management is an international political one. At the international level its management has implications for climate change and biodiversity. On these global issues the international community bases its claims on the management and preservation of the Brazilian rainforest.

Brazil responded to these international influences by stressing its sovereignty over the Amazon, but accepting some global environmental standards and the importance of international co-operation. The government stressed its rights and responsibilities, the principle of national sovereignty and national security for the management of the Amazon basin thus linking environmental management with security.

9 This can be explained for the *Polonoroeste* project where huge colonization schemes were among the basic causes for the disastrous failure of this project in Rondônia.

70.5 Sovereignty in the Brazilian Amazon

In 1989, José Sarney declared “the Amazon is ours”, because “it is situated in our territory”¹⁰ as a clear expression of sovereignty. Several actors, especially NGOs, have challenged Brazilian sovereignty over the Amazon rainforest on ecological grounds as its importance extends beyond Brazil because the Amazon rainforest flows across the borderlines of the sovereign Brazilian space and that it shared by nine nation-states. The territorial political space does often not coincide with that of ecosystems that ignore geopolitical boundaries. Thus, sovereignty conceived in its traditional meaning as rule over a fixed territory becomes problematic.

The Brazilian Amazon shows that in the environmental arena sovereignty no longer serves as the source of a state’s freedom to manage natural resources as they please without caring for international standards. Sovereignty no longer enables states to exert effective supremacy over what occurs in their territories. Sovereignty involves the state in one aspect of a transnational process, e.g. on multinational investment, the global ecology, drug dealers etc. Thus, sovereignty is less a territorially defined barrier than a bargaining resource for politics characterized by complex transnational networks (Keohane 1995: 176–77).¹¹

For two reasons the the military is preoccupied with the Amazon. The first refers to the physical space, and the second to the international valuation of that physical space. Both are different but interrelated. The borders of the Brazilian Amazon stretch to 16.500 km. The Amazonian region extends to 10.948 km, four times the distance from Madrid to St. Peter-

sburg and the equivalent of approximately 70 per cent of Brazil’s international borders (Dreifuss 1998: 15). This is accompanied by a low population density, poor communications, and mineral resources. These factors make the Brazilian Amazon very vulnerable.

The second reason is reflected in the constant reaffirmation of Brazilian territorial integrity, unity and sovereignty. These concepts have a special meaning for the Amazonian region. Over the past 180 years international agencies, countries and individuals have intervened in the management of the Brazilian Amazon. In 1989 Al Gore was quoted as saying, “contrary to what Brazilians think, the Amazon is not theirs, but belongs to all of us”. Francois Mitterand stated that Brazil needs to accept a “relative sovereignty” over the Amazon. In 1992 Mikhail Gorbachev argued that Brazil should delegate parts of its rights over Amazonia to a competent international organism (Chagas 1997, quoted by Dreifuss 1998: 18).¹² In the military perspective, the preservation of territorial integrity and unity is constantly reasserted as crucial. For the armed forces, “sovereignty is preserved as long as possession and jurisdiction over the territory is guaranteed, along with its indivisibility and the possibility of political actions that aim to preserve our vital interests.” They have argued that the flexibilization of the concept of sovereignty cannot cross this limit.¹³

70.6 Internationalization of the Brazilian Amazon

Repeatedly Brazil has been asked to assume its responsibility vis-à-vis the international community. This so-called internationalization of the Amazon has been perceived as a real threat in Brazilian circles. Thus, in 1991 the congressional commission of inquiry on the internationalization of the Amazon was established and asked to investigate the existence of clandestine airports and the activities of religious missions in parts of Roraima supposedly provoked the internationalization of the Amazon. In its final report the CPI stressed the development model and the mineral riches. Many denunciations were couched as an Anglo-American neo-imperialist conspiracy where the environment served as a pretext for the new interna-

10 See: “Brazil angrily unveils plans for the Amazon”, in: *Washington Post*, 7 April 1989.

11 Conca (1994a) summarizes the sovereignty discussion pointing to two perspectives. The first argues that there is erosion and weakening of sovereignty and that sovereignty and ecology are at odds because ecosystem and environmental processes do not respect state borders, thus, sovereignty itself becomes a key institution of a global-scale environmental destruction. The second claims that international processes, and in particular, the emergence of multilateral institutions for environmental protection, do not erode state sovereignty and may even strengthen it. By placing states at the centre of institutional responses and strengthening their capacity to act collectively, the menu of choices available to states is being expanded not restricted (Conca 1994a: 702).

12 Carlos Chagas: “Querén Internacionalizar a Nossa Amazônia”, in: *Manchete* (Rio de Janeiro), 5 July 1997.

13 See: *O Brasil e suas Forças Armadas* (Brasília: Estado-Maior das Forças Armadas. Presidência da República, 1996): 19.

tional order and where NGOs played a leading role (Kolk 1996: 121). Feeling threatened by environmental issues and their consequences for the state in crucial economic areas, sovereignty and nationalist claims increased. The environment replaced the east-west conflict in the view of the military for domestic purposes.

The Brazilian preoccupation with the internationalization of the Amazon can be seen in three responses: a) the programme of debt-for-nature swaps, b) the *Calha Norte* project, and c) in the *Nossa Natureza* programme. The United States, France and the Netherlands put forward a proposal for debt-for-nature swaps, where a portion of Brazil's foreign debt would be exchanged for conservation projects. With his new policy (*Nossa Natureza*) Sarney rejected the programme as an infringement of national sovereignty and he stated that "there is no international capital which can buy even one metre of Amazon soil". The worries were that debt-for nature swaps could lead to the creation of a large Amazon reserve to protect the environment, but also to a future internationalization and exploitation of minerals by international forces under the pretext of the environment.

The *Calha Norte* project aimed to intensify the military presence in the northern Amazon. During the transition from the military to civilian government, it was justified by several reasons. One was the possibility of a binational Yanomani Indian park, and that such a park along the Venezuelan-Brazilian border could evolve into an independent indigenous state, manipulated from abroad. The *Nossa Natureza* programme was to diffuse international pressure with regard to the rate of deforestation, the murder of Chico Mendes and the Indian manifestation in Altamira. The centrepiece of the proposal was a five-year US \$ 100 million programme for an agro-ecological zoning of the Amazon. This programme "our nature" had a nationalistic connotation reassuring Brazilian sovereignty over the Amazon.

70.7 Militarizing the Amazon or Greening the Military?

The involvement of the military in environmental matters was not only evident during the military regime, but also in the subsequent civilian period. The traditional preoccupation with national integration was increasingly overlain by concerns that Brazilian sovereignty over the Amazon was challenged, and this became the dominant theme in Sarney's response to international criticism. After the military regime the

Secretariat for National Defence (SADEM) was created which co-ordinated *Nossa Natureza*. President Collor integrated SADEM into the *Secretariat for Strategic Affairs* (SAE 1997) as the Department for Special Programmes. Another department for macro-strategies co-ordinated the *Ecological-Economic Zoning* (ZEE). SAE was given an important role in the preparation of environmental policy (Kolk 1996: 110). The former *Environment Secretariat* (SEMA) and the *Forestry Institute* (IBDF) were combined as the unified environmental agency (IBAMA). This was nominally under the Ministry of the Interior, but operating with financial autonomy under the leadership of Sarney's former press spokesman Fernando Mesquita.

A recent example of military participation in designing and co-ordinating environmental policies is the establishment of the *Protection System for Amazonia* (SIPAM), and the *Surveillance System for the Amazon* (SIVAM). The SIPAM has three regional bases (Portho Velho, Manaus, Belém), and general headquarters in Brasilia. Under SIPAM the SIVAM is operated as a civilian-military project within SAE. The principal aim of SIVAM is to effectively implement the SIPAM, thus providing the Brazilian government with necessary information for sustainable development, especially on control of land occupation and use, surveillance and control of borders, identification of illegal activities, and economic and ecological zoning. The infrastructure consists of a remote sensing network, which includes eight meteorological and environmental satellites, five sensor-equipped Embraer ERJ 145 aircraft for *aerial early warning* (AEW) that can obtain images through the dense forest cover and provide information on the quality of the soil. It includes three Embraer 145 RS planes for remote sensing, and twenty radar stations co-ordinated by Cindacta, which already controlled air traffic (Dreifuss 1998: 28–29).¹⁴ SIVAM was placed into the sovereignty discourse. Raytheon and the Brazilian authorities stated that among the principal benefits Brazil will gain from SIVAM is the capacity control the area and to promote the integration of communities among themselves and with the ecosystem, guaranteeing Brazilian sovereignty in the Amazon forever.

Thus, the environmental discussion on the Brazilian Amazon has been large framed in the security context. The defender of national integrity and independ-

14 Information given by Coronel Antonio Faria, Secretaria de Assuntos Estratégicos, conference at 4th *National Encounter of Strategies Studies*, Unicamp, Campinas, 10–15 May 1998.

ence has reacted with scepticism to notions of transboundary effects of environmental change in the Amazon.

Despite its scepticism, the military avoided a position of open confrontation on the environmental management of the Amazon. They are actively participating in this process through their influence in SIVAM and in the elaboration of the *Macro-Zoneamento Ecológico-Econômico da Amazonia*. A document from 1995 stated that through SAE environmental worries and needs, and a wealth of natural resources (biodiversity, water, minerals) are emphasized without diminishing the importance of the national frontier.

The combination of these factors could result in a change of paradigm from frontier development to sustainable development. This was partly stressed in a statement by the Chief of Staff of the Army, General Gleuber Veira: “the new mission is co-operating with socio-economic development.”¹⁵ But it remains to be seen if the framing Amazonian policies in a security framework will mean a ‘militarization of environmental policies’ in the Amazon or whether it will produce a ‘greening of the army apparatus’ (López 1999).

70.8 Environment and Security: Politicization, Militarization and Securitization of the Brazilian Amazon

Up to now in the Brazilian Amazon environmental issues has been politicized and to a certain extent militarized. In the Brazilian Amazon security has become a comprehensive concept, but it cannot be argued that the environmental sector has been fully securitized.

70.8.1 Politicization of the Environment

Environmental issues in the Brazilian Amazon have been politicized due to a strong relationship between public spending, infrastructure development and environmental policies. An issue is politicized when it becomes part of public policy, requiring government decision and resource allocation (Buzan/Wæver/de Wilde 1998). In this region such processes can be easily perceived. Brazilian governments since Getulio Var-

gas have undertaken great efforts to oversee its development. Several state agencies have been created, substantial resources have been allocated, and large-scale projects have been undertaken. Examples are the creation of the *Bank of Amazonia* (BASA), the *Northern Brazil Electricity Board* (ELECTRONORTE), the *National Indian Foundation* (FUNAI) and the *Ministry of the Environment, Water Resources and Legal Amazon* (MMA). In addition, large amounts of resources have been allocated through the *Superintendency for the Development of the Amazon* (SUDAM), and the *Investment Fund for Amazônia* (FINAM).

70.8.2 Militarization of Environmental Issues

In the Brazilian Amazon environmental issues have to certain extent been militarized. An issue is militarized if that issue is part of the ordinary tasks and/or duties carried out by the military apparatus, irrespective whether emergency actions have been taken to face a given threat. The Amazon has been a concern for the armed forces. The most important agency for Amazonian development (SUDAM) is a direct product of the military regime. In most agencies dealing with the management of the Amazon there is some military involvement. Several presidents of the *National Indian Foundation* have come from the army, and the military has always been involved in environmental and indigenous policies in the Amazon.

In 1985, the *National Security Council* (CSN) took over the task of demarcation of Indian lands. In 1988 the CSN managed the *Project for the Protection of the Environment and the Indigenous Communities* (PMACI). The *Indian Missionary Council* (CIMI) criticized the military intervention on Indian lands, and during the 1990's the *Indian Council of Roraima* (CIR) denounced several times that the Army assumed exclusive powers over the Raposa/Serra do Sol Indian Area along the Brazil-Venezuela border whose demarcation process was stopped due to political and military pressure. The main concern by the army seems to be that the demarcation could put the sovereignty of Brazil at risk, because the Macuxi, Ingariko, Wapixana, and Taurepang Indians could claim their independence.

In all most important projects in the Amazon (e.g. in the *Calha Norte*) the military was involved. The *Secretariat for Strategic Affairs* (SAE) was involved in designing and implementing environmental policies, it co-ordinated the Ecological-Economic Zoning and implemented the Surveillance System of the Amazon re-

15 General Gleuber Veira, chief of staff of the army, in his conference at the 4th National Encounter of Strategic Studies, Unicamp, Campinas. 10–15, May 1998.

gion (SIVAM). All these examples illustrated the extensive military involvement in the management of the Brazilian Amazon.

70.8.3 Toward a Comprehensive Security Concept in the Amazon

This case shows that we also witness a process of declining military threats in developing countries. Brazil has borders with all other South American countries (except Ecuador and Chile), but its concerns are less related to potential problems with other countries in border regions or to a potential invasion from a neighbouring country. This does not mean that the borders are irrelevant for security matters. In the Amazon borders are still a reference point in military terms mainly because they are perceived by the army as vulnerable areas, due to low population. For instance, Tabatinga with only 28,000 inhabitants is the most important town on the Colombian border.

But there have been recently many declarations by army officials that in the Brazilian Amazon security have become a comprehensive concept. According to the *Secretariat for Strategic Affairs* (SAE 1997) the targets to be reached by 2020 are the full and sustainable utilization of national territory and maritime space. In the SAE's view contemporary geopolitical thinking focuses on necessary political and scientific definitions of realistic parameters for sustainable development of both the Amazonian border and region. The issues that have been included in this comprehensive concept reflect such new threats as environmental protection, controlling drug trafficking, halting smuggling of timber, rare minerals and biodiversity, controlling and supervising the use of land, fighting forest fires and illegal mining, surveillance and border control, etc (Dreifuss 2000). Significant resources that have been allocated by the government to the Amazon are presently used to mitigate the impact of or threats by drug traffic, land conflicts, and environmental disruption.

In the Brazilian Amazon military threats are no longer seen as the only and most important ones. Military and political experiences in the region have highlighted that the Amazon is one of the most sensitive areas of Brazil, and that its defence cannot be reduced to military dimensions. General Gleuber Vieira, a former chief office of the Brazilian army, has argued that the armed forces have an additional target, or mission, of "co-operating with socio-economic development" (cited by Dreifuss 2000: 213). For SIVAM an important shift in the perception of threats can be ob-

served. SIVAM concentrates on these 'new' types of threats such as environmental change (deforestation, fires), identification of illegal activities (drug trafficking, gold smuggling) and land conflicts (land occupation and use).

70.9 Resource Scarcity vs. Abundance in the Brazilian Amazon

Under certain circumstances there is a connection between environmental factors and violent conflicts. For the Brazilian Amazon environmental change in most cases is no direct source of social conflicts, but an important aggravating factor of conflicts acting through its side-effects. In the Brazilian Amazon in most situations environmental scarcity is no key factor producing social conflicts. Thus, the hypothesis that the more natural resources are available in a system, the less likely conflicts are among its components, must be revised.

Social conflicts are defined as social action carried out by actors sharing a social framework which constitutes its system. Thus, social action is a goal-oriented behaviour, but it also defines a sort of social group identity. This is because the ideas, interests, etc. that define individuals become the basis for collective actions that engage participants in a dispute. One can see opposing interests and, therefore, potential for conflicts. Thus, whenever the term social conflict is used it will be within this framework, meaning the condition under which one social group (e.g. miners) is engaged in conscious opposition to one or more social groups (e.g. Indians), because they are pursuing incompatible goals (land integrity vs. mineral exploitation), and when this opposition is accompanied by violent behaviour (Dougherty/Pfaltzgraff 1990: 187).

The Amazon shows that a conflict occurs when one party's claim to or use of one given good negatively affects the interests of some other party, and when no alternative seems to exist that will satisfy the aspirations of those parties involved with divergent interests or values. This situation may occur due to the lack of a good to meet the basic needs of the parties involved (*basic scarcity*), or, as in Roraima when ample supply of valuable goods (gold) induces competition over access to or use of that good. This latter case explains the conflicts between indigenous population and *garimpeiros* in Roraima, where most conflicts are not generated by scarcity, but rather by the richness of the subsoil.

When such conflicts exist, they are especially severe if one or all parties have rigid aspirations they regard as legitimate and when the disputed object has a high market or user value for the parties involved. This is the case of conflict over mineral resources in Indian lands. In summary, the emergence of conflicts in the Amazon as a whole may depend more on access to resources, and its intensity could be more related to the market and user value of that resource than on environmental scarcity. As the case of Roraima has shown, the abundance-scarcity debate and its influence on conflict formation are linked to the possibility of access of interested parties. This has materialized through the invasion of Indian lands by small gold prospectors and the subsequent conflict of interest over the exploitation of gold and other minerals, as for example in Roraima the Yanomani reserve and the Raposa Serra-do Sol area. Thus, conflicts do emerge because the claim made by one party such as *garimpeiros* to use or exploit a given good, such as gold, must negatively affect the interests of another party, in Roraima the Yanomani and Makuxi. The above does not necessarily mean that in Roraima the goods or services provided by the environment are not enough for those who want or need it. Rather it refers to a situation where the richness of the subsoil and the environmental change produced by the exploitation of such resources negatively affects one party. This is being aggravated by rigid aspiration of both parties and the market value of the good in question.

Finally, the role of scarcity must be distinguished at different levels. While in the Amazon as a whole there is no environmental scarcity, at a local level the situation is often very different. There are several scenarios where scarcity is evident, notably in the southern Amazon, as in the southern part of Pará, the eastern border of Pará with Maranhão, the northern part of Tocantins, and a large part of Rondônia present several scarcity scenarios. However, other parts of the Brazilian Amazon such as the northern part of the Amazon (Roraima and Amapá) face a very low level of environmental disruption and almost no scarcity in terms of forest, water, and other natural resources. Thus, in analyzing scarcity one must be aware of the problem of scale.

70.9.1 Role of Environmental Change in the Brazilian Amazon?

Environmental change should be understood as a large-scale natural or human-induced destabilizing in-

terference in the environment. The focus is on environmental change rather than on environmental scarcity. Besides the definition of environmental conflicts a second aspect must be revised. It is insufficient to argue that the environment plays a role as has been argued in other studies, notably Homer-Dixon's (1999, 2000/2001) work. For analytical purposes environmental change must be placed as an interactive source generating social conflicts, and how and with what other sources environmental change interacts to generate social conflicts. Two roles must be distinguished: trigger and aggravator.

A trigger of a conflict is a proximate cause where a factor triggers the system beyond a critical threshold. If environmental change acts as a trigger, the process of environmental change must be acute. For instance, a strong drought, an enormous flood, or a high degree of deforestation would have to take place. A claim that environmental change is an aggravator suggests that the factor interacts with other factors to produce conflicts. Most cases in the Brazilian Amazon can be placed within this framework. There is empirical evidence that environmental change can act as an aggravator. For instance in terms of soil, the low ecological carrying capacity of the Amazon basin, especially in the tropical *terra firme* soil, brings about specific limitations to colonization and agro-pastoral activities. Thus, the rapid decline in agricultural production on colonized soil inhibits capital accumulation, settlement stability and consequently the construction of stable social relations. This situation causes permanent migration, accompanied by further deforestation resulting in most cases in open conflicts on access to land-resources.

Another example is open conflicts as a result of forest depletion in the Brazilian Amazon. Ranching activities and the process of deforestation has had a direct effect on the lives of the forest-dwellers. The most evident conflict has been the expropriation of the customary lands of forest peoples. This situation has to do with the surviving strategies of several groups such as Indians, rubber trappers, nut collectors, and *Quilombos*, whose way of living is strongly related to nature, and their social organization is based on the communal use of natural resources. This way of living is in opposition to the private exploitation of these resources by miners, large landowners, mining companies, and logging enterprises, etc. The most well-known case related to open conflicts due to forest depletion has been the assassination of Chico Mendes, the former president of the Rubber Trappers Union.

70.9.2 Contribution of Environmental Change to Social Conflicts

The contribution of environmental change to social conflicts in the Brazilian Amazon may be understood as indirect and/or interactive. This means that social conflicts are understood partially as the outcome of the social and environmental side effects of environmental change. Here the process of environmental change in relation to other variables can produce either social conflicts or widen the scope of existing conflicts. In the Brazilian Amazon this would mean that deforestation, pollution from mining activities, and flooding in connection with other sources will produce social conflicts and/or contribute to social conflicts by introducing more entropy to a system that is already in turbulence. However, what is going to be more important in the final analysis is to see what specific role environmental change as an independent variable is going to play, for instance as a trigger or aggravator. As a trigger environmental change basically releases accumulated non-environmental social pressures, and as an aggravating factor environmental change adds to other factors producing conflicts.