Environmental Change, Security, and Social Conflicts in the Brazilian Amazon

by Alexander López

Abstract: The links among environmental change, notions of security, and social conflicts in the Brazilian Amazon are multiple and complex. Successive Brazilian governments and the Brazilian military have found a distinct relationship between environmental matters and security issues through a focus on state sovereignty. This relationship is often articulated in terms of defending national sovereignty instead of preserving Brazilian ecosystems. Furthermore, the links between environmental change and social conflicts should be understood through a multi-step process of externalities, referred to here as "side-effects," where ecological scarcities contribute to other political, social and economic conditions that more directly precipitate conflict. Hence, *direct* causal links between environmental change and social conflicts are rare in the Brazilian Amazon.

The case of the Brazilian Amazon illustrates how governments can be subjected to intense influence from the international community. Demands from the international community have had critical impacts, both positive and negative, on the environment of the Brazilian Amazon. In recent years, the assertion of interests by some multilateral institutions (World Bank), industrialized countries (United States and Germany) and nongovernmental organizations (NGOs) has precipitated a number of reactions from the Brazilian government. It is important to note that such reactions have often been framed in security terms. The Brazilian government has reacted with a defense of Brazilian sovereignty in the Amazon while accepting the importance of some global environmental standards and international cooperation. However, this governmental acceptance of environmental concerns is framed in terms of rights and responsibilities of states, underscoring the principle of national sovereignty and the role of national security institutions in managing the Amazon basin. Hence, environmental management in the Brazilian context remains squarely within the traditional conception of security and its preoccupation with state sovereignty.

Sovereignty and the Brazilian Amazon

Does it make sense to speak of sovereignty in the Brazilian Amazon? The question can be answered by tracing the debate on Amazonian management. Applying a territorial criterion, the former Brazilian president José Sarney declared "the Amazon is ours," in 1989 in a statement entitled *Our Nature*. Sarney goes on to state "[it] is situated in our territory."[1] The name *Our Nature* suggested that Brazil was entitled to exercise internal sovereignty on environmental policy.

Brazilian sovereignty over the Amazon rain forest has been challenged by several actors, especially NGOs, on the ecological grounds that the importance of the Amazon extends far beyond the territory of Brazil. Part of the argument is based on the fact that the Amazon rain forest extends across the borders of the sovereign territory of Brazil to neighboring states. It should be remembered that the Amazon is shared by eight states.[2] The fixed territorial space in political terms does not always coincide with the territoriality of the ecosystems, which slices across geopolitical boundaries. Therefore, sovereignty conceived in its traditional way, as rule over a fixed, static territory, becomes problematic.

An internationalized conceptualization of the Brazilian Amazon implies that in the environmental arena, sovereignty no longer merely serves as the source of the state's claim to manage natural resources in the way it chooses without abiding by

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Sovereignty questions in Brazil require understanding two opposing perspectives that dominate the debates over environmental impacts on the principle of sovereignty. One perspective holds that sovereignty is eroding and weakening in the face of an antithetical relationship between sovereignty and ecology. Because ecosystem and environmental processes do not respect state borders, sovereignty itself becomes a key institution of global-scale environmental destruction. International treaties to address transboundary environmental issues represent an erosion of sovereignty as states agree to proscribe their actions. The second perspective claims that international processes, and in particular, the emergence of multilateral institutions for environmental protection, do not inevitably erode state sovereignty and may even strengthen it. By placing states at the center of institutional responses and strengthening their capacity to act collectively, it is argued, the menu of choices available to states is being expanded not restricted (Conca, 1994: 702). Furthermore according to Conca, treaties that may limit state actions vis-à-vis other states (external sovereignty) may simultaneously newly empower states domestically (internal sovereignty). In the case of Brazil, Conca suggests this more complex combination strengthens state and military actors internally while ceding external sovereignty through international treaties.

The Debate over the Internationalization of the Brazilian Amazon

As will be illustrated with the statements by former French President Mitterand, U.S. Vice President Al Gore, and former Soviet Premier Mikhail Gorbachev on various occasions, Brazil has been requested to assume a broader global responsibility vis-à-vis the international community. In addition, some NGOs, such as International Survival, have been particularly active in pushing forward some activities considered threats by the military. For instance, in 1989, International Survival mounted its largest campaign to date to press for the restoration of the Yanomani Park in northern Amazônia along the Venezuelan-Brazilian border.

These examples undergird a so-called internationalization of the Amazon that has been perceived as a real threat in Brazilian circles. As a result, in 1991, the Congressional commission of inquiry on the Internationalization of the Amazon (CPI) was established and mandated to investigate the existence of clandestine airports and the activities of religious missions in parts of Roraima, which supposedly provoked the internationalization of the Amazon. In the final report, the CPI focused much attention on the development model

preparation of environmental policy. In addition, the weak and competing former Environment Secretariat (SEMA) and the Forestry Institute (IBDF) were combined, along with two other small units, to produce a unified environmental agency (IBAMA). Nominally under the Ministry of Interior, IBAMA operates with financial autonomy under the leadership of Sarney's former press spokesman Fernando Mesquita (Kolk, 1996, Domask, 1997).

The most recent relevant example of military participation in designing and coordinating environmental policies is found in the establishment of the *Sistema de Protecâo da Amazonia* (SIPAM), and the *Sistema de Vigilancia de Amazonia* (SIVAM). The SIPAM has three regional bases (Portho Velho, Manaus, and Belém), and general headquarters in Brasilia. It is under the umbrella of SIPAM that the much talked about SIVAM satellite system (*Sistema de Vigilancia de Amazônia)* is being implemented. SIVAM is once again a civilian-military project, integrated under the SAE.

According to Brazilian officials, the principal aim of SIVAM (which started to function in July 1997 and is expected to be operational by the year 2002) is to allow for the effective implementation of SIPAM, providing the Brazilian government with the necessary information for sustainable development (Dreifuss, 1998). Some of the most important information that the system will provide to the Brazilian government will be to track land occupation and usage, conduct surveillance and border control, identify illegal activities, and develop economic and ecological zoning. The remote-sensing SIVAM infrastructure includes eight meteorological and environmental satellites and five sensor-equipped Embraer ERJ 145 airplanes for aerial early warning (AEW) that are capable of registering images through the dense tree forest cover and providing information on soil quality. In addition, the system includes three Embraer 145 RS planes for remote sensing and Swedish radar and twenty radar stations coordinated by Cindacta (Dreifuss, 1998: 28-29).[7]

SIVAM has also been placed within the sovereignty discourse. For example, the company Raytheon (the American company building the system) and Brazilian authorities have stated that among the principal benefits Brazil will gain from SIVAM are the capacity to have positive control over the area and the capacity to promote the integration of communities among themselves and with the ecosystem. These capacities are viewed as a way to guarantee Brazilian sovereignty in the Amazon.[8]

This discussion has illustrated how the environmental politics surrounding the Brazilian Amazon has been framed to a large extent within the security framework. It is logical that the institutions defending national integrity and independence have reacted with skepticism to an emphasis on transboundary effects of environmental change in the Amazon basin. Regardless of this skepticism however, the military has not adopted a position of open confrontation over environmental management of the Amazon. On the contrary, they are actively participating in such a process. A clear example is their influence in SIVAM as well as in the elaboration of the *Macro-Zoneamiento Ecolólico-Económico da Amazonia.* For example, in a document produced in 1995 with the participation of SAE, a strategic perception of the Amazonian region—without diminishing the importance of national frontiers—places great emphasis upon environmental concerns and needs as well as the wealth of natural resources (biodiversity, waters, and minerals). The combination of these factors results in a potential paradigm shift for frontier sustainable development. This

a perpetual state of human migration and further deforestation. This cycle often results in open conflicts over access to land resources.

Water resource issues in the Amazon present several examples where environmental change has strong social implications. The best known example comes from mining activities and the associated mercury contamination of watercourses. This pollution has contributed to conflicts mainly between Indian populations and *garimpeiros* (miners). Second, conflicts occur due to the increasing pressure on fishery-resources of smaller lakes. Pressure for regional urbanization, the development of fishing technology, the spreading of motor canoes and motor boats, and the growing number of regional ice factories, create these conditions (Shönemberg, 1994: 26). Both community and commercial fishermen ignore and externalize the environmental impacts of their activities. Their practice is to move on to the next fishing ground when one is cleared.

Social conflicts as a result of forest depletion in the Brazilian Amazon have been reported in several instances. The most well known case has been the 1988 assassination of Chico Mendes, the former president of the Rubber Tappers Union by ranchers. The process of deforestation through ranching activities in general has had a direct effect on the life of the forest-dwellers. The most evident conflict has been the expropriation of the customary lands of forest peoples. This clearing of forest for cattle ranching undercuts the survival strategies of Indians, rubber tappers, and nut collectors, whose way of living is

(0.81).[12] The Brazilian Amazon therefore is an open system ruled by internal and external forces that determined years of incremental rate of deforestation.

The problem of deforestation therefore must be viewed in context. One must understand that Amazonian deforestation is strongly associated with socio-economic variables. The deforestation should not just be presented as a problem in which members of the Brazilian society are cutting down the trees in the Amazon region. Instead the problem is a more deeply rooted problem relating primarily to the way millions of Brazilian people live.

Fearnside (1987) divides the present causes of deforestation into two categories: proximate causes and underlying causes. Proximate causes motivate landowners and claimants to direct their efforts to clearing forest as quickly as possible. The underlying causes are linked to wider processes in Brazil's economy (Fearnside, 1987: 42). Among the main proximal causes of deforestation are land speculation, tax incentives, and negative interest loans. Land speculation brings forest destruction as clearing establishes proprietary claims and raises the resale value of land. Certain tax incentives allow businesses to avoid paying taxes owed on enterprises elsewhere in Brazil if money is invested in Amazonian ranches. Finally, some financing of government-approved ranching projects comes at nominal interest rates lower than inflation.

In addition, certain general macroeconomics policies such as the income tax, the land tax, and land titling regulation are providing economic incentives for deforestation. Land taxes were aimed at converting unused forestland into more productive land. Therefore, farms containing forest were taxed higher than the ones containing only pasture and cropland. In this way, the policies created a direct incentive for large landowners to convert their land forest.[13]

Fearnside also groups together underlying causes of deforestation. He lists inflation, population growth, and road building. Inflation promotes speculation in real property, especially pasture land. Moreover, it increases attractiveness of low-interest bank loans for clearing. Population growth increases demand for subsistence production, increases the capacity to clear and plant, both for subsistence and cash crops, and increases political pressure for road building. Road building promotes immigration to the Amazon, and increases clearing by persons already present in the region (Fearnside, 1987: 45).

a proximate variable causing conflicts is obscured by social variables in the Amazon case. Instead, environmental change, in large part created by prior social, political, and economic variables, contributes to so-called "side-effects" or secondary impacts that can in turn, precipitate conflict. Hence it is the migration or the economic disruption caused by environmental changes that contribute directly to conflict rather than the environmental change itself.

This indirect role for the environment in contributing to conflict is one that is increasingly recognized by researchers.[15] Drawing from the case of the Amazon, one can conclude the web linking environmental change to social conflicts in the Amazon experiences the following phases:

Phase I: *Environmental change*
Deforestation
Pollution from mining
Floods caused by hydroelectric projects

Phase II: *Side-effects*
Economic disruption
Population displacement

Phase III: *Conflict-issues*
Land conflicts
Mineral conflicts

One would state that environmental change has never

environmental change has contributed to population displacement, and therefore to a high number of conflicts due to a large sector of the population that came to the area suddenly finding themselves excluded of the economic model. The exclusion occurs either because the soils were not good enough to support agriculture at commercial levels and/or subsistence level, or because the soil was already deteriorated by previous deforestation. It should be remembered that with the high deforestation in southern Pará, erosion starts to be a serious problem and the nutrient stocks normally decline. The high deforestation rates have provoked an acute process of environmental change because small farmers and colonists have to move further into the frontier, with the consequence of further deforestation.

A second important side effect has been the disruption of economic activities through the utilization of natural resources. In fact, this side effect could be linked to potential manifest conflicts, as can be observed in the negative effects on the traditional shifting agriculture. This kind2(e 6gricultur)10(e. wihic)]TJıT*ı0[(s kfundaental cor)natuve eopulation sin the nB10(erazlizn bAmaz10(tgriculture esel87e,the pmpoctiof fnvirtraditional sflod lacn tgriculture ,in arn tfisere st]TJıT*ı0.0483Twı0.125 Twı[(dp)6()87eoducivitiyaas b dk-0wmoT*ı-0.0nutural0.124 Twı[(cAmT*ı- tas bo)113eoris saTcı[(ditional]TJrs))]oBma2n ttimerI