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The Law, Politics, and Economics of Amazonian Deforestation

EMILIO F. MORAN*

The ineffectiveness of laws alone to protect the environment is nowhere as evident as in the contemporary destruction of the Amazonian rain and moist forests. Since 1975 the rate of deforestation has steadily accelerated with a four-fold increase to 125,000 square kilometers by 1980 and twenty-fold to 600,000 square kilometers by 1988.¹ The peak was reached in 1987 when up to 8 million hectares of forest were burned.² There is reason to be concerned with this scale of destruction. Not only does forest cutting and burning release earth-warming gases, but the diversity of the earth's species may be destroyed. The Amazon contains 26.5 percent of the planet's moist forests, estimated to contain 50 percent of all the world's species.³

The blame for deforestation has been assigned to very different actors. A number of analysts and government officials have been quick to blame the poor, small-scale farmers for most of the deforestation.⁴ In the Brazilian Amazon, and most of Latin America, the bulk of the deforestation is a result of fiscal incentives and tax holidays given to cattle ranches.⁵ Recent studies have increasingly blamed traditional elites for the bulk of

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1. DENNIS J. MAHAR, *GOVERNMENT POLICIES AND DEFORESTATION IN BRAZIL'S AMAZON REGION* (1989).

2. William Booth, *Monitoring the Fate of the Forests from Space*, 243 *SCIENCE* 1428, 1429 (1989); Alberto W. Setzer & Marcos C. Pereira, *Amazonian Biomass Burnings in 1987 and an Estimate of their Tropospheric Emissions*, *AMBIO*, Feb. 1991, at 19.

3. *KEY ENVIRONMENTS: AMAZONIA*, (Ghilleen T. Prance & Thomas E. Lovejoy eds., 1985); C.S. SILVER, *ONE EARTH, ONE FUTURE: OUR CHANGING GLOBAL ENVIRONMENT* (1990).

4. Cf. Norman Myers, *Tropical Forests: Present Status and Future Outlook*, *CLIMATIC CHANGE*, Sept. 1991, at 3, 17-18.

5. *THE FUTURE OF AMAZONIA: DESTRUCTION OR SUSTAINABLE DEVELOPMENT* 1-18 (David Goodman & Anthony Hall eds., 1990); Susanna Hecht, *Cattle Raising in the Eastern Amazon: Environment and Soil Implications*, in *THE DILEMMA OF AMAZONIAN DEVELOPMENT* (Emilio F. Moran ed., 1983); D. MAHAR, *GOVERNMENT POLICIES AND DEFORESTATION IN BRAZIL'S AMAZON REGION* (1989); EMILIO F. MORAN, *DEFORESTATION IN THE BRAZILIAN AMAZON* 8-10 (Indiana Center on Global Change and World Peace ed., 1992).

deforestation. The average size of a cattle ranch is 24,000 hectares, some of them are as large as 560,000 hectares, and they cover an area at least 8.4 million hectares in the Brazilian Amazon alone.⁶ Owners of properties at such scale have their own hired gunmen to threaten any effort by the landless to occupy any portion of their large properties. According to Brazilian law, citizens have usufruct rights to land that is not being cultivated after one year, and if they are able to maintain habitual use of the land for five years, they have a right to have it legally titled in their name.⁷ Given the very large size of these properties, and the often non-productive nature of economic activity of these properties, it is not uncommon for the landless to move into what appears to be available land. In many cases the occupants are not aware of who has a right to the land, given the absence of property boundaries. In other cases, it may be an invasion which challenges the right of some landowner to vast unused land. When violence is committed by the hired guns, it is difficult if not impossible to charge the owner, and even those carrying out the burning of the homes and at times even the murder of the squatters.

Even after the tax holidays and fiscal incentives were formally withdrawn in 1985, a result of international pressure on Brazil, bankers and other credit providers still favored cattle ranchers over small-scale farmers. The bulk of the subsidized credit in Brazil still goes to large-scale properties. Much of the credit is spent on clearing the maximum area of forest affordable, rather than investing in careful management of the property. This accounted for the bulk of deforestation in the 1980s. The peak of forest burning took place two years after the fiscal incentives and tax holidays were presumably cancelled.⁸ Cattle ranching is seen as a good hedge in a hyperinflationary economy such as that of Brazil.⁹ In 1993, this inflation is expected to surpass 1,400 percent. The forest, a public good, is converted into a marketable good once it is deforested. There has been little effort made to give value, economic or otherwise, to the native forests. The only way that a forested area has economic value in contemporary Brazil is when the forest is removed. This lack of economic value exposes them to

6. MAHAR, *supra* note 1, at 15.

7. Hans P. Binswanger, *Brazilian Policies that Encourage Deforestation in the Amazon*, 19 *WORLD DEV.* 821, 823 (1991).

8. Booth, *supra* note 2, at 1428.

9. Susanna B. Hecht, *The Logic of Livestock and Deforestation in Amazonia*, 43 *BIOSCIENCE* 687, 689-92 (1993).

predatory use. Cattle ranches, on the whole, are not economic enterprises unless they capture favorable loans or fiscal incentives.¹⁰ They support few head of cattle and the price of beef in Brazil has not declined despite the addition of millions of hectares of pasture to the landscape of Brazil. The only way to benefit from forest-to-pasture conversion is to keep selling the land, each time more deforested than before. Because the twenty-five percent capital gains tax on land sales is rarely collected, there is a strong incentive to engage in this sort of speculative land turnover given the large size of individual properties, and the increase in value that occurs with deforestation.¹¹

I. CONSTITUTIONAL LAW AND THE ENVIRONMENT

The Brazilian Constitution guarantees all its citizens a healthy and stable environment.¹² However, the federal government is limited by the Constitution to formulating only general norms, delegating to the states and counties the specification of those norms.¹³ It is only with the new Constitution of 1988 that the federal government “obligates” states and counties to carry out environmental impact assessment as a tool of environmental monitoring. However, fertilizer companies have fought efforts made by the legislatures of the southernmost states of Brazil to control the use of fertilizers in their respective regions as “unconstitutional.”¹⁴ Few states have implemented specific enough environmental policies to be workable. Because the bulk of the state and municipal taxes are not collected and used locally, but go to the federal coffers first, and then a small proportion is returned to state and local government, little incentive has been put into effective tax policies that benefit the local environment.

Legally, the authority to monitor the forest cover of the country falls into the hands of states and counties, institutions usually with low technical capability to undertake such monitoring—and perhaps more importantly,

10. Susanna Hecht et al., *The Economics of Cattle Ranching in Eastern Amazonia*, 13 *INTERCIENCIA* 233-40 (1988).

11. *Id.*

12. CONSTITUIÇÃO DA REPÚBLICA FEDERATIVA DO BRASIL; DIREITO AMBIENTAL E A QUESTÃO AMAZÔNICA 4 (Maria C. Dourado ed., 1991).

13. *Id.* at 10.

14. *See generally id.*

with no tradition of opposing powerful economic interests. In reality, the monitoring of forest cover is provided by the National Institute for Space Research (INPE), which is the receiving station for the United States LANDSAT satellite, the U.S. National Oceanic and Atmospheric Administration (NOAA) weather satellites and Le Systeme Pour L'Observation de la Terre (SPOT) French satellite data for South America. INPE, like most other notable research institutions in Brazil, is federally-funded. Brazil has been, for most of its history, a highly centralized, patrimonial, presidential system.¹⁵ Congress has been an ineffective and often incompetent organ—all too willing to turn its authority over to the executive, in exchange for federal largess in state and local level projects. Political parties change names rapidly and voters do not vote for a party with a consistent ideology but for strong personalities (who shift political parties at will).¹⁶ Efforts to change this system during the last Constitutional Convention failed due to the effective threats of then Brazilian President José Sarney (1984-89) to withhold federal funds from those failing to support a five-year term, and the inflationary largess of his government towards those who voted to maintain a strong presidential, rather than parliamentary, system. More recent efforts in 1993 to have a popular plebiscite to choose between presidentialism, parliamentarism, and monarchy, following the removal of President Fernando Collor de Mello (1989-92) on corruption charges resulted in a victory for presidentialism.

Given this highly personalistic political reality, and its political economic alliance with powerful elites, it has been difficult to enforce legislation which is not favored by those same interests. Any agent of the state trying to enforce environmental legislation which is not supported by a powerful local patron stands to be warned first to not report the violation, or experience personal violence (i.e. murder). Representatives of environmental protection agencies stand to experience the same mortal violence that Chico Mendes and other activists in rural Brazil have experienced.

15. *See generally* FERNANDO URICOECHEA, *THE PATRIMONIAL FOUNDATIONS OF THE BRAZILIAN BUREAUCRATIC STATE* (1980).

16. R. FAORO, *OS DONOS DO PODER: FORMAÇÃO DO PATRONATO POLÍTICO BRASILEIRO* (1958); VICTOR NUNES LEAL, *CORONELISMO, ENXADA E VOTO* 147-49 (1949).

Under Article 26 of the 1988 Brazilian Constitution,¹⁷ destruction of the Amazonian and the Atlantic forests became a crime under the penal code.¹⁸ This new constitutional provision has been rarely enforced and is based upon similar codes in France where it has been applied more successfully. Other general norms have been passed that provide protection to the fauna, the soil, the air, the water, the fisheries, and natural resources. The states have their own constitutions, derived from the federal one, which have attempted to elaborate on their obligations towards environmental protection. While well meaning, only one of the states made any effort to specify how they would create a fund to pay for the cost of protecting their environment.¹⁹ Without such practical steps, and given the precarious nature of most states' budgets, it is unlikely that enforcement by state or municipal authorities will occur. This failure to take into account the budgetary consequences of legislation or constitutional law has been a persistent problem in Latin American history which accounts for the mismatch between the intentions of the law and its implementation.

Other important obstacles to the protection of the environment in Brazil derive from archaic notions of the rights of owners of private property. Intervention of public authorities in what goes on inside a legally titled property is opposed by the elites who control very large properties, and by others who aspire to someday have them. Even though the Constitution links the right to private property to its "social function," this linkage has remained vague in legal terms and unapplied to destruction of vast areas within the private domain of individuals or corporations.

This situation has begun to change. A couple of political parties have emerged with strong political philosophies which may outlive their current leaders. If so, they may begin to formulate a clear environmental policy that can break the gridlock and sectoral confusion currently present. These same parties seem to be motivated by a grass-roots ideology seeking to involve the public in political economic decisions through mobilization and education. In so far as they incorporate environmental education as part of their overall plan to politically educate the public, progress can be foreseen in the coming generation. The Workers' Party and the Green Party have acted as a coalition in municipal elections and have been moderately

17. CONSTITUIÇÃO DA REPÚBLICA FEDERATIVA DO BRASIL art. 26 (Brazil).

18. *See generally* DIREITO AMBIENTAL E A QUESTÃO AMAZÔNICA, *supra* note 12.

19. *Id.*

successful on that level in linking environmental and social policy. The alliance has not been as successful at the national level where the environment has always taken second place to social and economic priorities.

One feature of recent environmental legislation which does not seem to have made its way into Brazilian Law, or at least into its implementation, is the now common notion in Canada, and increasingly in the U.S., that those who destroy or pollute the environment will be charged for the costs of restoring and/or cleaning it. This is an important principle which was not part of earlier cost/benefit analyses, and which reduces the likelihood that nonusers of a product, and the public at large be charged for the costs of resource destruction. This principle has been effectively implemented in restoring landscapes after strip mining, after clear-cutting forests, and other forms of previously publicly financed restoration in a number of countries. These costs are now included in the price of doing business and are passed on to consumers of that product—forcing them to rethink the resource they wish to use.

In the Brazilian Amazon this kind of principle is simply not applied. Gold miners and other mining concerns dig deep holes all over the basin in search of minerals, and leave a devastated terrain favorable to the spread of malaria. Malaria, which had been brought under control in the late 1950s, is now out of control in Brazil largely as a result of the activities of miners and the failure of any government entity to enforce the restoration of the landscape to its previous condition—despite the wealth that some actors are obtaining from these activities.

The same can be said for the currently devastating conversion of forest to charcoal in order to fire pig iron smelters in the eastern Amazon. The clear cutting of native forests was presumed in the legislation that approved the development of the pig iron smelters would be followed by reforestation, but policing and enforcement of this legal requirement has been lax—even though reforestation is financed by public funds from the federal government. In other words, like the earlier subsidies to cattle ranches, current subsidies for iron development is providing an income transfer from the average Brazilian taxpayer to the large owners of land producing

charcoal, leaving in its wake not a reforested and sustainable landscape but a degraded one.²⁰

II. THE ISSUE OF NATIONAL SOVEREIGNTY

One of the most complex wrinkles in the landscape of international environmental protection is the one presented by the concern with national sovereignty felt by a number of countries. Brazil is particularly sensitive to this issue. To understand this hypersensitivity it is necessary to recall how Brazil expanded from its Northeastern hump, given to Portugal in 1493 through the Treaty of Tordesillas. By 1750 Brazil more than doubled its territory through the Treaty of Madrid which acknowledged the Portuguese occupation of what is today the bulk of Brazil's territory. A number of later treaties further expanded Brazilian territory—most of the time by their de facto occupation of a region, rather than by any legal claims to it.²¹ Note that the most recent treaties took place during the Rubber Boom Era (1880-1920) when Brazil was particularly successful in mobilizing its population to exploit wild rubber stands deep in the Amazon interior.²² Nevertheless, Brazilians have always felt that most of their Amazonian territory was sparsely populated and thus, their claim to it precarious. Geopolitical thinkers within the Brazilian War College articulated a plan for not only ensuring their sovereignty over the current territory of Brazil but which even foresaw further expansion at the expense of Bolivia, Paraguay, and Venezuela.²³

Others who did not agree with this expansionist philosophy sought to follow a path of mutual cooperation with their neighbors and promoted a Treaty of Amazonian Cooperation (1978). One of its goals was to assure Brazil's neighbors of their respect for the current boundaries, and to share the cost of research on the resources of the region and their development. In 14 years very few concrete results can be seen, other than high level meetings by the Foreign Ministers. Some have diagnosed the problem as

20. GLOBAL ENVIRONMENTAL CHANGE: UNDERSTANDING THE HUMAN DIMENSIONS 68-71 (Paul C. Stern et al. eds., 1992).

21. For an illustration of the expansion of Brazil and the treaties which caused the expansion, see Lewis A. Tambs, *Geopolitics of the Amazon*, in *MAN IN THE AMAZON* 45, 60 (Charles Wagley ed., 1974).

22. See generally BARBARA WEINSTEIN, *THE AMAZON RUBBER BOOM 1850-1920* (1983).

23. GOLBERY DO COUTO E SILVA, *ASPECTOS GEOPOLÍTICOS DO BRASIL* (1957).

rooted in the failure of the Amazonian countries to create an executive or a judicial branch capable of making decisions that affect all the parties, as is the case with the European Economic Community (EEC) and even the Andean Pact countries.²⁴ Data sharing has rarely occurred. Common legal mechanisms for protecting the environment have not emerged. Some countries have accepted debt-for-nature swaps, while others have seen them as an infringement on their national sovereignty.

As can be expected, one of the most persistent themes in these gatherings has been to blame the developed countries for their exploitation of Amazonian resources, while preaching of the value of conservation to the Amazonian countries. This is important because multinationals appear to behave in contradiction to the actions of the states wherein they have their corporate headquarters. Are these corporations above the law? If not, whose law are they to abide by in terms of effluent standards, forest restoration, or landscape restoration after mining? Should they take the "high ground" and engage in economic processes using standards mandated in the First World, or use the lower standards allowed, or overlooked by lax local enforcement in Third World countries?

In recent gatherings of representatives of the various bar associations from Latin America, a common theme was to introduce environmental law into the curriculum of the law schools, and the formulation of laws which have real penalties in a court of law for environmental transgressions. As currently written, environmental laws in Latin America tend to be very general and philosophic and difficult to enforce.

III. THE ENVIRONMENT AND INDIGENOUS PEOPLE

One of the notable changes in international attitudes towards environment is evident in Agenda 21, from the Earth Summit in Rio de Janeiro. In that document, the rights of indigenous people to their lands was conceded and connected to their stewardship of nature. The United Nations General Assembly declared 1993 the International Year of the World's Indigenous People.

Chapter 26 of Agenda 21 foresees the need to support financially and legally the capacity of indigenous people to protect their territories from

24. A. M. Mattos, *O Interêsse Nacional e os Interesses Internacionais na Amazonia Brasileira*, in *AMAZÔNIA: DESENVOLVIMENTO OU RETROCESSO* 126 (J. M. Monteiro da Costa ed., 1992).

socially and environmentally unsound practices, and to use sustainably their lands. The declarations from Agenda 21 are very general, and will need to be specified for each place and each indigenous population. Some indigenous people represent populations in the tens of thousands and even hundreds of thousands, while others may have recently experienced devastating epidemics and represent only a few hundred individuals. For example, the Surui Indians in Rondonia experienced a loss of seventy-five percent of their population in one decade. Their low point, reached in 1978 was 322. Since then their numbers have increased dramatically, but they are still less than one thousand after almost twenty years of recovery from the epidemics they experienced upon contact.²⁵ Their capacity to engage in disputes with the federal government, may be limited, while populations with more substantial numbers may have teams of lawyers to assist them. This variable capability must be taken into account as globalizing legal procedures are considered and implemented.

Implementation of these resolutions is limited by absolute numbers, familiarity with legal venues of action, and clear claims on given territories. One of the most persistent sources of conflict derives from differences between their legally-established right to exist as Indians within a multi-ethnic state, and the actions of the Indian Protection Agency (FUNAI) which seems to promote abandonment of indigenous modes of living. This conflict leads to regularly occurring efforts to "privatize" Indian lands, to "emancipate" Indian populations, and other efforts to dissolve the structural foundations of these societies.²⁶

Anthropologists and lawyers familiar with Brazilian legislation agreed that the existing laws were sufficient to protect indigenous rights to land as well as Indian ethnicity within a multi-ethnic society.²⁷ The problem was one of implementation. Not only were competing parties interested in getting access to Indian lands, but the very protectors of the Indians (e.g. FUNAI) seemed bent on betraying the very laws which existed to guarantee the inalienable rights of indigenous peoples to communally-held lands. The only solution seen by this gathering of anthropologists was for civil society

25. Carlos Everaldo Coimbra, *From Shifting Cultivation to Coffee Farming: The Impact of Change on the Health and Ecology of the Surui Indians in the Brazilian Amazon 159* (1989) (unpublished Ph.D. dissertation, Indiana University).

26. *O INDIO PERANTE O DIREITO: ENSAIOS 12* (S. Coelho Santos ed., 1982).

27. *Id.*

to become increasingly educated and involved in this issue to ensure that the multi-ethnic nature of Brazilian society was affirmed and the rights of all were protected.

IV. CONCLUSION

The case of Brazil, and the Brazilian Amazon highlights the difficulty in designing internationally-binding legal instruments to promote sustainable uses of the earth's resources, and effective enforcement of regulations. There is a movement in most countries towards a rhetorical acceptance of environmental law, and the obligation of national law to protect the environment. Beyond these positive tendencies, the trajectories followed by countries in Latin America vary significantly. Colombia has seen no need to write into their Constitution any environmental protection, and has come out strongly against further colonization of its Amazonian territories.²⁸ In contrast, both Peru and Brazil take it for granted that they will continue to promote Amazonian occupation through colonization and development schemes and will resist efforts to stop them.²⁹ On the other hand, both the Peruvian and the Brazilian Constitution have affirmed the rights of all their citizens to a healthy, stable environment. But these are constitutional provisions disassociated from the funding required for their implementation and can be interpreted as efforts to satisfy international pressure without requiring any practical steps to bring them into action.

There are some positive signs at present that could spell opportunity for change in Brazil. The economy has had one of its longest bouts with hyperinflation in its history, and the pharaonic projects of the 1970s and 1980s may be undertaken less frequently in the 1990s. Some of these projects are among the classic examples of environmental destruction regularly cited in the literature. With the resignation of President Fernando Collor de Mello under threat of corruption charges and impeachment, the Brazilian Congress for the first time acted courageously in challenging the presidential system. Events since that resignation failed to take advantage of this opportunity. The plebiscite reaffirmed a strong presidency rather than facilitated the change towards greater parliamentarism. In short, patrimonialism prevailed over efforts to break up the bureaucratic

28. *Id.*

29. *Id.*

authoritarian tradition.³⁰ The cynicism and apathy of the Brazilian citizens was broken by the mobilization of people to ensure the ousting of President Collor. It was their mobilization which prevented the usual payoffs by the President to ensure his staying in power through pork-barrel handouts. This now mobilized citizenry has grown increasingly educated about the violations of law by companies and powerful individuals, and discovered new avenues—both legal and political—for demanding changes in how business is transacted. Traditional ways of doing business do not change overnight, but some of these traditional ways have been successfully challenged for the first time.

The question before those concerned with the implementation of global laws to protect the environment is what kind of international legal, political, and economic actions could lead to more effective protection of the richest realm of nature, given the fact that Brazil is sensitive to any compromise on its sovereignty and given its aspirations at world power status, its conflicting views towards its indigenous peoples, its patrimonial centralizing tradition of government, and its weak capacity for implementation of policies not supported by powerful interests? Fortunately, some sectors of Brazilian society have no less concern than foreign observers have, and their participation at the table to discuss ways to strengthen the responsiveness of Brazilian Law to its own citizens' health and well-being may hold one of the few bright hopes for a more effective linkage between law, economics, and politics in this contested setting.

30. See generally URICOECHEA, *supra* note 15.

