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A PIONEERING STATUTE IN A HOSTILE LANDSCAPE: BRAZIL'S ARTICLE 225 AND ITS SUCCESS IN PROTECTING BIODIVERSITY

INTRODUCTION

Earth is experiencing a “Sixth Great Extinction”¹ and thus a drastic loss of biodiversity.² The rate of species’³ extinction is currently “between 100 and 1,000 times greater” than levels predating humans.⁴ Biodiversity is an essential feature of ecosystems,⁵ which serve to filter water,⁶ clean air,⁷ purify soils,⁸ maintain climates,⁹ mitigate flooding,¹⁰ and

1. See TERRY GLAVIN, *THE SIXTH EXTINCTION* 1 (2006). An “extinction” is “the termination of any lineage of organisms.” E. O. WILSON, *THE DIVERSITY OF LIFE* 398 (2d ed. 1999). Scientists distinguish this sixth extinction from the five previous mass extinctions by the fact that the sixth extinction can reliably be blamed on human activity. GLAVIN, *supra*, at 3.

2. “Biological diversity, or biodiversity for short, is the variety of life on Earth—its genes, species, populations, and ecosystems.” Stuart L. Pimm et al., *What is Biodiversity*, in *SUSTAINING LIFE: HOW HUMAN HEALTH DEPENDS ON BIODIVERSITY* 3, 3 (Eric Chivian & Aaron Bernstein eds., 2008).

3. A “species” consists of “a population or series of populations of closely related and similar organisms. In sexually reproducing organisms, the species is usually more narrowly defined by the biological species concept: to wit, a population or series of populations of organisms that under natural conditions freely interbreed with one another but not with members of other species.” E. O. WILSON, *THE FUTURE OF LIFE* 217 (2002).

4. Pimm et al., *supra* note 2, at 18. The number of vertebrate species fell by 31% between 1970 and 2006. Secretariat of the Convention on Biological Diversity, *Global Diversity Outlook 3*, at 24 (2010) [hereinafter *Global Diversity Outlook 3*], available at <http://www.cbd.int/doc/publications/gbo/gbo3-final-en.pdf>. Vertebrates are species containing a back bone protecting a central nerve cord. They include mammals, birds, fish, amphibians, and reptiles. WILSON, *THE DIVERSITY OF LIFE*, *supra* note 1, at 407. Scientists estimate that 25% of all plant species, 42% of all amphibian species, and 40% of all bird species are approaching extinction. *Global Diversity Outlook 3*, *supra*, at 24.

5. An ecosystem is “a collection of different species, the physical environment in which they live, and the sum total of their interactions.” Pimm et al., *supra* note 2, at 4.

6. For example, microscopic organisms (microbes) transform nitrogen from its pollutant form into a harmless gas. Plants and microbes act to remove other toxic chemicals from rain runoff. *Id.* at 84.

7. Tree leaves capture particulates derived from fossil fuel combustion, fires, and other sources. *Id.* at 82.

8. Many plants capture heavy metals derived from industrial waste because the plants are able to use the heavy metals as a defense against insects and microbes. *Id.* at 92–95.

prevent erosion.¹¹ Studies indicate that ecosystems perform \$33 trillion worth of the above services per year,¹² and thus they are an enormously valuable asset, considering that the world's 2010 world gross domestic product totaled \$63.17 trillion.¹³

Since the 1980s, human society has become increasingly aware of the threat its activities pose to biodiversity as well as the extent to which human society relies on biodiversity.¹⁴ One hundred thirty nations have integrated explicit environmental provisions into their national constitutions.¹⁵ Some observers claim that Brazil's 1988 Federal Constitution (the "1988 Constitution") is the world's most advanced statute protecting the environment.¹⁶ The centerpiece of the 1988 Constitution's environmental program is Article 225,¹⁷ which includes both a fundamental right

9. In soils and plants, terrestrial ecosystems store 2,100 billion metric tons of carbon. This represents a valuable contribution to mitigating Earth's warming. *See id.* at 98.

10. From the near extermination of beavers at the height of the fur trade to the draining of flood plains, scientists believe human actions that harm biodiversity have exacerbated flood damages over the last three hundred years. *See id.* at 87–89.

11. Plant roots act to anchor soil, forest canopies reduce the velocity of rain, and tunnels formed by roots and animals channel runoff instead of allowing it to gather destructive force above ground. *Id.* at 89.

12. Robert Costanza et. al., *The Value of the World's Ecosystem Services and Natural Capital*, NATURE, May 1997, at 253.

13. CENTRAL INTELLIGENCE AGENCY [CIA], THE WORLD FACTBOOK (Oct. 18, 2011), available at <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html#>.

14. *See generally* BIODIVERSITY II: UNDERSTANDING AND PROTECTING OUR BIOLOGICAL RESOURCES (Marjorie L. Reaka-Kudla, Don E. Wilson & Edward O. Wilson eds., 2d ed. 1997) (following up on the seminal *Biodiversity* published in 1988, this update explores the range of biodiversity, its importance, methods of studying it, and how humans affect it); Pimm et al., *supra* note 2 (discussing the complex and indivisible relationship between biodiversity and human well-being); WILSON, THE FUTURE OF LIFE, *supra* note 3 (describing the ongoing decline of biodiversity and policies required to reverse this trend).

15. James R. May, *Constituting Environmental Rights Worldwide*, 23 PACE ENVTL. L. REV. 113, 114 (2005–2006). Sixty such constitutions provide a "fundamental right to a 'clean,' 'healthful,' or 'favorable' environment." *Id.* at 114.

16. *See* Henry McGee Jr. & Kurt Zimmerman, *The Deforestation of the Brazilian Amazon: Law, Politics, and International Cooperation*, 21 U. MIAMI INTER-AM. L. REV. 513, 531 (1989–1990); *see also* Joshua Bruckerhoff, *Giving Nature Constitutional Protection: A Less Anthropocentric Interpretation of Environmental Rights*, 86 TEX. L. REV. 615, 635 (2007) (suggesting that the Brazilian Constitution is an "ideal model for how constitutional language can provide a link between environmental rights and biodiversity protection").

17. Constituição Federal [C.F.] [CONSTITUTION] art. 225 (Braz.). This article reads in relevant part:

Article 225. All have the right to an ecologically balanced environment which is an asset of common use and essential to a healthy quality of life, and both the Government and the community shall have the duty to defend and preserve it for present and future generations.

Paragraph 1 - In order to ensure the effectiveness of this right, it is incumbent upon the Government to:

I - preserve and restore the essential ecological processes and provide for the ecological treatment of species and ecosystems;

II - preserve the diversity and integrity of the genetic patrimony of the country and to control entities engaged in research and manipulation of genetic material;

III - define, in all units of the Federation, territorial spaces and their components which are to receive special protection. any alterations and suppressions being allowed only by means of law, and any use which may harm the integrity of the attributes which justify their protection being forbidden;

IV - require, in the manner prescribed by law, for the installation of works and activities which may potentially cause significant degradation of the environment, a prior environmental impact study, which shall be made public;

V - control the production, sale and use of techniques, methods or substances which represent a risk to life, the quality of life and the environment;

VI - promote environment education in all school levels and public awareness of the need to preserve the environment;

VII - protect the fauna and the flora, with prohibition, in the manner prescribed by law, of all practices which represent a risk to their ecological function, cause the extinction of species or subject animals to cruelty.

Paragraph 2 - Those who exploit mineral resources shall be required to restore the degraded environment, in accordance with the technical solutions demanded by the competent public agency, as provided by law.

Paragraph 3 - Procedures and activities considered as harmful to the environment shall subject the infractors, be they individuals or legal entities, to penal and administrative sanctions, without prejudice to the obligation to repair the damages caused.

to a biologically diverse environment and a statement of national policy aimed at protecting biodiversity.¹⁸ For the past twenty years, however, legal scholars have refused to attribute improved biodiversity protections to Article 225 because they allege that Brazil's enforcement mechanisms remain incapable of implementing Article 225.¹⁹

This Note reveals that Article 225, despite enforcement difficulties, has been instrumental in protecting biodiversity through legislation, litigation, and as a statement of principle.²⁰ Part I will describe biodiversity in Brazil and its decline. Part II will set forth the weaknesses in Brazil's biodiversity law before Article 225. Part III will describe the circumstances surrounding Article 225's adoption and the implications of its language. Part IV will summarize enforcement obstacles confronting Ar-

Paragraph 4 - The Brazilian Amazonian Forest, the Atlantic Forest, the Serra do Mar, the Pantanal Mato-Grossense and the coastal zone are part of the national patrimony, and they shall be used, as provided by law, under conditions which ensure the preservation of the environment, therein included the use of mineral resources.

Paragraph 5 - The unoccupied lands or lands seized by the states through discriminatory actions which are necessary to protect the natural ecosystems are inalienable.

Paragraph 6 - Power plants operated by nuclear reactor shall have their location defined in federal law and may not otherwise be installed.

18. *See id.* ("All have the right to an ecologically balanced environment . . . and both the Government and the community shall have the duty to defend and preserve it for present and future generations.").

19. *See generally* Janelle E. Kellman, *The Brazilian Legal Tradition and Environmental Protection: Friend or Foe*, 25 HASTINGS INT'L & COMP. L. REV. 145, 146 (2000–2001) (arguing that Brazil's judicial and legal culture is not conducive to actualizing environmental law); Christina Schwansee Romano, *Brazilian Government Policies towards the Amazon Rain Forest: From a Developmental Ideology to an Environmental Consciousness*, 10 COLO. J. INT'L ENVTL. L. & POL'Y 65, 66 (1999) (asserting that a lack of human and financial resources renders Brazilian environmental policy "largely rhetorical"; describing problems undermining the Brazilian judiciary, including corruption, lack of judges, large caseloads, nepotism, and "politicization," and attributing the failure of implementing national constitutional rights in Brazil to the "administrative culture" and "political-economic atmosphere" characteristic of a postcolonial society); Augusto Zimmermann, *Constitutional Rights in Brazil: A Legal Fiction*, 14 ELAW J. 28, 55 (2007) (attributing the unenforceability of constitutional rights to the "sense of lawlessness that pervades Brazilian society as a whole"); James May & Erin Daly, *Vindicating Fundamental Environmental Rights Worldwide*, 11 OR. REV. INT'L L. 365, 406 (2009) (concluding as recently as 2009 that Article 225's fundamental right is "unenforceable" due to the continuing pressures of economic development).

20. This Note analyzes English language scholarship regarding Article 225. *See* C.F. art. 225 (Braz.).

ticle 225 and describe how Article 225 has nevertheless improved biodiversity protections in Brazil through strengthening biodiversity legislation, influencing environmental litigation, and presenting a constitutional statement of principle.

I. THE DECLINE OF BIODIVERSITY IN BRAZIL

Brazil contains about 10% of the world's known plant and animal species, and probably contains an even larger percentage of the world's existing species.²¹ Because Brazil possesses one-third of the remaining rainforest on Earth,²² it has become a front line in the struggle to protect biodiversity.²³ The Amazon rainforest is "home to Earth's greatest diversity of birds, insects and plants."²⁴ New species continue to be discovered in the Amazon rainforest at a remarkable rate.²⁵ Despite the Amazon's

21. *About Brazil*, WORLD WILDLIFE FUND [WWF], http://wwf.panda.org/who_we_are/wwf_offices/brazil/about_brazil/ (last visited Mar. 1, 2012) [hereinafter WWF-BRAZIL]. Scientific research has been the least thorough in the world's most biologically diverse regions, such as tropical rainforests. Thomas M. Lewinsohn & Paulo Inácio Prado, *How Many Species are there in Brazil?*, 19 CONSERVATION BIOLOGY 619, 621. Other studies have claimed that the Amazon rainforest itself contains 20% of the world's existing biodiversity. Colin Crawford & Guilherme Pignataro, *The Insistent (and Unrelenting) Challenges of Protecting Biodiversity in Brazil: Finding "Law that Sticks,"* 39 U. MIAMI INTER-AM. L. REV. 1, 10 (2008). For up-to-date data on Brazil's biodiversity, see MINISTRY OF THE ENVIRONMENT, FOURTH NATIONAL REPORT TO THE CONVENTION ON BIODIVERSITY: BRAZIL (2010) [hereinafter MINISTRY REPORT], available at www.cbd.int/doc/world/br/br-nr-04-en.pdf.

22. WWF-BRAZIL, *supra* note 21.

23. E.O. Wilson has said: "The greatest ongoing damage was and remains the destruction of tropical forests, where most kinds of plants and animals on Earth live. It has always been clear that the struggle to save biological diversity will be won or lost in the forests." WILSON, *THE FUTURE OF LIFE*, *supra* note 3, at 171. *But see* Douglas Southgate & Howard L. Clark, *Can Conservation Projects Save Biodiversity in South America*, AMBIO, May 1993, at 163 (cautioning against an approach to conservation that focuses too much on the Amazon rainforest at the expense of other Brazilian and South American ecosystems).

24. LAURA & WILLIAM RILEY, *NATURE'S STRONGHOLDS: THE WORLD'S GREAT WILDLIFE RESERVES* 529 (2005). Of the Amazon's plant species, 75% are endemic to the area. An "endemic species" is a species found in a certain region and nowhere else. CHRISTIAN THOMPSON, WORLD WILDLIFE FUND, *AMAZON ALIVE!: A DECADE OF DISCOVERY 1999-2009*, at 7 n.1 (2009). The Amazon contains nearly 25% of the world's known bird species and 50% of known freshwater fish species. RILEY, *supra*, at 529.

25. *See generally* THOMPSON, *supra* note 24, at 8-11 (noting that at least 1,222 new species of plants and vertebrates were discovered between 1999 and 2009, including a new species of anaconda, tarantula, and parrot). However, the report reminds us that its statistics do not include invertebrates and thus calculations of the Amazon's biodiversity

wealth of biodiversity, scientists believe the “greatest plant diversity on the planet” exists in Brazil’s Atlantic Rainforest.²⁶ The Pantanal, another biome located on the southwestern border of Brazil, is considered the “world’s largest wetland”²⁷ and “home to some of the greatest concentrations of fauna in the New World.”²⁸ Other noteworthy biomes include the Cerrado,²⁹ Araucarias,³⁰ Caatinga,³¹ and various “coastal ecosystems” along Brazil’s Atlantic coast.³²

Numerous anthropocentric activities jeopardize the existence of these biologically diverse biomes. The five principle causes of worldwide biodiversity decline are habitat loss, unsustainable exploitation of natural

are certainly underestimated. *See id.* For example, “in approximately 5 hectares of Amazon rainforest, 365 species of ants [invertebrates] were found.” *Id.* at 7.

26. Crawford & Pignataro, *supra* note 21, at 10.

27. “Generally, wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface.” *Wetlands Definitions*, U.S. ENVTL. PROT. AGENCY, <http://water.epa.gov/lawsregs/guidance/wetlands/definitions.cfm> (last visited Mar. 1, 2012).

28. RILEY, *supra* note 24, at 533. The biodiversity of the Pantanal includes the capybara, “the world’s largest rodent,” and so many varieties of birds that “birders often see 100 or more avian species in a single day.” *Id.* at 534.

29. “A conjunction of vegetable formations, at times dominated by herbaceous plants and at others by bushes and small trees” which accounts for 25% of Brazil’s land. Crawford & Pignataro, *supra* note 21, at 11. It contains 4,400 endemic plant species, 14 endemic mammal species, 17 endemic bird species, 28 endemic amphibian species, 33 endemic reptile species, and 200 endemic freshwater-fish species. *Biodiversity Hotspots: Cerrado*, CONSERVATION INT’L, <http://www.biodiversityhotspots.org/xp/hotspots/cerrado/Pages/biodiversity.aspx> (last visited Mar. 1, 2012). The Cerrado includes an underground river system which some scientists have suggested may contain biodiversity equal to the Amazon Rainforest. Crawford & Pignataro, *supra* note 21, at 11.

30. A forest comprising 15% of Brazil’s territory and distinguished by the pine species *Araucaria angustifolia*. Crawford & Pignataro, *supra* note 21, at 11.

31. A “desert-like” biome comprising 11% of Brazil’s territory. *Id.* at 311. In the Caatinga, 30% of the plant species and 10% of the vertebrate animals are endemic. Jose Maria C. da Silva, *Terrestrial Ecoregions: Caatinga*, WWF (2001), http://www.worldwildlife.org/wildworld/profiles/terrestrial/nt/nt1304_full.html.

32. Brazil’s coastal ecosystems include mangrove swamps and other habitats that possess variations of Amazon species specially adapted to live in sandy salt water. Crawford & Pignataro, *supra* note 21, at 12–13.

resources, invasive species,³³ pollution, and climate change.³⁴ The largest single source of biodiversity loss in the world is habitat loss.³⁵

In Brazil, studies have focused on deforestation as the primary cause of habitat loss.³⁶ Highway construction,³⁷ soybean cultivation,³⁸ logging,³⁹ cattle pasture,⁴⁰ mining,⁴¹ human-induced flooding,⁴² assertion of land title,⁴³ and systematic government efforts to settle sparsely populated

33. An invasive species is “[a] species of plant, animal, or microorganism that is both alien to the environment in which it lives and destructive in some manner to the environment and its inhabitants.” WILSON, *THE FUTURE OF LIFE*, *supra* note 3, at 216.

34. *Global Diversity Outlook 3*, *supra* note 4, at 55.

35. *Id.*; see also Southgate & Clark, *supra* note 23, at 163 (“Almost everyone agrees, reasonably enough, that habitat loss is the main cause of species extinction in most parts of the world.”).

36. The causes of deforestation in Brazil have been amply documented. See generally Emilio Moran, *Deforestation and Land Use in the Brazilian Amazon*, 21 HUM. ECOLOGY 1, 3–8 (1993) [hereinafter Moran, *Deforestation and Land Use*] (tracing the deforestation of the Amazon from the founding of Brasilia in the late-1950s and construction of surrounding roads to present-day cattle farming, soy agriculture, land speculation, government development subsidies, mining, and logging); Romano, *supra* note 19 (focusing on the Brazilian government’s “ideology” of “developmentalism” during the 1960s, 1970s, and the 1980s, which produced fiscal incentives and tax policies provoking deforestation); U.N. Env’tl. Programme [UNEP], *State of Biodiversity in Latin America and the Caribbean 2* (2010) [hereinafter UNEP], available at http://www.unep.org/dec/PDF/LatinAmerica_StateofBiodiv.pdf (attributing half of all deforestation in Latin America to commercial agriculture but also naming logging and infrastructure as secondary causes).

37. Moran, *Deforestation and Land Use*, *supra* note 36, at 3–8.

38. Brazil produces the second-largest amount of soy among the world’s nations. Crawford & Pignataro, *supra* note 21, at 316.

39. Logging has been a minimal cause of deforestation compared to other factors. Only about 4% of deforestation through the 1970s was due to lumbering. Michael S. Giaimo, *Deforestation in Brazil: Domestic Political Imperative –Global Ecological Disaster*, 18 ENVTL. L. 537, 550 (1988).

40. Logging and soybean cultivation, though significant factors, “pale . . . in comparison to the spectacular rise in cattle ranching.” Bradley S. Romig, *Agriculture in Brazil and its Effect on Deforestation and the Landless Movement: A Government’s Attempt to Balance Agricultural Success and Social Collateral Damage*, 11 DRAKE J. AGRIC. L. 81, 87 (2006).

41. Moran, *Deforestation and Land Use*, *supra* note 36, at 7.

42. For example, three hydroelectric dams flooded 2,000 km² of the Amazon rainforest in the 1980s. James Brooke, *Tucurui Journal*; *In an Amazon Lake, Underwater Logging Blooms*, N.Y. TIMES, Aug. 14, 1990, at A4.

43. Numerous government programs have required landowners to “improve” the land (which often involves clearing forest) in order to assert title. Giaimo, *supra* note 39, at 548.

regions all propel deforestation.⁴⁴ Deforestation has certainly resulted in the extinction of numerous species in Brazil.⁴⁵ It also tends to exacerbate the other causes of biodiversity decline.⁴⁶

Deforestation and other forms of habitat loss have significantly harmed Brazil's most biologically diverse biomes. The Atlantic Rainforest is considered the "second most endangered ecosystem in the world."⁴⁷ Though it once covered 15% of Brazil, now only 7.3% of the entire forest remains.⁴⁸ After the Atlantic Rainforest, human activity has harmed the Cerrado more than all other Brazilian habitats.⁴⁹ Grain and beef agriculture, as well as charcoal production, have resulted in the steady depletion of the Cerrado's natural resources.⁵⁰

In the Amazon, there was no significant deforestation before 1975.⁵¹ By 1988, compelled by government-sponsored development and economic expansion, Brazil was burning more rainforest than any other country in the world.⁵² Yet deforestation did not peak in Brazil until 2004.⁵³ A general consensus posits that 17% of the original forest has been destroyed due to human activity.⁵⁴

44. Before increased environmental consciousness at the end of the 1980s, government subsidies and incentives allowed "a relatively small population to have a large and deleterious impact on the rain forest." Romano, *supra* note 19, at 66.

45. I.M. Turner, *Species Loss in Fragments of Tropical Rain Forest: A Review of the Evidence*, 33 J. APPLIED ECOLOGY 200, 200 (1999).

46. Jeannine Maria Felfili, *Growth, Recruitment, and Mortality in the Gama Gallery Forest in Brazil over a Six Year Period (1985-1991)*, J. TROPICAL ECOLOGY 67, 68 (1995) (describing how deforestation and ensuing mining and farming causes mercury poisoning and other kinds of pollution in nearby water courses thus destroying freshwater habitats); *About the Amazon*, WWF, http://wwf.panda.org/what_we_do/where_we_work/amazon/about_the_amazon (last visited Mar. 1, 2012) (describing how the Amazon rainforest contains between 90–140 billion metric tons of carbon which "would accelerate global warming significantly" if released).

47. Second only to Madagascar's rainforest. Marcia Marques et. al., *Water Environments Anthropogenic Pressures and Ecosystem Changes in the Atlantic Drainage Basins of Brazil*, 33 AMBIO 68, 71–72 (2004).

48. *Id.* at 72.

49. MINISTRY REPORT, *supra* note 21, at 68.

50. *Id.*

51. See Moran, *Deforestation and Land Use*, *supra* note 36, at 8.

52. Kellman, *supra* note 19, at 147–48.

53. 27,000 km² were burned during 2004. Deforestation in the Amazon declined dramatically between 2008 and 2009 (7,000 km² of forest was cleared.) UNEP, *supra* note 36, at 2. In 2010, the Brazilian government announced the largest reduction in deforestation since the government had begun tracking nationwide deforestation in 1988 (the year Article 225 was ratified as part of the 1988 Constitution). *Brazil Details Record Drop in Deforestation*, 33 INT'L. ENVTL. REP. (BNA) No. 473, at 886 (May 2010). Greenpeace,

Though habitat loss is the preeminent threat to biodiversity in Brazil, the other causes of biodiversity decline are not without representation across the Brazilian ecological landscape. A 2005 study identified 171 invasive species⁵⁵ competing with native flora and fauna.⁵⁶ Pollution in Brazil's waterways remains a prominent menace to biodiversity.⁵⁷ Unsustainable resource exploitation, though typically associated with deforestation, is viewed as the primary threat to Brazil's marine habitats.⁵⁸ Agricultural and industrial wastes represent ongoing challenges to ecological health.⁵⁹ Climate change predictive models suggest upcoming biome transformation throughout Brazil.⁶⁰ Within these biomes, scientists expect the total number of endangered species to rise to 744 by 2020.⁶¹

however, has indicated that the reduction is due to the worldwide economic crises as opposed to environmental regulation. *Id.* Another cause for concern is the massive increase in deforestation announced in May 2011. *Brazil: Amazon Rainforest Deforestation rises Sharply*, BBC NEWS (May 19, 2011, 4:25 PM), <http://www.bbc.co.uk/news/world-latin-america-13449792>. This latest study concluded that deforestation had risen by 27% between August 2010 and April 2011. *Id.* Many observers attribute the sudden upswing in deforestation to a pending bill in the Brazilian legislature which would forgive violations of the Forest Code, a law dating from 1934 which limits the amount of land farmers can deforest. *Id.* Yet Stephan Schwartzman of the Environmental Defense Fund believes that agriculturalists are seeking to weaken the Forest Code because the former environment minister, Marina Silva, began to rigorously enforce it over the past decade. *In Brazil, Fears of a Slide Back for Amazon Protection*, N.Y. TIMES, Jan. 24, 2012, at A6. If such views are correct, they indicate that Brazil's enforcement mechanisms are finally overtaking Article 225's ambitious environmental framework.

54. UNEP, *supra* note 36, at 2.

55. MINISTRY REPORT, *supra* note 21, at 54.

56. Humans intentionally introduced 76% of the invasive species. *Id.* at 54.

57. Just 52.2% of Brazilian municipalities currently have a wastewater collection system. Only 18% of wastewater receives treatment and 58% of collected solid waste does not receive proper disposal. *Id.* at 72–75.

58. Fishing and related activities are causing substantial damage to marine habitats. *Id.* at 84.

59. Brazil imports more agricultural chemicals than any other country. *Id.* at 73–77.

60. Winter temperatures could increase in the Amazon while rainfall decreases. *See id.* at 81. Pessimistic scenarios suggest the Amazon and Atlantic Forests could become grassland. *See id.* Temperatures are expected to rise in the Pantanal. *Id.* On the coasts, coral reefs could become the first Brazilian ecosystems to become irretrievably destroyed as a result of climate change. *Id.*

61. *Id.* at 37.

II. WEAKNESSES IN BRAZIL'S BIODIVERSITY LAW BEFORE ARTICLE 225

Before Article 225, Brazilian biodiversity protections were embedded in policy aimed at human health and economic development.⁶² Not until the 1980s did Brazil's national policy diverge from a rampant pro-development agenda.⁶³ The federal legislature passed various codes to protect water and forests,⁶⁴ yet the government's unbridled pursuit of economic development led to only minimal conservation of resources.⁶⁵ Prior to Article 225, even Brazil's most broad and vigorous "environmental" legislation relegated biodiversity to a subservient role beneath economic expansion.

For example, observers characterize the National Environmental Policy Act of 1981 ("NEP") as "Brazil's cornerstone environmental regulation."⁶⁶ The law instituted a short-lived but wide mandate for the government to pursue sustainable development, set environmental standards, research the environment, and educate the Brazilian populace regarding the environment.⁶⁷ NEP created the National Environmental System

62. The term "ecological" appeared in a constitutional amendment from 1969 but it referred only to a precondition for landowners to receive government subsidies. Antonio De Aguiar Patriota, *An Introduction to Brazilian Environmental Law*, 40 GEO. WASH. INT'L L. REV. 611, 613 (2009). "Ecology" is "[t]he scientific study of the interaction of organisms with their environment, including the physical environment and the other organisms in it." WILSON, *THE FUTURE OF LIFE*, *supra* note 3, at 214. It is worthwhile to note the scarcity of this term in legislation before 1988 because Article 225 describes a fundamental right to an "ecologically balanced" environment. Ernest Brandl & Hartwin Bungert, *Constitutional Entrenchment of Environmental Protection: A Comparative Analysis of Experiences Abroad*, 16 HARV. ENVTL. L. REV. 1, 78 (1992).

63. See José Drummond & Ana Flávia Barros-Platiau, *Brazilian Environmental Laws and Policies 1934-2002: A Critical Overview*, 28 LAW & POL'Y 83, 85 (2006) (dividing Brazilian environmental law into three distinct phases between 1932 and 2002: 1934–1964, "marked by strong development efforts based on pervasive state intervention ...and on the expansion of agricultural frontiers"; 1964–1988, a period similar to the first except for the presence of "renewed environmental regulations and policies"; and 1989–2002, a period marked by comprehensive reform of environmental regulations, consolidation of environmental agencies and laws, but a lack of effective state intervention). For a general history of Brazilian environmentalism reaching as far back as the Roman invasion of Lusitania (modern day Portugal, the colonizer of Brazil), see Arlindo Daibert, *Historical Views on Environment And Environmental Law in Brazil*, 40 GEO. WASH. INT'L L. REV. 779 (2008–2009).

64. See Drummond & Barros-Platiau, *supra* note 63, at 86–89.

65. *Id.*

66. *Id.* at 93. NEP was the very first time the term "environment" had been defined in Brazilian laws. Patriota, *supra* note 62, at 612.

67. Kellman, *supra* note 19, at 154.

("SISNAMA")⁶⁸ and its sub-council, the National Environmental Council ("CONAMA")⁶⁹ to implement Brazil's environmental goals.⁷⁰ NEP sought to achieve the "preservation, enhancement and restoration of environmental quality essential to life, aiming at insuring socio-economic development conditions."⁷¹ Therefore biodiversity protection was not a goal in and of itself. The reality of such an arrangement meant that the law prioritized national security and economic development, but failed to elevate biodiversity conservation beyond a "clear third place."⁷² The law emphasized "optimum economic conditions" and thus represented a continuum of subjugating biodiversity's needs to overriding economic concerns.⁷³ NEP was just a "trace" of a legal initiative to remove threats to biodiversity.⁷⁴ The law proved that the Brazilian government still regarded economic development as *the* priority in enacting federal environmental legislation. Brazil still lacked a legal declaration of sufficient authority and sanctity that could lift biodiversity into the category of a legislative objective.

Other legislative acts less revered than NEP also represented mere traces of biodiversity as a priority. Decree-Law 5.894, passed in 1943, established the government's option to create special refuges for native animals.⁷⁵ Though breeding and domestication may not have been the law's goals, the absence of these concerns does not mean that the legislature passed the act for the ultimate purpose of protecting biodiversity. In fact, Decree-Law 5.894 served to expound upon the 1934 Hunting and Fishing Code.⁷⁶

68. SISNAMA is an umbrella network of environmental agencies and their regulations drawn from the local, state, and federal level. Drummond & Barros-Platiau, *supra* note 63, at 93.

69. CONAMA is SISNAMA's operative branch, charged with establishing guidelines and regulations for the issuance of pollution permits, screening environmental impact statements, undertaking technological development, managing tax breaks to relevant industries, and setting penalty levels for environmental violations. *Id.* CONAMA includes employees of federal, state, and local government and representatives of businesses, scientific institutions, environmental NGOs, and labor unions. *Id.*

70. *See id.*

71. Lei No. 6.938, de 31 de Agosto de 1981, DIARIO OFICIAL DA UNIÃO [D.O.U.] de 22.9.2010 (Braz.)

72. Drummond & Barros-Platiau, *supra* note 63, at 92.

73. *Id.*

74. *See id.*

75. Drummond and Barros-Platiau claim that there are no "signs" that "commercial breeding" or "domestication" were goals of this decree and at the time such a concern for "breeding of wild animals . . . was rare anywhere in the world." *Id.* at 88.

76. *See id.*

Furthermore, where Brazil made modest advances towards protecting biodiversity as a consequence of economic policies, the progress was soon reversed. For instance, the Land Statute, passed in 1964, allowed the government to confiscate private land if the land's title-holder failed to preserve the land's "social function."⁷⁷ The achievement of social function required "conservation of natural resources," as well as fair distribution and "adequate use."⁷⁸ Yet "nature" remained classified as a "resource" and buried within the larger contemporary issue of property rights.⁷⁹ The law did not mention biodiversity as a policy goal, and instead was aimed directly at land reform.⁸⁰

In 1969, Decree-Law 554 essentially removed the government's power to confiscate land based on the owner's "waste" of resources,⁸¹ therefore reversing a key tenet of the Land Statute.⁸² The new law did permit the government to buy private properties in order to create national parks,⁸³ but no national parks were created as a result of the Land Statute or the less progressive Decree-Law 554.⁸⁴ As a result, the two laws neither advanced biodiversity nor defined biodiversity as a legitimate legislative goal.⁸⁵

Similarly, Decree-Law 289 of 1967 failed to prioritize biodiversity protection despite creating a federal agency "dedicated to the issue of conservation and preservation of renewable natural resources in Brazil."⁸⁶ The new agency, the Brazilian Institute of Forestry Development ("IBDF"), was mostly concerned with the limited issue of logging management.⁸⁷ In fact, Decree-Law 289 may have actually reduced biodiver-

77. *Id.* at 89.

78. *Id.*

79. *See id.* Colin Crawford and Guilherme Pignataro caution that Brazilian law traditionally guards individuals' property rights with greater sanctity than in the United States. Crawford & Pignataro, *supra* note 21, at 20. Although the 1934 Constitution explicitly recognized the social function of property, the private property tradition exacerbated by Brazil's rampant development blunted the teeth of Brazil's early environmental laws. *Id.* at 20–21. Drummond and Barros-Platiau assert that "the most important institutional trend to affect contemporary Brazilian environmental regulations is *the chronic lack of governmental control over public lands and private land uses.*" Drummond & Barros-Platiau, *supra* note 63, at 85.

80. *See* Drummond & Barros-Platiau, *supra* note 63, at 89.

81. *See id.*

82. *See id.*

83. For a complete introduction to Brazil's numerous kinds of conservation units, *see generally* Crawford & Pignataro, *supra* note 21.

84. Drummond & Barros-Platiau, *supra* note 63, at 89.

85. *See id.*

86. *Id.* at 91.

87. *Id.*

sity protection since it placed parks and nature reserves under the control of a “production-oriented agency.”⁸⁸

Other early environmental laws and concepts aimed at biodiversity protection were discredited because of the political climate during which they emerged.⁸⁹ The New Forest Code of 1965 broadened the definition of “protective” forests and distinguished actual plant species that merited protection in certain ecosystems.⁹⁰ The code provided tax incentives to private owners of protected forests in return for conservation easements.⁹¹ Article 3 of the code listed the reasons behind the legislation: “preservation of scenic beauty, conservation of soils, stabilization of dunes, protection of soils, preservation of habitats, [and] protection of indigenous peoples.”⁹² Though the New Forest Code may have signaled “significant conceptual innovations,”⁹³ it also represented the undemocratic coercion projected by a military dictatorship.⁹⁴ Those parties nega-

88. However, in the 1970s, the IBDF established eleven national parks and nine biological preserves. *Id.* “These include some of the most important and/or largest components of the Brazilian conservation unit system.” *Id.*

89. For example, “the phrase social function first appeared in Brazilian law in the constitution of 1946 but was largely ignored by the government until the end of military rule in Brazil in 1985.” Thomas T. Ankersen & Ruppert Thomas, *Tierra y Libertad: The Social Function Doctrine and Land Reform in Latin America*, 19 TUL. ENVTL. L.J. 69, 102 (2006). Therefore, not only was biodiversity protection subsumed under the social function of property, but oftentimes the explicit concern for social function was not seriously addressed by military dictatorships.

90. Drummond & Barros-Platiau, *supra* note 63, at 90.

91. *Id.*

92. *Id.*

93. *Id.*

94. The year before the government passed the New Forest Code, a coup d’etat unseated the federal democracy which had existed since 1945. Keith Rosenn, *Federalism in Brazil*, 43 DUQ. L. REV. 577, 580–81 (2004–2005). In the new military dictatorship, the government restricted the franchise for presidential elections to military generals, confined the appointment of state governors to the preferences of the military, and “purged” the Congress of “subversive elements.” *Id.* at 583. The dictatorship curbed civil and political rights, censored the press through intimidation and imprisonment, ostracized scholars espousing doctrines contrary to the government’s program, maximized the authority of military tribunals to hear political crimes, and permitted law enforcement to employ torture against “threats” to “national security.” Henry J. Steiner & Henry J. Trubek, *Brazil – All Power to the Generals*, 49 FOREIGN AFF. 464, 464–79 (1971) (describing the ideological, political, and economic causes of the 1964 *coup d’etat* and its impact on Brazil). Though some hallmarks of the military dictatorship were relaxed in the 1970s as the dictatorship’s once-successful economic program stagnated and opposition grew, the military did not allow a transition to democracy until 1985. Rosenn, *supra*, at 583. The New Forest Code and the Animal Protection Law both updated codes created during a military dictatorship pre-dating the 1964 coup. Drummond & Barros-Platiau, *supra* note 63, at

tively affected by the New Forest Code had no “defense” against government action.⁹⁵ The authoritarian context and rigidity of the decree became increasingly unappealing as a more democratic approach to the environment ripened throughout Brazil in the 1980s.⁹⁶ Additionally, the absence of a national policy protecting biodiversity remained a considerable defect of the New Forest Code, which did not yet carry constitutional force.⁹⁷

Political context also cast doubt upon Law-Decree 73.030 of 1973. This law-decree created the Special Secretariat for the Environment (“SEMA”), Brazil’s first agency dedicated to preserving the environment without the often conflicting duty to develop natural resources.⁹⁸ Scholars have suggested that Law-Decree 73.030 was merely a way for Brazil to deflect international hostility it had provoked at the 1972 Stockholm Conference.⁹⁹ The military dictatorship’s national environmental programs were largely confined to “rhetoric” as opposed to practical solutions.¹⁰⁰

87–88, 89, 90. This earlier dictatorship, the Vargas dictatorship (1938–1945), was characterized by the repression of legislatures at both the federal and state level, destruction of state autonomy, and a unitary, centralized nation. Rosenn, *supra*, at 583. Vargas censored the press, abolished all political parties, unleashed police against political dissidents, curbed women’s rights, and appeased labor with “paternalist social legislation” and “populist rhetoric.” Benjamin Keen & Keith Haynes, *Brazil: Populism and Struggle for Democracy in a Multiracial Society*, in *A HISTORY OF LATIN AMERICA: INDEPENDENCE TO THE PRESENT* 339, 345 (8th ed. 2009).

95. See Crawford & Pignataro, *supra* note 21, at 25.

96. See *infra* pp. 730–33.

97. See Crawford, *supra* note 21, at 25.

98. Drummond & Barros-Plataiu, *supra* note 63, at 91.

99. The 1972 Stockholm Conference signaled the international community’s recognition that development and environmental well-being were “inextricably linked” and provided the “impetus” for international and national legislation regarding these matters for the next three decades. UNEP ORGANIZATION PROFILE, UNEP 8, <http://www.unep.org/PDF/UNEPOrganizationProfile.pdf> (last visited May 18, 2012). It prompted the creation of the United Nations Environmental Programme (UNEP). *Id.* at 8–9. At Stockholm, Brazil assumed a “leading position” among developing countries that espoused concern that environmental consciousness would inhibit modernization. Leila da Costa Ferreira & Sergio B. F. Tavoraro, *Environmental Concerns in Contemporary Brazil: An Insight into Some Theoretical and Societal Backgrounds (1970s – 1990s)*, 19 INT’L J. POL. CULTURE & SOC’Y 161, 165 (2008). This contingent of developing countries labeled industrialized nations as the primary polluters of the world and insisted that modernized countries should therefore pay the cost of cleanup and mitigation. *Id.* Brazil and other developing nations insisted that poverty and not “demographic growth” was the cause of environmental degradation. *Id.*

100. “Scholars tend to agree on the fact that SEMA was an indication that the government’s approach to environmental problems was going to be a marginal one . . . Econom-

The Animal Protection Law of 1967 offered a more promising step towards biodiversity protection. Brazil's endangered species lists and fines related to trafficking and hunting certain wild animals are based on this law.¹⁰¹ Though the Animal Protection Law provides the legal source of Brazil's biological preserves, it was not until 1974 that the government established the first biological preserve.¹⁰² Actual biodiversity protections still lagged behind legislative pretensions.

Other laws before Article 225 may have cleared a judicial path for environmental plaintiffs, but they did not explicitly address biodiversity. For instance, in 1985 The Law of Diffuse Interests improved citizen standing by allowing individuals to file suit when collectively-held resources were improperly managed by the government.¹⁰³ Again, however, environmental concerns, much less biodiversity protection, took a backseat to consumer interests.¹⁰⁴ The law permitted citizens to protect collectively held patrimonies, including environmental patrimonies, but also included concerns not necessarily related to biodiversity such as historical significance and tourism.¹⁰⁵ Though the Law of Diffuse Interests was "revolutionary" in that courts became a forum for public participation instead of a venue for private conflicts, the law's aim was to protect communal interests. Increased biodiversity protection was not the law's goal.

Considering the examples above, Brazilian environmental law before Article 225 complicated biodiversity protections but did not necessarily improve them or even admit that biodiversity was worth protecting. Hampered by development-driven, authoritarian regimes and lacking a programmatic cohesion focused on protecting biodiversity, environmental legislation prior to Article 225 was aimed at other goals. These goals only affected biodiversity as a consequence of effects concerning separate issues which the legislation was intended to address. In light of Brazil's wealth of biodiversity, its importance, and the worldwide decline in biodiversity,¹⁰⁶ a gaping void remained in Brazil's biodiversity protection. Biodiversity required a statutory setting where it could outlast polit-

ic development remained the central pillar in the government's political agenda." *Id.* at 166.

101. Drummond & Barros-Platiau, *supra* note 63, at 89.

102. *Id.* at 90–91.

103. At the time, such "strong standing" did not even exist in "developed" countries such as Germany. *Id.* at 94.

104. *Id.*

105. *Id.*

106. *See supra* Part I.

ical trends, seize the judiciary's attention, compete with developmental agendas, and employ cohesive policy to channel an increasingly dense legislative framework.

III. THE ARRIVAL OF ARTICLE 225

The end of the military dictatorship in 1985¹⁰⁷ offered an opportunity for the constitutional synthesis and codification of modern democratic ideals, including those which did not necessarily comply with the developmental agendas pursued by successive political regimes.¹⁰⁸ The result was the 1988 Constitution.¹⁰⁹ Considering its fundamental right, political policy statement, and rebalancing of property interests, Article 225 is the most significant article of the 1988 Constitution pertaining to the environment.¹¹⁰ Increased activity on the part of environmental NGOs, an upsurge in protests specifically addressing Amazon deforestation, and swelling international pressure set the stage for Article 225.¹¹¹

In 1986, the two most prominent Brazilian environmental NGOs appeared: the Atlantic Rainforest Foundation ("SOS") and Foundation for Nature ("FUNATURA").¹¹² SOS epitomized the new generation of Brazilian environmental NGOs: independent, practical, and professional.¹¹³ FUNATURA, in contrast, represented an alliance between environmental government agencies and an environmental NGO.¹¹⁴ The founding of the

107. See *supra* note 95 and accompanying text.

108. Linda Chang, *The New Emerald Hunters: Brazilian Environmental Jurisprudence, 1988-1989*, 3 GEO. INT'L ENVTL. L. REV. 395, 396 (1990).

109. *Id.* at 396.

110. Patriota, *supra* note 62, at 613.

111. Romano, *supra* note 19, at 74. The general rising awareness affecting all the preceding factors was largely made possible by satellite images, available for the first time in the 1980s, which revealed the of rainforest destruction. Kellman, *supra* note 19, at 150.

112. Romano, *supra* note 19, at 74.

113. KATHRYN HOCHSTETLER & MARGARET KECK, GREENING BRAZIL: ENVIRONMENTAL ACTIVISM IN STATE AND SOCIETY 102 (2007). SOS became one of the largest environmental NGOs in Brazil. By 1993, it had 6,600 "dues-paying" members, "a membership base large by Brazilian standards." *Id.* at 103. By 1995, there were ten thousand members, though eight thousand signed up through holding "affinity credit cards." *Id.* SOS was "unusual among environmental organizations" because it did not accept "government money." *Id.* According to SOS, there were "too many strings attached" to government money, and conflict with the government inevitably followed such funding. *Id.* at 104. Perhaps SOS's reluctance indicates its cognizance of the government's development-driven "environmental" activity discussed in Part II of this Note.

114. Al Zachary Lazarus, *A War Worth Fighting: The Ongoing Battle to Save the Brazilian Amazon*, 9 LAW & BUS. REV. AM. 399, 415 (2003). The founder of FUNATURA, Maria Teresa Padua, was a prominent conservationist in the IBDF. HOCHSTETLER & KECK, *supra* note 113, at 102. "Teaming with IBAMA," Funatura has been involved in

Green Party in 1986¹¹⁵ further conditioned Brazil for the adoption of an environmental constitutional provision. The early members stressed the dual nature of the organization: it was to be both a party and a movement. Proponents advocated a “self-governing ecological socialism.”¹¹⁶ The Green Party remains the only political party fully devoted to an environmental agenda.¹¹⁷ Therefore the Green Party’s emergence was symptomatic of increased political toleration¹¹⁸ and a signal of the improved political legitimacy of an explicitly environmental agenda.¹¹⁹

Besides domestic consciousness, increased international awareness¹²⁰ of habitat loss in Brazil during the years leading up to the 1988 Constitu-

debt-for-nature transactions as well as policy programs and education aimed at mitigating Amazon deforestation. Lazarus, *supra*, at 415. The Brazilian Institute of the Environment and Renewable Natural Resources (“IBAMA”) is Brazil’s “major executive environmental agency.” Drummond & Barros-Platiau, *supra* note 63, at 96. A debt-for-nature swap is “generally when a country agrees not to develop certain tracts of land for a reduction of a specified amount of debt.” David Allen Reisman, *Debt-for-Nature Swaps in Brazil: Response to World Pressure to Protect the Amazon*, 8 J. NAT. RESOURCES & ENVT. L. 397, 405 (1992–1993). FUNATURA participated in Brazil’s first debt-for-nature program in 1992. *Id.* at 416. As we shall see, Article 225 (1988) preceded the government’s creation of IBAMA (1989) and first debt-for-nature swap. See Drummond & Barros-Platiau, *supra* note 63, at 96. While SOS and FUNATURA helped establish a political and social climate favorable to adopting Article 225, Article 225 has doubtlessly influenced these NGOs’ activities due to impacts described in Part IV. Arlindo Daibert notes that “environmental participation boomed” after the new constitution and by 1989 there were 700 “environmental NGOs.” Daibert, *supra* note 63, at 837.

115. Eventful 1986 was also the year when Chico Mendes rose to prominence as a champion of sustainable development. Daibert, *supra* note 63, at 836. Mendes’ assassination in December 1988 helped to keep environmental issues at the forefront of international and domestic political discourse. Mendes was murdered by ranchers opposing the “powerful grassroots environmental upsurge” at the time. Chang, *supra* note 108, at 398.

116. The “socialist” and “counterculture” components of the party’s program caused schisms between environmentalists and inhibited the party’s growth. See HOCHSTETLER & KECK, *supra* note 113, at 91–92.

117. *Brazil’s Green Party to Remain Neutral in Runoff Vote*, BBC NEWS (Oct. 17, 2010, 5:02 PM), <http://www.bbc.co.uk/news/world-latin-america-11562247> [hereinafter *Brazil’s Green Party Neutral in Vote*].

118. HOCHSTETLER & KECK, *supra* note 113, at 86.

119. The issue’s legitimacy continues to gain momentum. In the 2010 presidential election, the Green Party polled 20% of the vote. *Brazil’s Green Party Neutral in Vote*, *supra* note 117.

120. The nexus of international law and environmental regulation in Brazil cannot be fairly assessed without mentioning possible setbacks due to increased international attention. Both the Brazilian government and scholars have criticized the narrowness and simplicity with which international media and journalists have at times portrayed the environmental problem in Brazil. The international media’s preoccupation with the Amazon

tion was certainly a factor in the creation of Article 225.¹²¹ During the 1970s, scientific journals began reporting on deforestation in the Amazon.¹²² Through the early 1980s, mainstream media, including the *New York Times*, reported on intensifying deforestation.¹²³ International criticism focused on Brazil¹²⁴ and is perhaps indicative of the failure and inauspiciousness of Brazilian biodiversity legislation before Article 225.

Increased environmental consciousness and a rise in habitat loss¹²⁵ led to the immediate impetus and early version of Article 225.¹²⁶ the Popular Amendment on Environmental Protection ("Popular Amendment").¹²⁷ The signers¹²⁸ of the Popular Amendment were largely driven by conservation organizations.¹²⁹ Yet the document was supported by the "largest

is disproportionate compared to its coverage of other significant Brazilian issues, including gang-violence, education, and economic development. *See generally* Romano, *supra* note 19 (sampling some of the views above and summarizing Brazil's position in the international environmental regime). Other critics have opined that concern abroad for Brazil's deforestation crises is simply a guise for developed nations to reassert political and economic hegemony over Brazil ("eco-imperialism"). *See* Andrew Harrell, *The Politics of Amazonian Deforestation*, 23 J. LATIN AM. STUD. 197 (1991) (describing critiques of international intervention and the underlying neo-realist international-relations theory hampering foreign efforts to curb deforestation in Brazil); Emilio Moran, *The Law, Politics, and Economics of Amazonian Deforestation*, 1 IND. J. GLOBAL LEGAL STUD. 397, 404 (1994) [hereinafter Moran, *Law, Politics, and Economics*] (suggesting that Brazil, even more so than other former colonies in Latin America, exhibits "hypersensitivity" when its national sovereignty is challenged under environmental auspices). Furthermore, international capital has facilitated much of the environmental degradation. For example, between 1992 and 1993, "foreign companies" in Brazil (often Brazilian companies in name but wholly backed by foreign capital) were responsible for "100% of the gold mining, 98% of the silver mining, 92% of the diamond mining, 85% of the nickel mining, 48% of the iron mining, and 85% of the bauxite mining." Karen M. Schwab, *Added Hope for the Amazon Rainforest*, 15 Hous. J. INT'L L. 163, 178 (1992-1993).

121. Edesio Fernandes, *Constitutional Environmental Rights in Brazil*, in HUMAN RIGHTS APPROACHES TO ENVIRONMENTAL PROTECTION 265 (1996) [hereinafter Fernandes, *Constitutional Environmental Rights in Brazil*].

122. Moran, *Deforestation and Land Use*, *supra* note 36, at 9.

123. *Id.* at 10.

124. Romano, *supra* note 19, at 73.

125. *See supra* pp. 721-23.

126. Edesio Fernandes, *Law, Politics, and Environmental Protection in Brazil*, 4 J. ENVTL. L. 41, 52 (1992) [hereinafter Fernandes, *Law, Politics, and Environmental Protection in Brazil*].

127. *Id.*

128. The environmental caucus managed to rally sixty of the five hundred and fifty congressmen responsible for writing the new constitution. Drummond & Barros-Platiau, *supra* note 63, at 95.

129. Fernandes, *Law, Politics, and Environmental Protection in Brazil*, *supra* note 126, at 52.

social mobilization” in Brazil’s history up until that time.¹³⁰ Considering the sweeping contents of Article 225, the broad base of support represented a substantial surge of public concern for biodiversity.

Article 225 provides that everyone has a right to an “ecologically balanced environment.”¹³¹ Biodiversity is an intrinsic feature of this right as evident in Paragraph 1, Clause II. Clause II indicates that in order to ensure the “effectiveness” of the right to an “ecologically balanced environment,” the government must “preserve the diversity and integrity of the genetic patrimony of the country and control entities engaged in research and manipulation of genetic material.”¹³² Article 225 attaches a duty both to the government and community to maintain the “ecologically balanced environment” for “present and future generations.”¹³³ Therefore the constitution declares both a fundamental right and a policy.¹³⁴ Additionally, the new environmental provision attempted to establish a constitutional base by which expansive preexisting environmental legislation could be standardized.¹³⁵

Article 225 also characterized “national patrimony” as a constitutional check on traditional and formidable private property prerogatives.¹³⁶ The “national patrimony”¹³⁷ described in Article 225, Paragraph 4, falls within the collective property of the nation and thus is subject to regulation by the government at the expense of private interests.¹³⁸ The framers of Article 225 intended the practical result of this arrangement to be that juridical goods would be distinguished from property rights with greater

130. *Id.* at 52.

131. C.F. art. 225 (Braz.).

132. *Id.* art. 225, para. 2, cl. 2.

133. *Id.* art. 225.

134. Ernest Brandl & Hartwin Bungert, *Constitutional Entrenchment of Environmental Protection: A Comparative Analysis of Experiences Abroad*, 16 HARV. ENVTL. L. REV. 1, 78 (1992) [hereinafter Brandl & Bungert, *Constitutional Entrenchment*].

135. Drummond & Barros-Platiau, *supra* note 63, at 95.

136. See *supra* note 79 and accompanying text.

137. C.F. art. 225, para. 4 (Braz.). “National patrimony,” is equivalent to “public dominion” and “public dominion” is defined by the jurisdiction a state has over everything and everyone in its territory. Andrea Steuer Zago & Lionel Pimentel Nobre, *The Brazilian Citizen Constitution, the Environment and Taxation*, 20 LOY. L.A. INT’L & COMP. L.J. 507, 518, 519 (1997–1998). The government can protect “public dominion” by regulating “private and public property” and expropriating private property. *Id.* at 518.

138. Zago & Nobre, *supra* note 137, at 519. John Tucker goes further in characterizing “national patrimony,” suggesting that the 1988 Constitution accorded those areas designated “national patrimony” “the strongest possible legal status.” John C. Tucker, *Constitutional Codification of An Environmental Ethic*, 52 FLA. L. REV. 299, 313 (2000).

deference accorded to juridical goods.¹³⁹ Where Article 225 says that the "ecologically balanced environment" is "property intended for one common use for the People," private property rights become subordinated to the public dominion doctrine.¹⁴⁰ Ernst Brandl and Hartwin Bungert classify Article 225's environmental right¹⁴¹ as a "social fundamental right."¹⁴² Such a classification implies that Article 225's right is not individually enforceable and thus useless unless viewed in the larger "constitutional framework."¹⁴³

The "constitutional framework" supporting the environmental right includes Articles 23¹⁴⁴ and 24¹⁴⁵ of the 1988 Constitution. Article 23 mandates that "the Union, the States, and the Federal District, and the municipalities, in common, have the power to . . . protect the environment and fight pollution in any of its forms" and "preserve the forests, fauna, and flora."¹⁴⁶ Article 24 permits the various levels of government to exercise power concurrently.¹⁴⁷ Article 26 declares all natural terrain to be the property¹⁴⁸ of Brazil's federated states.¹⁴⁹ Emilio Moran describes the practical result of the three articles as forming an overarching environ-

139. "For example, a person can own a forest, but the use of this land is still subject to the environmental protection rules. These rules trump the property right of the owner." Zago & Nobre, *supra* note 137, at 519. Zago and Nobre seem to view "juridical goods" as the legal right of common use which trumps private claims over the same property. *Id.*

140. *Id.* at 519; see also Roger W. Findley, *Sustainable Development in Latin American Rainforests and the Role of Law*, 32 TEX. INT'L L.J. 1, 4 (1997).

141. As opposed to Article 225's policy directive. See C.F. art. 225 (Braz.).

142. Brandl & Bungert, *Constitutional Entrenchment*, *supra* note 134, at 78.

143. *Id.* But some observers suggest that Article 225 launched the "environment" into the status of "autonomous juridical entity, entitled to certain rights." Zago & Nobre, *supra* note 137, at 518. While those rights are "unidentifiable," they are nevertheless "enforceable." *Id.* at 519. The contradiction inherent in Zago & Nobre's analysis (unidentifiable yet enforceable rights) creates a puzzling concept of the "environment" as a rights-invested entity. Facially, "everyone" possessing a right to an "ecologically balanced environment" indicates an anthropological right and suggests that Article 225 does not envision the "environment" as an independent legal entity.

144. C.F. art. 23 (Braz.).

145. *Id.* art. 24.

146. *Id.* art. 23.

147. *Id.* art. 24.

148. Emilio Moran suggests the social function of property is a muddy area of Brazilian law that as of yet has not afforded much environmental protection. Moran, *Law, Politics, and Economics*, *supra* note 120, at 397, 401. Though Article 26 has acted as a springboard for legislation criminalizing the destruction of state property, Moran concludes that such proscriptions are rarely enforced in the environmental context. *Id.* at 399.

149. C.F. art. 26 (Braz.).

mental policy direction which leaves details to states' and counties' discretions.¹⁵⁰

Other articles composing Article 225's supportive framework temper developmental agendas. Drummond and Barros-Platia see the inclusion of both an environmental right and consumer protection in the 1988 Constitution's economic program as a counterbalance against the persistent force of economic development.¹⁵¹ Article 174 endorses prospecting and mining cooperatives so long as cooperatives consider "protection of the environment."¹⁵² Article 216 includes locations of "ecological" value in its definition of cultural property.¹⁵³

Several judicial mechanisms within the 1988 Constitution also affect the environmental framework outlined above. Article 129 grants the Ministério Público ("Public Prosecution")¹⁵⁴ power to "institute civil investigation and public civil suit to protect public and social property, the environment, and other diffuse and collective interests."¹⁵⁵ New procedural tools expanded the scope of remedies available to courts. Such tools include the Writ of Injunction,¹⁵⁶ the Direct Action of Unconstitutionality,¹⁵⁷ and the Collective Writ of Security.¹⁵⁸

150. The outcome is a disproportionate responsibility for conservation in the hands of local governments that often do not have the capital or political will to protect biodiversity. Moran, *Law, Politics, and Economics*, *supra* note 120, at 399. *But see* Rosenn, *supra* note 94, at 583 (claiming that "virtually all important legislation" consists of "federal statutes that apply uniformly throughout Brazil").

151. *See* Drummond & Barros-Platia, *supra* note 63, at 95.

152. C.F. art. 174 (Braz.).

153. *Id.* art. 216.

154. The Public Prosecution is the major institution responsible for prosecuting crimes perpetrated against the public interest. It includes ministries at the federal, state, and local level. *See* Augusto Zimmerman, *How Brazilian Judges Undermine the Rule of Law: A Critical Appraisal*, 11 INT'L TRADE & BUS. L. REV. 179, 186 (2008); *see also* LESLEY K. MCALLISTER, MAKING LAW MATTER: ENVIRONMENTAL PROTECTION AND LEGAL INSTITUTIONS IN BRAZIL 63–66, 71–76 (2008) (describing the increased political independence, career security for prosecutors, and fiscal autonomy gained by the Public Prosecution due to the 1988 Constitution).

155. C.F. art. 129, cl. IV (Braz.).

156. The Writ of Injunction permits plaintiffs to bring an action against the government when its failure to legislate leads to a breach of constitutional rights. *See id.* art. 5, cl. LXXI.

157. The Direct Action of Unconstitutionality broadened the number of government officials and institutions which are able to initiate charges of unconstitutionality against the government. *See id.* art. 103. Before the 1988 constitution, only a federal attorney general could file an unconstitutional charge directly with the Brazilian Supreme Court. MCALLISTER, *supra* note 154, at 230 n.33. However, the increased litigious freedom of

Finally, the Constitution relaxed standing restrictions in order to embrace the new liberal consensus.¹⁵⁹ "Any citizen" was granted the right to file suit for the purpose of protecting the "environment."¹⁶⁰ The "Public Civil Action" became an instrument for defending "collective interests."¹⁶¹ The broadening of standing has led to a wide array of unprecedented rights based on collective property.¹⁶²

IV. THE SUCCESS OF ARTICLE 225

A. Obstacles to Enforcing Article 225

Despite domestic and international approval, legal scholarship has focused on implementation difficulties rather than the positive effects of Article 225.¹⁶³ The major obstacles to implementation are widely recognized and often associated with developing countries.¹⁶⁴ These impediments pervade Brazil's institutions from the center of national power to the smallest townships. Local politicians¹⁶⁵ adhere to developmental interests more so than the needs of biodiversity.¹⁶⁶ These politicians remain popular because local residents are typically less concerned with protecting biodiversity than the environmentally-conscious elite located in cities

government entities has sometimes been viewed as an instigator of institutional instability and legislative deadlock. *Id.* at 175.

158. The Collective Writ of Security invested political parties, unions, and professional associations with the power to challenge the constitutionality of government actions. C.F. art. 5, cl. LXX (Braz.). Keith Rosenn has termed this writ "a sensible step in the direction of a class action." Keith S. Rosenn, *Brazil's New Constitution: An Exercise in Transient Constitutionalism for a Transnational Society*, 38 AM. J. COMP. L. 773, 794 (1990) [hereinafter Rosenn, *Brazil's New Constitution*].

159. See MCALLISTER, *supra* note 154, at 167.

160. C.F. art. 5, cl. LXXIII (Braz.).

161. *Id.* art. 129, cl. III. The original Public Civil Action became law in 1985 and serves as an example of where the 1988 Constitution has functioned to "strengthen and reinforce key environmental legislation" predating Article 225. Chang, *supra* note 108, at 397.

162. See MCALLISTER, *supra* note 154, at 168.

163. See *supra* note 19 and accompanying text.

164. *Id.*

165. Municipalities in Brazil possess far more environmental regulatory authority than in most other federal republics, including the United States. Antonio Herman Benjamin & Charles Weiss, Jr., *Economic and Market Incentives for Environmental Policy in Brazil and the United States*, 32 TEX. INT'L L.J. 67, 74 (1997).

166. Often the strongest environmental NGOs are based in cities, far from the most threatened habitats under control of local politicians. Findley, *supra* note 140, at 142. However, Janelle Kellman notes that many local politicians do not believe the federal government does enough to support local environmental initiatives. Kellman, *supra* note 19, at 159.

distant from deforestation hotspots.¹⁶⁷ At the national level, the government still provides subsidies for unsustainable development and thus motivates local populations to remain indifferent to habitat destruction.¹⁶⁸ Environmental agencies are both underfunded¹⁶⁹ and understaffed.¹⁷⁰ The agencies' employees often lack technical expertise and training necessary for carrying out their duties.¹⁷¹

The Brazilian judiciary¹⁷² exhibits some similar problems. It is limited in its ability to enforce biodiversity protections because of traditions marked by conservatism and public indifference.¹⁷³ Judges are not attuned to environmental concepts such as sustainable development.¹⁷⁴ The lawyers arguing before these judges receive an unspecialized legal education, which, despite attempts at reform, remains "formalistic, rhetorical, conservative, and largely unspecialized."¹⁷⁵ Polluting parties often threaten and harass public prosecutors attempting to enforce environmental regulations, thus discouraging increased participation in protecting biodiversity.¹⁷⁶ Janelle Kellman¹⁷⁷ opines that "[a]s a whole, lawyers in Brazil seem to lack commitment to lasting social change."¹⁷⁸

167. However, local residents who "live off the forest in its natural state" have at times been exceptionally proactive in protecting habitats. Findley, *supra* note 140, at 14.

168. *Id.* at 14.

169. For example, in 1998 the federal government allotted just \$8 million to regulating the Amazon rainforest out of a \$1.6 billion environmental budget. Romano, *supra* note 19, at 84. The disproportionate inattention to the Amazon's needs becomes clear if one considers that the Amazon Rainforest covers 58% of Brazil's overall land mass. Kellman, *supra* note 19, at 147. In 2002, the Ministry of the Environment received less funding than every other federal agency. Drummond & Barros-Platiau, *supra* note 63, at 101.

170. During 2001, IBAMA had only 275 inspectors and 1 helicopter available for regulating 5.1 million km² of forest. Kellman, *supra* note 19, at 160.

171. McALLISTER, *supra* note 154, at 3.

172. Of course the "judiciary" must be distinguished from the laws it is charged with enforcing. Overall, the environmental laws are "satisfactory" in Brazil. Fernandes, *Law, Politics, and Environmental Protection in Brazil*, *supra* note 126, at 41. In regards to deforestation currently taking place in the Amazon, 90% is illegal. See *Last Gasp for the Forest*, *ECONOMIST*, Sept. 26, 2009, at 95.

173. Kellman, *supra* note 19, at 160. Lesley McAllister remarks that in Latin America the "(un)rule of law" predominates. McALLISTER, *supra* note 154, at 12. When "rule of law" exists, it ferments a "legal-cultural aspect" in which parties rely on the predictability and enforcement of law in making decisions and calculations. *Id.* Such "rule of law" is doubtful in Brazil because most people consider the law "on paper" as unreliable. *Id.*

174. The judicial system also suffers from "homogeneity." Most of the judges are young, male, and affluent. Kellman, *supra* note 19, at 161–62.

175. *Id.* at 163.

176. *Id.* at 164.

In both political and legal settings, corruption often skews the resolution of adversarial situations.¹⁷⁹ Personal social relations are often more important to the outcome of legislative action and court decisions than legality or public interest.¹⁸⁰ Some critics blame the drafting and structure of the 1988 Constitution for enforcement difficulties.¹⁸¹ All these obstacles tempt analysts to underrate the significance of Article 225. Though these obstacles obstruct Article 225's implementation, they should not detract from the Article 225's monumental and groundbreaking impact. Occasionally flawed enforcement does not outweigh the numerous circumstances in which Article 225 has been successfully enforced.

B. Article 225's Success: Legislation

Legislation stemming from Article 225 has created highly-active and powerful environmental agencies, extensive preservations and parks, strengthened pre-existing legislation, galvanized political regimes at the national and local levels, and blocked legislation harmful to biodiversity. Before Article 225, environmental laws in Brazil were unconsolidated and aimless, lacking an overarching national policy goal.¹⁸² Though the focus of Article 225 was largely based upon statutes promulgated since the 1970s, the paramount status of Article 225 as a pioneer in the *constitutional* context is unassailable.¹⁸³ Before Article 225, no previous Brazilian constitution included a distinct right to a "protected environment"¹⁸⁴ and most government conservation actions required complicat-

177. Current associate with Stoel Rives LLP and former project associate with the Environmental Change and Security Project at the Smithsonian Institute. *Id.* at 145.

178. *Id.*

179. See MCALLISTER, *supra* note 154, at 12.

180. *Id.*

181. See generally Rosenn, *Brazil's New Constitution*, *supra* note 158, at 779–80 (critiquing the 1988 Constitution for sloppy drafting, its programmatic nature, lack of a unified policy, and internal conflicting political ideologies).

182. Fernandes, *Constitutional Environmental Rights in Brazil*, *supra* note 121, at 265.

183. Though Jose Drummond and Ana Baros-Plataiu indicate that the "scope" of Article 225 was "based mainly" on prior laws, they acknowledge that Article 225 was a "breakthrough as the Brazilian Constitution itself now recognized serious environmental limitations to the ever-popular goal of development." Drummond & Barros-Plataiu, *supra* note 63, at 95; see also Chang *supra* note 108, at 397 ("One effect of this Constitution has been to strengthen and reinforce key environmental legislation enacted during the earlier years of the decade, as ecological awareness slowly found its way into the political mainstream.").

184. Fernandes, *Law, Politics, and Environmental Protection in Brazil*, *supra* note 126, at 44.

ed conceptual justifications.¹⁸⁵ These justifications usually related to public health or economics.¹⁸⁶ Therefore, most biodiversity protections were limited by their dependence on human health and economic needs. There were no criminal, administrative, or civil liabilities associated with environmental harms.¹⁸⁷ Article 225 not only created these responsibilities but also spawned the agencies charged with fulfilling them.

The most significant of the new agencies is the Brazilian Institute of the Environment and Renewable Natural Resources ("IBAMA").¹⁸⁸ IBAMA absorbed four pre-existing federal agencies, the IBDF, SEMA, the Superintendency for Fisheries, and the Superintendency of Rubber.¹⁸⁹ IBAMA now implements the federal government's full range of environmental duties, including conservation, regulation, sustainable practices, and general authority.¹⁹⁰ The agency is a "direct consequence of the 1988 Constitution's provisions and of the encompassing outlook on environmental issues that informs them."¹⁹¹ The effect of uniting disparate government agencies, each with a particularized environmental component, reflects Article 225's consolidating force. In the same way Article 225 presents a supreme environmental right and policy, so too has IBAMA joined once separate agencies to form a cohesive environmental front.

Article 225 has reached into IBAMA's conservation program. Law 9.985, creating the National System of Conservation Units ("SNUC"),¹⁹² is one of the most crucial legislative contributions of Article 225.¹⁹³ Biodiversity protections loom large in SNUC, which is intended to "contribute to the conservation of biological diversity and genetic resources, pro-

185. *Id.*

186. *See supra* pp. 725–29 and note 62.

187. Fernandes, *Law, Politics, and Environmental Protection in Brazil*, *supra* note 126, at 44.

188. Drummond & Barros-Platiau, *supra* note 63, at 96.

189. *Id.*

190. *Id.*

191. *Id.* *But see* HOCHSTETLER & KECK, *supra* note 113, at 36 (opining that "pressur[e] by foreign environmentalists and their governments to slow the massive deforestation of the Amazon rainforest" caused President Sarney to create IBAMA).

192. Drummond & Barros-Platiau, *supra* note 63, at 98. *But see* Crawford & Pignataro, *supra* note 21 (claiming international conventions, including the UN Convention on Biodiversity and the Cartagena Protocol on Biosecurity, NEP, and other pre-1988 domestic laws, provided most of the impetus behind SNUC). In fact, most conservation units appeared between 1964 and 1984 during the reign of military dictatorship. *Id.* at 331. The multiplicity of legal authorities alleged to have established SNUC highlights the need for an overall national programmatic scheme which was lacking before Article 225.

193. Drummond & Barros-Platiau, *supra* note 63, at 98.

tect threatened species, promote sustainable development based on natural resources, and stimulate the use of conservation principles and practices in the process of economic development.”¹⁹⁴ SNUC created two general categories of conservation units: Complete Protection Conservation Units and Sustainable Conservation Units.¹⁹⁵ The Complete Protection category includes various subcategories of conservation unit: Ecological Stations,¹⁹⁶ National Parks,¹⁹⁷ Natural Monuments,¹⁹⁸ and Wildlife Refuges.¹⁹⁹ The Sustainable Conservation category includes Environmental Protection Areas,²⁰⁰ Areas of Relevant Environmental Interest,²⁰¹ National Forests,²⁰² Extractive Reserves,²⁰³ Fauna Reserves,²⁰⁴ Sustainable Development Reserves,²⁰⁵ and Private Reserves of National

194. *Id.*

195. Crawford & Pignataro, *supra* note 21, at 35.

196. Ecological Stations and Biologic Reserves are intended to deter the presence of humans to the utmost extent. They are intended for research and education only. *Id.* at 38.

197. National Parks are intended to facilitate recreation, tourism, scientific research, and education at locations containing “highly-valued natural ecosystems” and “scenic beauty.” *Id.* at 39.

198. Natural Monuments are distinguishable from other “Complete Protection” units because they permit private property within their boundaries. *Id.* at 39.

199. Wildlife Refuges are explicitly designed for encouraging the reproduction of local plants and both local and migratory animals. *Id.* at 40.

200. The underlying objective of the “Environmental Protection Area” is the protection of biodiversity. *Id.* at 41. It consists of areas which are very small or possess no human populations yet nevertheless offer resources essential to the health and happiness of the human population. *Id.* The Environmental Protection Area includes private and public property and is especially important in urban areas. *Id.*

201. Areas of Relevant Environmental Interest are usually small zones containing “extraordinary” or rare “biota.” Areas of Relevant Environmental Interest include public and private property. Crawford & Pignataro, *supra* note 21, at 42. “Biota” is “the combined flora, fauna, and microorganisms of a given region.” WILSON, THE DIVERSITY OF LIFE, *supra* note 1, at 393.

202. National Forests consist of areas containing mostly native species, but which permit sustainable use and research. National Forests do not include private property. Crawford & Pignataro, *supra* note 21, at 43.

203. Extractive Reserves are intended to protect areas where populations rely on traditional land-uses to maintain their historical cultures. *Id.* at 45. Extractive reserves embrace a facet of current Brazilian environmental law that seeks to protect cultural as well as ecological integrity. *Id.* They include only public lands. *Id.*

204. Fauna Reserves are areas containing native species specifically distinguished by scientific studies. *Id.* at 47. As of 2007, none had been established by the Brazilian government, though they are very similar to Extractive Reserves. *Id.* They do not include private property. *Id.*

205. Sustainable Development Reserves contain “traditional” human populations whose existence has been based on sustainable use since prior generations. *Id.* at 47. Sim-

Patrimony.²⁰⁶ “Complete Protection Conservation Units” are distinguished by their biocentric concerns, while “Sustainable Conservation Units” represent anthropological concerns related to resource conservation.²⁰⁷

The effect of Article 225 on SNUC is similar to its effect in regards to IBAMA. Article 225 did not necessarily pave the way for groundbreaking environmental legislation, but instead consolidated and buttressed a preexisting system.²⁰⁸ Dictatorship-era conservation units were frequently created solely to fulfill preconditions for international investment.²⁰⁹ Now Article 225 offers an environmental foundation to justify creating conservation units.²¹⁰ In delivering a constitutional mandate to protect the environment for the purpose of preserving biodiversity, Article 225 presents alternative values to those of unbridled economic development. Thus Article 225 yields an ideological benefit extending beyond federal agencies, an advantage which will be discussed in Part D below.

The new constitutional environmental values influenced criminal law. Article 225 produced the Environmental Crimes Act of 1998,²¹¹ which many lawyers laud as “one of the most modern and comprehensive legal texts focusing on environmental crime.”²¹² Janelle Kellman, though noting that the bill’s original incarnation was watered down in Congress,²¹³ has said it does represent an “important step” towards conserving the

ilar to Extractive Reserves, they permit private uses by local populations but no private land may exist in a Sustainable Development Reserve. *Id.* at 48.

206. Private Reserves of National Patrimony consist of private land in which preservation of biodiversity is guaranteed. *Id.* at 49. It is similar to a conservation easement in the United States, where the duty to conserve is perpetual. *Id.*

207. *Id.* at 36.

208. *Id.* at 31.

209. “Formal legal steps were taken, but not substantially enforced.” *Id.* at 31.

210. Findley, *supra* note 140, at 14 (linking ecological zoning and extractive reserves to the discussion of “national patrimony” in Article 225).

211. Jose Leite & Marcelo Dantas point to Article 225, Paragraph 3, as the constitutional mandate for the Environmental Crimes Act. Jose Morato Leite & Marcelo Buzaglo Dantas, *Environmental Damages and Crimes: Brazil and Environmental Damage*, 15 FLA. J. INT’L L. 59, 61 (2002); C.F. art. 225, para. 3 (Braz.) (“Procedures and activities considered as harmful to the environment shall subject the infractors, be they individuals or legal entities, to penal and administrative sanctions, without prejudice to the obligation to repair the damages caused.”).

212. Div. of Env’t Law & Conventions, *Brazil’s Environmental Crimes Law* UNEP, <http://unep.org/dec/onlinemanual/Enforcement/NationalLawsRegulations/AppropriatePenalties/Resource/tabid/792/Default.aspx> (last visited Mar. 3, 2012).

213. Kellman, *supra* note 19, at 156 (“Government leaders in Congress substantially weakened the law to mollify ranching and industrial special interests opposed to it.”).

rainforest.²¹⁴ The law granted IBAMA statutory power to enforce environmental law,²¹⁵ defined various kinds of environmental crimes,²¹⁶ and established corresponding fines.²¹⁷ The law holds government officials accountable for omitting or falsifying environmentally-relevant information in permitting processes.²¹⁸ It forbids companies from obtaining certain government subsidies and tax breaks if such companies have a criminal environmental history.²¹⁹ Similar to Article 225's effect on both SNUC and IBAMA, the Environmental Crimes Act also served to consolidate and solidify antecedent environmental law.²²⁰

Even when the government's primary intent behind particular legislation is not to protect biodiversity, Article 225 advances the goal of conservation. In 1988, President Sarney announced the Our Nature program, which he claimed was intended to realize the unprecedented environmental priorities of the 1988 Constitution.²²¹ Critics cautioned that President Sarney was more concerned with deflecting international criticism than protecting biodiversity.²²² Whether or not President Sarney was sincere in his desire to uphold Article 225, Article 225 offered a constitutional mandate to hold before the public eye. Therefore, the common criticism that Article 225 is merely a "declaration of intent" may be insufficient to detract from Article 225's success as a political and legal force. Aside from establishing both a policy statement and fundamental right, Article 225's presence in the federal constitution legitimizes government initiatives. Our Nature led to the repeal of tax-incentives and loans for economic development in the Amazon, moratoriums on deforestation for agriculture and cattle grazing, a ban on exports of raw-timber, and improved enforcement and regulation.²²³

214. *Id.*

215. *Id.*

216. The crimes include "mistreatment or killing of wild animals, deforestation, pollution, and destruction of historical preservation sites." MCALLISTER, *supra* note 154, at 26.

217. Some fines were set as high as \$50 million for illegal use of land and forbidden activities such as burning. Romano, *supra* note 19, at 83. Other penalties included imprisonment, house arrest, sanctions, and community service. MCALLISTER, *supra* note 154, at 26.

218. *Id.*

219. Romano, *supra* note 19, at 83.

220. In addition to the points already mentioned, the law also criminalized administrative misconduct and attached liability to corporations, government agencies, and government employees. MCALLISTER, *supra* note 154, at 46-47, 93.

221. Schwab, *supra* note 120, at 200.

222. Michael S. Serrill & John Maier, *Environment: A Dubious Plan for the Amazon*, TIME (Apr. 17, 1989), <http://www.time.com/time/magazine/article/0,9171,957443-2,00.html>.

223. Schwab, *supra* note 120, at 200.

To gain a comprehensive understanding of Article 225's influence on legislation in Brazil, one must consider legislation prevented by the Article. For example, in 2005, the Mato Grosso State Assembly blocked a law which would have permitted construction of sugar and ethanol plants near the Pantanal.²²⁴ State Assemblyman Pedro Kemp indicated that the Pantanal's constitutional status as "national patrimony"²²⁵ was at the heart of the seventeen to four vote against approving the plants.²²⁶ The Pantanal's protected status prevailed against state agendas aimed at producing biofuels (ethanol in particular) and job creation.²²⁷ The vote represents a victory for biodiversity protection—a victory in which biodiversity triumphed over powerful economic interests. A legislative body had directly invoked Article 225 to thwart the traditional priority of development.

The Mato Grosso State Assembly's affirmation of Article 225 demonstrates how Article 225 has pervaded the federal structure of Brazil. Article 23²²⁸ and Article 30²²⁹ provide municipalities with environmental enforcement power.²³⁰ Localities have begun to implement Article 225 through establishing "Municipal Environmental Councils" which analyze environmental impact statements ("EIS") regarding local projects.²³¹ Wealthy towns in particular have begun to flex environmental constitutional powers²³² and their successes demonstrate that while impediments to enforcement are present (e.g. budgetary restrictions at the local level), Article 225 facilitates enforcement. Fiscal deficiencies in certain regions do not necessarily bar environmental enforcement in richer localities.

224. *Brazil State Legislature Votes down Law to Allow Biofuel Plants near Wetland Area*, 28 INT'L ENV'T. REP. (BNA) No. 1051, at 909 (Dec. 2005) [hereinafter *Brazil State Legislature Votes Down Biofuel Plants Law*]. Environmentalists alleged that a liquid residue from the sugar plant would "kill tonnes of fish" and create an "ecological imbalance." *Id.* The sugar and ethanol plants would have been located on the Paraguay River Basin, an area adjacent to the Pantanal but not within the Pantanal itself. *Id.*

225. C.F. art. 225, para. 4 (Braz.).

226. *Brazil State Legislature Votes down Biofuel Plants Law*, *supra* note 224.

227. *Id.*

228. C.F. art. 23 (Braz.).

229. "The Municipalities have the power to: I—legislate upon matters of local interest." *Id.* art. 30.

230. Weiss, *supra* note 165, at 74.

231. *Id.* EIS are mandated by Article 225, Paragraph. 1, Clause IV. See C.F. art. 225, para. 1, cl. IV (Braz.).

232. See Weiss, *supra* note 165, at 74.

C. Article 225's Success: The Judiciary

The 1988 Constitution signaled a fresh era in judicial interpretation of constitutional issues. As early as 1990, this era of *constitutional* environmental law had "legitimized a new class of plaintiffs: individuals, associations, and other entities bringing suit in the diffuse public interest—with no attendant need to show damage specifically to members of the association."²³³ This institutional shift was not legally reliant upon Article 225,²³⁴ yet its influence must be acknowledged.²³⁵ Article 225 has permeated the practices of lawyers and the outlook of judges.

Judges are now willing to make more policy decisions and address social issues.²³⁶ The improved receptivity of the judiciary has expanded opportunities for government prosecutors²³⁷ to exercise professional responsibilities directly traceable to Article 225. Government prosecutors view the 1988 Constitution's environmental provisions "to be comprehensive and clear, particularly with regard to the government's obligation to protect the environment."²³⁸ If there is a violation of an environmental law and no sanction to be brought against the actor, government prosecutors generally feel that they have failed in their duty.²³⁹ Government prosecutors wield Article 225 to whittle down the discretionary powers of agencies and subject such agencies to the unbending standards of constitutional law.²⁴⁰ When the 1988 Constitution conveys a right, according to these prosecutors, there is no room for "administrative discretion."²⁴¹

*Conselho Estadual do Meio Ambiente-CONDEMA v. G. G. Mineração, Ltda.*²⁴² marked an early opportunity to observe how the new constitutional environmental right would fare against constitutional private

233. *Id.* at 408.

234. The right to bring suit in the public's "diffuse interests" was established by the Public Civil Action Law, passed in 1985. *See supra* p. 729 and note 103.

235. For example, Renato Guimaraes, Jr. specifically cites Article 225 as grounds for *foreign* citizens to claim standing in Brazil when bringing suit regarding environmental damages. Chang, *supra* note 108, at 409.

236. McALLISTER, *supra* note 154, at 168–69.

237. For a discussion of Brazilian environmental prosecutors and their duties, processes, legal outlooks, and professional frustrations, see generally *id.*

238. *Id.* at 142; *see also* C.F. art. 225 (Braz.) (containing: "Government and the community shall have the duty to defend and preserve it for present and future generations" and subdivision and Paragraph 1: "In order to ensure the effectiveness of this right, it is incumbent upon the Government to . . . [government duties I through VII]").

239. McALLISTER, *supra* note 154, at 142–43.

240. *Id.*

241. *Id.*

242. T.J.M.G., Civ., 640 REVISTA DOS TRIBUNAIS [R.T.], 21.02.1989, 169 (Braz.); *see* Chang, *supra* note 108, at 400.

property rights, the government's constitutional duty to promote mining, and the constitutional right to "freely practice one's profession."²⁴³ State and municipal prosecutors succeeded in affirming an administrative order which closed a mine suspected of poisoning water in the Pantanal.²⁴⁴ The court nearly summarily upheld the administrative order, describing the Pantanal as a "vital ecological sanctuary."²⁴⁵ The Pantanal's highly visible richness in unique biodiversity was likely decisive in the court's decision to uphold one constitutional right—Article 225's "ecologically balanced environment"—at the expense of constitutional rights guaranteeing free enterprise and the government's duty to pursue economic development.²⁴⁶ Due to Article 225, biodiversity now shares constitutional ground with competing economic interests in the eyes of the judiciary.

The new constitutional force behind biodiversity protection was even more apparent in *Municipalidade de Águas de Santa Bárbara v. Ministério Público*,²⁴⁷ in which municipal authorities in São Paulo sought to build an industrial complex on a site that the state of São Paulo had accorded ecological preserve status.²⁴⁸ In an unexpected approach, the court divided the issues of property ownership and potential ecological damage.²⁴⁹ Next, rather than weigh these two issues equally, the court focused entirely on ecological damage.²⁵⁰ The court turned to a third party (the state military police) for an assessment of such damage.²⁵¹ It thus isolated and tackled environmental damage in order to grant an injunction to prevent ongoing deforestation before it undertook the time-consuming and complex process of balancing land ownership rights and ecological integrity.²⁵²

In both *G. G. Mineração, Ltda.* and *Municipalidade de Águas de Santa Bárbara*, cases decided within two years of Article 225's arrival, the new ecological right to a balanced environment already proved to be a formidable counterweight against private property interests and developmental rights. The cases predated much of the environmental legislation dating

243. Chang, *supra* note 108, at 402.

244. *Id.* at 400.

245. *Id.* at 403.

246. *Id.*

247. T.J.S.P., Civ., 637 R.T., 22.09.1988, 80 (Braz.); see Chang, *supra* note 108, at 400.

248. Chang, *supra* note 108, at 410.

249. *Id.*

250. *Id.*

251. *Id.*

252. *Id.* at 411.

from the 1990s which "actualized" the environmental right,²⁵³ thus illustrating Article 225's role as an operative statute in and of itself.

Often, however, Article 225's judicial influence is hidden behind self-executing and less programmatic statutes. For example, when CONAMA passed Resolution 001 in 1986, it began the "era of environmental impact statements."²⁵⁴ In 1996 government prosecutors filed suit against Volkswagen of Brazil and various state and municipal agencies because they failed to produce an EIS reflecting the ecological effects of constructing an auto factory and testing area.²⁵⁵ The prosecutors referred to Resolution 001.²⁵⁶ The court eventually ruled in the prosecutors' favor.²⁵⁷ Article 225 declares that the government "shall . . . require, in the manner prescribed by law, for the installation of works and activities which may potentially cause significant degradation of the environment, a prior environmental impact study, which shall be made public."²⁵⁸ The prepositional phrase "in the manner prescribed by law"²⁵⁹ bolsters Article 225's programmatic status. Regarding the Volkswagen suit, administrative rules had already outrun Article 225's foundational requirements by virtue of the CONOMA resolution. It was accordingly unnecessary for prosecutors to invoke the less exacting and less time-tested constitutional foundation for the rule.

This interplay between self-enforcing statutes and Article 225, often overlapping in their legal application, exhibit both the effective programmatic character of Article 225 and its authority as a constitutional provision. For instance, Amazonas state prosecutors recently requested an injunction against the National Department of Transportation Infrastructure program to repave a road in the Amazon. The prosecutors cited Article 225 as the legal mandate for an EIS rather than CONAMA's Resolution 001.²⁶⁰ A federal judge granted the injunction.²⁶¹

253. See *supra* pp. 738–44.

254. Drummond & Barros-Platiau, *supra* note 63, at 93.

255. McALLISTER, *supra* note 154, at 142.

256. *Id.*

257. *Id.*

258. C.F. art. 225, para. 4 (Braz.).

259. *Id.*

260. "'Article No. 225 of the Constitution,' according to state prosecutor Ricardo Braz, 'says that any project or work which could cause an environmental impact needs an impact report and environmental license.'" *Brazilian Transport Ministry to Appeal Ruling that Blocks Work to Repave Amazon Highway*, 28 INT'L. ENVTL. REP. (BNA) No. 606 (July 2005) [hereinafter *Brazilian Transport Ministry*].

261. *Id.* But in *Deliana Engenharia, Indústria e Comércio Ltda. v. Ministério Público*, a Sao Paulo state judge denied an injunction request that would have halted the construction of apartment complexes in the Atlantic Forest (an area "elevated to the category of

As the above cases illustrate, Paragraph 4 (“national patrimony”) is very much an active²⁶² constitutional provision in Brazilian environmental legal proceedings. In *Ministério Público do Estado de São Paulo v. Stela Goldenstein*,²⁶³ public prosecutors in São Paulo charged three officials of the State Secretariat of the Environment with violating the 1992 Administrative Improbability Act.²⁶⁴ The State Secretariat had issued a permit for the construction of a theme park in the Atlantic Rainforest without demanding an EIS or consulting a federal environmental agency.²⁶⁵ Prosecutors argued that the State Secretariat was obligated to consult a federal environmental agency because the building site fell under “special federal protection status” as a consequence of Paragraph 4.²⁶⁶ Not only did the prosecutors seek an injunction, but they also sought the dismissal of officials and the imposition of a fine.²⁶⁷ The court found that though the permit was illegally issued, the misconduct did not breach the Administrative Improbability Act.²⁶⁸ On appeal (at the request of both parties), the defendants prevailed.²⁶⁹

Though the prosecutors failed to convince either the trial or appellate court, *Stela Goldenstein* demonstrates that Article 225, through specific provisions (in this case, Paragraph 4), added environmental teeth to tangential laws. Federal officials discovered that prosecutors could utilize the Administrative Improbability Act to safeguard environmental interests.²⁷⁰ Article 225 provided the constitutional basis for the prosecutors’ victory at the district level.

‘national patrimony’ in the new constitution”). Chang, *supra* note 108, at 414. The judge reasoned that the prosecutors failed to present technical evidence that development would negatively impact traffic flow and sanitation, and furthermore, the assumption that there would be “scenic damage” to the Atlantic Forest was “highly subjective.” *Id.* The decision does not diminish the legal force of Article 225; rather the decision indicates that the judge maintained a standard of proof that he did not believe had been met by the prosecutors.

262. Meaning “national patrimony” may play a direct role in litigation as opposed to its aforementioned function as a legislative foundation.

263. Filed July 14, 1998, in São Paulo, SP (12th Vara da Fazenda Pública) by prosecutor Sérgio Turra Sobrane. MCALLISTER, *supra* note 154, at 132.

264. The Administrative Improbability Act forbids state actions for purposes rendered illegal by law. *Id.*

265. *Id.*

266. *Id.*

267. *Id.* at 133.

268. *Id.* at 132.

269. *Id.* at 133.

270. *Id.*

Other ostensible environmental defeats nevertheless prove that Article 225 has resituated environmental litigation. For example, when the Brazilian Institute of Consumer Defense²⁷¹ and Greenpeace managed to convince a district court that the National Technical Commission on Biosafety ("NTCB") had improperly approved Monsanto's sale of genetically-modified soybeans, the court had to wrestle with Article 225, Paragraph 1, Clause 4.²⁷² The plaintiffs alleged that NTCB was required to issue an EIS and had not done so.²⁷³ The district court enjoined the NTCB from approving the soybeans before the issuance of an EIS.²⁷⁴ The appellate court reversed.²⁷⁵

The disagreement between the two courts rested on the level of discretion they read into Article 225, Paragraph 1, Clause IV.²⁷⁶ The district court believed that the introduction of GMOs would automatically result in environmental degradation and thus, according to Clause IV, the NTCB had to issue an EIS before approval.²⁷⁷ On the other hand, the appellate court found that the NTCB retained discretion in mandating preparation of an EIS.²⁷⁸ Thus even where the judicial decisions have not satisfied environmentalists, Article 225 has redefined the constitutional battleground upon which parties contest environmental cases.

D. Article 225's Success: A Statement of Principle

Despite continuous indifference, the trend towards more environmentally-conscious development that started in the 1980s has been consolidated, validated, and legitimized by Article 225. According to some observers, cultural values are the worst impediments to the enforcement of environmental laws in Brazil.²⁷⁹ Often the underfunding of federal and state environmental agencies is a byproduct of public disinterest.²⁸⁰ Fol-

271. A Brazilian NGO. *Id.*

272. Lesley K. McAllister, *Judging GMOs: Judicial Application of the Precautionary Principle in Brazil*, 32 *ECOLOGY L.Q.* 149, 162–63 (2005) [hereinafter McAllister, *Judging GMOs*]. Paragraph 1, Clause IV, reads: "In order to ensure the effectiveness of this right, it is incumbent upon the government to . . . require, in the manner prescribed by law, for the installation of works and activities which may potentially cause significant degradation of the environment, a prior environmental impact study, which shall be made public." C.F. art. 225, para. 1, cl. IV (Braz.).

273. *Id.* at 163.

274. *Id.*

275. *Id.*

276. *Id.* at 163–64.

277. McAllister, *Judging GMOs*, *supra* note 272, at 163–64.

278. *Id.* at 164.

279. Kellman, *supra* note 19, at 161.

280. Drummond & Barros-Platiau, *supra* note 63, at 97–98.

lowing the ratification of the 1988 Constitution and its far-reaching environmental chapter, “slowly but surely [Brazil] became aware of the seriousness of its environmental problems.”²⁸¹ Article 225’s effect as a national expression of an ecological ideal has been reflected in international environmental fora, most notably at the 1992 Earth Summit in Rio de Janeiro.²⁸²

The summit produced Agenda 21, a rubric for the implementation of sustainable development across the globe.²⁸³ In the decade following the adoption of the 1988 Constitution, Agenda 21 inspired the Brazilian government to pass 17 laws, 3 Provisional Measures, 139 Decrees, and 170 CONAMA Resolutions.²⁸⁴ Considering Agenda 21’s programmatic nature and the link it establishes between environmental degradation and “the welfare of future generations,”²⁸⁵ it is not difficult to imagine that Article 225’s similar qualities legitimized Agenda 21 in the eyes of Brazilian politicians and the public.

Article 225’s tenets also appeared in binding international treaties. The Earth Summit introduced the “legally-binding”²⁸⁶ Convention on Biolog-

281. Fernando C. Walcacer, *Brazil and Environmental Law*, 15 FLA. J. INT’L L. 54, 55 (2002–2003). Such statements suggest that at least some elements of public environmental awareness were triggered by Article 225, as opposed to the reverse.

282. The “unprecedented” Earth Summit was the follow-up to 1972 Stockholm Conference. *Earth Summit: UN Conference on Environment and Development* (1992), U.N. DEPT. PUB. INFO. (1992), <http://www.un.org/geninfo/bp/enviro.html> (last updated May 23, 1997) [hereinafter *Earth Summit*]. The Earth Summit was aimed at curtailing environmental degradation and promoting sustainable development. *See id.* One hundred seventy-two governments participated and 10,000 journalists were present. *Id.*

283. *Id.* Agenda 21 is set forth in an “800-page” document which advocates “achievement of sustainable growth, fostering an equitable world, making the world habitable, encouraging efficient resource use and managing chemicals and hazardous wastes.” Rebecca Hoelting, *After Rio: The Sustainable Development Concept following the United Nations Conference on Environment and Development*, 24 GA. J. INT’L & COMP. L. 117, 128 n.53 (1994–1995).

284. Drummond & Barros-Plataiu, *supra* note 63, at 98.

285. *Id.* at 97. Cf. C.F. art. 225 (Braz.) (“[B]oth the Government and the community shall have the duty to defend and preserve it for present and future generations.”).

286. *Earth Summit*, *supra* note 282; *see also* Catherine Tinker, *Introduction to Biological Diversity: Law, Institutions, and Science*, 1 BUFF. J. INT’L L. 1, 7 (1994) (classifying the agreement “not as a ‘framework’ convention,” but a “specific treaty with duties and obligations structured within a fully-operational system”). *But see* W. Robert Ward, *Man or Beast: The Convention on Biological Diversity and the Emerging Law of Sustainable Development*, 28 VAND. J. TRANSNAT’L L. 823 (1995) (describing the Convention on Biological Diversity as a “general principles” international agreement similar to Agenda 21, and, for that matter, “programmatic” Article 225).

ical Diversity ("CBD").²⁸⁷ The CBD was intended to protect global biodiversity, promote sustainable use of biodiversity, and fairly distribute the benefits arising from biodiversity.²⁸⁸ By 2009, Brazil possessed 550 "legal instruments related to the CBD biodiversity conservation and sustainable use goals: 53 federal laws, 2 decree laws, 1 provisional measure, 194 federal decrees, 190 rulings of [CONAMA], in addition to 75 laws and 35 decrees at the state level."²⁸⁹ Though Brazil's decision to sign the CBD cannot be solely attributed to Article 225, the constitutional thrust behind biodiversity protections must have validated support for the CBD within Brazil.²⁹⁰ Even critics who suggest Article 225 may encourage continued resource exploitation admit that Article 225 marks the first time Brazil declared that environmental conservation is a national value.²⁹¹

CONCLUSION

Article 225 has played a widespread and immense role in Brazil's biodiversity protections despite continuous enforcement problems. This Note attempts to describe the successes of Article 225, whether as a constitutional foundation for environmental legislation, a recognized constitutional right and policy in court, or a constitutional declaration to Brazilian citizens and the world that protecting biodiversity is of paramount

287. Signed by Brazil in 1994. *Earth Summit*, *supra* note 282.

288. United Nations Convention on Biological Diversity art. 1, June 5, 1992, 1760 U.N.T.S. 79, available at <http://www.cbd.int/convention/articles.shtml?a=cbd-01>.

289. This list is "non-exhaustive"; it does not include "normative and administrative rulings or municipal legislation." MINISTRY REPORT, *supra* note 21, at 107.

290. Article 225's role must be understood in the larger context of the Brazilian environmental movement in the early 1990s. Factors which doubtlessly contributed to the political feasibility of Brazil signing the CBD were the same factors which paved the way for Article 225's ratification. Such factors included invigorated environmental NGOs, increased international awareness, increasing rates of habitat destruction, and political freedoms renewed by the restored democracy in 1986. *See supra* Part II(A). *But see* Christina Schwansee Romano, *Brazilian Government Policies towards the Amazon Rain Forest: From a Developmental Ideology to an Environmental Consciousness?*, 10 COLO. J. INT'L ENVTL. L. & POL'Y 65, 78 (1999) (suggesting that Brazil's shift from nationalistic isolationism to international environmental cooperation was largely motivated by a desire to secure needed capital from outside Brazil).

291. "The special provision for Amazonia . . . can be read both ways. While it emphasizes preservation as an essential community value, at the same time it legitimizes the continued exploitation of the forest and natural resources." Peter C.L. Roth, *The Emerging Role of the Extractive Reserve in the Enforcement of Brazilian Forest Controls*, 2 COLO. J. INT'L ENVTL. L. & POL'Y 247, 258 (1991). But Roth also recognizes that Article 225 served to "elevate environmental problems to national concern, whereas prior constitutions emphasized economic concepts." *Id.*

importance. Many observers have called the environmental chapter of the 1988 Constitution Brazil's "most important and significant rule concerning environmental issues."²⁹² Highlighting Article 225's positive effects rather than focusing on enforcement difficulties may encourage other countries to consider adopting similar constitutional provisions.²⁹³ Though this Note does not intend to underestimate Brazil's severe enforcement deficiencies, the "Courage Constitution" is "undimmed" by the consensus that enforcement will prove to be a laborious challenge.²⁹⁴ Furthermore, Article 225 has improved the very enforcement mechanisms that many claim limit its effect. Article 225 provides not only model language but also demonstrates the practical results of adopting a constitutional provision guaranteeing biodiversity protection as a fundamental right, government policy, and national value.

Ned Thimmayya *

292. Leite & Dantas, *supra* note 211, at 61.

293. Furthermore, an appreciative approach to Article 225 (as opposed to lamenting long-existing enforcement problems) on the part of scholarship outside of Brazil may help assuage concerns over international paternalism. See *supra* note 122.

294. Ulysses Guimaraes, President of the Constituent Assembly, which drafted the 1988 Constitution, called the new constitution the "The Courage Constitution" in a preface he wrote to an early edition of the document. Chang, *supra* note 108, at 401.

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