MAINTAINING SOVEREIGNTY AND THE TROPICAL RAINFORESTS: THE PROMISE OF DEBT-FOR-NATURE SWAPS

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INTRODUCTION

The rainforests are national resources that the international community wants to participate in managing.[1] The industrialized nations have become prosperous by exploiting their own national resources and those of lesser developed countries.[2] Now that resources are dwindling, the international community expects developing nations to not only forego the economic benefit of exploiting the rainforest but also spend money to protect it. This is not a goal that can be accomplished by treaty or without economic incentive for domestic change.

Paternalistically, the industrialized nations expect that the lesser industrialized nations should learn from their mistakes and pursue a more environmentally friendly course of development. The developing world should see that in the long run, their non-sustainable practices will not result in economic prosperity or even stability. But the reality is that the industrialized nations have blatantly prospered by exploiting their own natural resources and those of other countries. The developing nations want that prosperity as soon as possible.

This Article will address the causes of rainforest deforestation, its effects, and international solutions undertaken to date. Few international agreements have directly addressed rainforest issues. Agreements discussing natural resources stress the principles of national sovereignty and control over natural resources, not plans for conservation. The International Tropical Timber Agreement (ITTA) is the only agreement to directly address rainforest deforestation. However, the ITTA exclusively focuses on the timber trade, so it cannot completely accomplish the goal of rainforest preservation. As a whole, international agreements have been slow in making much progress toward halting deforestation. Any workable solution must cater to the sovereignty concerns of these countries. Agreements like debt-for-nature swaps, while not ideal, are a promising new solution to preserve rainforests without impinging on sovereignty rights.

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[1] *General Assembly Is Told Alleviation of Global Poverty Essential If Sustainable Development Goals Are to be Reached*, U.N. GAOR, 19th Sess., Agenda Item 21, U.N. Doc. GA/9266 ENV/DEV/432 (1997) (discussing actions taken and necessary to protect forests and forest populations).

[2] Karin Mickelson, *Seeing the Forest, the Trees, and the People: Coming to Terms with Developing Country Perspectives on the Proposed Global Forests Convention*, in GLOBAL FORESTS AND INTERNATIONAL ENVIRONMENTAL LAW 239, 242-47 (Canadian Council on Int'l Law ed., 1996).

I. MAJOR CAUSES OF DEFORESTATION

Deforestation results from a variety of local practices. Each practice contributes differently to deforestation depending on the practices of the country. This paper will focus on Brazilian law and policy. Besides being the subject of much publicity, the Brazilian rainforest provides an ample case study because it is subject to all of the major forces driving deforestation.

A. Agricultural Practices

Tropical ecosystems are not well suited for a year-round monoculture crop. Although tropical soils will not support a monoculture crop for more than two to three years, farmers persist in using the land continuously until it is barren. Then, they move on to perpetuate the destructive cycle elsewhere. This makes current agricultural practices one of the largest causes of rainforest destruction. People need to be educated in how to effectively farm the Amazonian land, or this huge, sparsely populated resource will quickly become completely barren and unproductive.

Species diversity, a trait that typically characterizes rainforests, is required for a healthy, functioning ecosystem. Rarely will there be two of any species within an acre of one another.[3] Because of this diversity, rainforests will not tolerate farming techniques used in temperate forests. In the temperate farmlands of the north one can manage a farm with only one or two species because the soils are deep and nutrient rich.[4] Tropical soils, however, are thin and nutrient poor. The protective tree canopy keeps them from washing away. Nutrients constantly cycle between the variety of plants, animals, fungi, and bacteria to maintain healthy growing conditions. Absent this diversity, the soils cannot support a food crop for more than one or two years. Farmers are only able to prolong the land's use for one or two more seasons by using fertilizers or pesticides. These chemicals wash into other areas of the forest and poison native plants and insects. Finally, when a plot of land can no longer be used, it is abandoned. There are no successful programs for reforestation, because the forest is a deli-

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[3] Matthew B. Royer, Note, *Halting Neotropical Deforestation: Do the Forest Principles Have What It Takes?*, 6 DUKE ENVTL. L. & POL'Y F. 105, 128 (1996).

cate balance between varieties of species. The effect is that these practices leave the landscape completely barren.[5]

B. Logging and Mining

In the Amazon, clear-cut logging is not a major cause of deforestation.[6] Often, forests are selectively logged just for the most commercially desirable trees.[7] However, selective logging is not a benign practice. By concentrating on particular species, the ecosystem balance is upset, and the rate of logging increases in order to maintain the volume needed.[8] This also fragments habitat, which has a similar effect as if the entire area is clear cut.[9] Additionally, the secondary effects of logging on the forest are severe. Tracts of lands are denuded to create logging roads. These roads also allow others access to previously inaccessible areas.

Mining is a contributing cause to deforestation that Brazilian law is just beginning to address. Brazil leads the world in gold and tin extractions.[10] However, Brazil does not have strong environmental laws mandating clean-up of mining sites. Gold mining has left Brazilian waters polluted with mercury, which is toxic to all life forms.[11]

Brazil has recently passed new laws trying to combat these problems. First, unauthorized deforestation is now a crime punishable by time in jail and a fine of $25 million.[12] Brazil has also begun construction on a radar surveillance system to aid in enforcement.[13] Currently, the Brazilian Institute of the Environment and Renewable Natural Resources, an understaffed, under-funded, and

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[5] Jacqueline Klosek, Note, *The Destruction of the Brazilian Amazon: An International Problem*, 6 CARDOZO J. INT'L & COMP. L. 119, 129 (1998).

[6] Royer, *supra* note 3, at 115 (explaining that this is not the case in Southeast Asia where logging and corruption are the major causes of deforestation).

[7] Elaine L. Hughes, *Forests, Forestry Practices and the Living Environment*, *in* GLOBAL FORESTS AND INTERNATIONAL ENVIRONMENTAL LAW, *supra* note 2, at 79, 87.

[8] *Id.*

[9] *Id.* at 87-88.

[10] Royer, *supra* note 3, at 117.

[11] Klosek, *supra* note 5, at 124.

[12] Mac Margolis, *Law of the Jungle*, NEWSWEEK INT'L, ¶ 11, *at* http://discuss.washingtonpost.com/nw-srv/issue/17_99b/printed/int/socu/ov1217_1.htm (Oct. 25, 1999).

[13] Axel Bugge, *Brazil Amazon Radar System to Keep Jungles Safe*, REUTERS LIMITED, ¶ 4-5, *at* http://forests.org/archive/brazil/bramrads.htm (Oct. 20, 2000) (qualifying that the system will not be operational until 2002 and was partially motivated by drug trafficking concerns).

much hated group of rangers who patrol the rainforest for illegal activity, enforces the laws.[14] These rangers face such dangers and animosity that approximately two are killed each year. Brazil just does not have enough money to monitor the entire Amazon alone.[15] In addition to government enforcement efforts, many are hopeful that the market may aid enforcement. Some market forces have already begun to influence logging practices. The president of an Amazonian plywood company stated that they "were getting increased pressure from green groups and from [their] buyers."[16] Market forces may help turn the tide where regulations and treaties have failed.

C. Cattle Ranching

Between 1966 and 1983 two-thirds of the Brazilian rainforest was deforested and converted to cattle ranching.[17] Although abandoned in the late 1980s, Brazil caused much Amazonian deforestation with a subsidy program for cattle ranching.[18] Ranchers could secure interest-free loans, equipment was exempted from import taxes, and government land prices were lowered if the land was to be put into ranching. Cultural factors exacerbated the effects of these government programs. A farmer in Brazil is considered lazy if he leaves his land fallow to regenerate.[19] Therefore, a combination of quick loans and cultural pressures led many small farmers to convert worn-out farmland into cattle pasture and expand their farms further into the forest.

D. Underlying Causes

Many of the described causes are due to government sanctioned policies. Although many countries may have made similar policy mistakes, the dire economic condition of the developing countries exacerbates the impact of these

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[14] Margolis, *supra* note 12, ¶¶ 1-6.
[15] *Id.* ¶ 9.
[16] *Id.* ¶12.
[17] Royer, *supra* note 3, at 112.
[18] Susanna B. Hecht, *The Logic of Livestock and Deforestation in Amazonia*, 43 BIOSCIENCE 687, 689-92 (1993)(some analysts have found that these ranches are successful not because of the land management techniques, but because owners have been able to profit from subsidies and tax breaks).
[19] Royer, *supra* note 3, at 119.

errors in policy judgment.[20] These government policies are often aimed at curing social problems. Population growth, migration from urban areas, and poverty have all driven the policies and practices contributing to rainforest destruction. Until recently, developing nations have been unwilling to curb detrimental environmental practices in order to confront these more serious domestic problems.[21] Although governments are beginning to pass more stringent environmental legislation, they often lack power and money to enforce environmental regulations aimed at slowing deforestation.[22] The international community has to find a way to assist developing countries' domestic policies to curb deforestation.

II. Effects of Deforestation

A. Local Impacts

Tropical forests benefit the local, regional, and global populations. Locally, indigenous people harvest forest resources. Peccary, monkey, deer, honey, palm, and other fruits and nuts provide a rich diet for nomadic tribes.[23] Until urban population explosions, indigenous people used the forest for sustainable agriculture and as hunter/gatherers.[24] Now, private interests and people fleeing from urban poverty move out the indigenous groups. Where tribes once flourished unknown, they now face their own issues of sovereignty.[25] One of the major groups encroaching on tribal lands is the landless poor fleeing from urban areas. The landless poor have disrupted the agricultural cycle of the local tribes. The indigenous groups would farm small areas of land and then move on, allowing the land to regenerate. However, now a second group of farmers migrate to the previously cleared land and farm for one or two more years until the land is completely stripped of nutrients and soil.[26] In this state, the land is virtually incapable of regenerating.

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[20] Todd Johnston, *The Role of International Equity in a Sustainable Future: The Continuing Problem of Third World Debt and Development*, 6 Buff. Envtl. L.J. 35, 54 (1998).

[21] Arment Rosencranz et al., *Rio Plus Five: Environmental Protection and Free Trade in Latin America*, 9 Geo. Int'l Envtl. L. Rev. 527, 529 (1997).

[22] Johnston, *supra* note 20, at 58.

[23] Royer, *supra* note 3, at 107.

[24] Klosek, *supra* note 5, at 136.

[25] *See New Gold Rush Threatens Brazil's Yanomami Indians*, Reuters Limited, *at* http://forests.org/archive/brazil/newgoldr.htm (Sept. 30, 2000).

[26] *See* Hughes, *supra* note 7, at 91-93.

B. Regional Impacts

Regionally, the rainforests are room for expansion, development, and economic gain for the host nations. However, destruction of the rainforest ultimately eliminates Amazonian countries' potential for lasting economic gain. If the region could sustainedly exploit rainforest resources, they could be a source for long-term economic gain. Many northern industries wish to prospect the rainforest for cures for deadly diseases.[27] Further, the market for organic products harvested from the rainforest has not yet been fully exploited. If the international community can create a market for these sustainable exports, the impact could be more economically significant than any treaty structuring regional management of deforestation.

C. Global Impacts

Globally, destruction of the tropical rainforests is contributing to the global warming problem.[28] Rainforest vegetation absorbs carbon dioxide from the atmosphere, a necessity to counteract the amounts emitted by industrialization. Further, a great amount of CO_2 is stored in rainforest soil.[29] This storage process occurred over a thousand years; burning rainforest soils releases this stored CO_2 in a matter of seconds. Slash and burn conversion of forest to agricultural land not only leads to an immediate release of CO_2 from the soil but also destroys the absorption process.[30] Even if global warming is not a reality, CO_2 is a major contributor to ozone depletion, therefore, the effect of deforestation on the balance of CO_2 in the atmosphere needs to be addressed.

Tropical rainforests are also a global storehouse of biodiversity. Expressed as a commodity, biodiversity is important to producing genes used for better crop production and synthesis of new medicines and vaccines.[31] In ecological terms, biodiversity is important to maintain a vital, self-sustaining, and evolving

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[27] Christopher Hunter, Comment, Sustainable Bioprospecting: Using Private Contracts and International Legal Principles and Policies to Conserve Raw Medicinal Materials, 25 B.C. ENVTL. AFF. L. REV. 129, 136-39 (1997).

[28] Klosek, *supra* note 5, at 110-11.

[29] Andrew Revkin, *Planting New Forests Can't Match Saving Old Ones in Cutting Greenhouse Cases, Study Finds*, N.Y. TIMES, Sept. 22, 2000, at A23.

[30] *Id.*

[31] BIODIVERSITY AND INTERNATIONAL LAW 5 (Simone Bilderbeek, ed., 1992).

ecosystem. Biodiversity also embodies and supports cultural diversity.[32] Cultures that are closely tied to the land are crucial to maintaining biodiversity. These cultures supply the world with knowledge of the plants the industrialized world hopes to exploit for commercial uses.[33] Without these cultures, there will be no one to maintain biodiversity, and no one to teach outsiders about the valuable biological resources.[34]

The benefits forests may provide the world are undisputed. These global benefits need to be exploited in order to preserve the forests. However, the global community must provide local incentives for rainforest preservation. Vague goals enumerated in treaties cannot effect what must be local changes in policy and practice.

III. Local Political Issues Hindering Preservation

A critical barrier to curbing deforestation is that many developing nations are wary of treaty obligations that industrialized nations wish to impose on their resources. In any international treaty there are background issues of state sovereignty. States are not compelled to sign international treaties. Further, even if they do want to be parties to the treaty generally, they may opt out of certain provisions. Still, structuring a treaty that a developing nation would rather reject frustrates the purpose of having a treaty aimed at rainforest protection. Therefore, these treaties must specifically cater to the concerns of developing nations.

Developing nations are also particularly sensitive to outsider control because their history exhibits an ongoing struggle for political freedom.[35] For centuries, industrialized nations controlled these countries as colonies. Today, intrusions of national sovereignty remain pervasive although more subtle. The developing nations still provide resources to the industrialized world, as in the colonial past. Where there used to be a direct channel of resource exploitation, now the industrialized nations are asserting a "quasi-property" interest in resource preservation.[36] Industrialized nations assert their quasi-property interest

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[32] *Id.* at 9.

[33] Hunter, *supra* note 28, at 139 (defining the exploitation of the knowledge of indigenous peoples without compensation as "biopiracy").

[34] Biodiversity and International Law, *supra* note 31, at 9.

[35] Mickelson, *supra* note 2, at 242-47.

[36] *Id.* at 247.

by referring to the rainforest as a "global commons." Never before has one country's land been referred to as the global commons.[37] Developing countries cannot help but be wary of intrusions on sovereignty with the world claiming a right to regulate their lands and policies. This history should not be dismissed or downplayed in negotiating with the developing countries.[38]

Further complicating international preservation efforts are internal tensions over rainforest management. Most governments attempt to implement management programs, but many still feel that resource exploitation is a right. It is often heard from Brazilian officials, "you've had your chance to pollute and develop and we must have ours."[39] In contrast, indigenous groups who have prospered living in harmony with the land want nothing to do with industrialization and "development." Chief Tamakurale of the Parakana Indians expresses this view:

> We do not want the loggers on our lands. They give us diseases, they kill the forest animals and take turtles from the river so we have nothing to eat. They cut down the trees. If the trees go, some of our children may survive, but they will not be Parakana.[40]

The international community can hardly proffer a solution to deforestation if the target countries cannot even reach consensus on a preservation policy.

The sovereignty struggles of the indigenous peoples are often discussed in the academic literature, but indigenous peoples still have little representation in the international forum. Indigenous peoples have no direct representation during negotiations of international agreements nor in any of the private agreements aimed at saving the rainforests. However, there is growing recognition that indigenous peoples must have some control over resources in order to survive.[41] The global community has also begun to recognize that indigenous people are the most educated people in the world in sustainable management techniques.[42] Some have suggested that indigenous people be given the status simi-

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[37] *Id.* at 246-47.
[38] *Id.* at 242-47.
[39] Philip Shabecoff, *Brazilian Aide Speaks of Shift to Concern for Environment*, N.Y. TIMES, May 13, 1982, at A4.
[40] Jamie Drummond, *Tribes Who Won't See the Forest for the Sleaze*, INDEP., Jan. 4, 1997, at 13.
[41] Mickelson, *supra* note 2, at 255.
[42] George W. Alexandrowicz, *International Legal Instruments and Institutional Arrangements: A Discussion Paper*, *in* GLOBAL FORESTS AND INTERNATIONAL ENVIRONMENTAL LAW, *supra* note 2, at 315, 348-49.

lar to that of nongovernmental organizations (NGOs) in the UN General Assembly.[43] This would guarantee that their interests are represented in future treaty formation. However, the struggle of indigenous people is ultimately a struggle to gain rights and recognition from the host country more than from the international community.

IV. Treaties Addressing Rainforest Issues

There are many international instruments that indirectly address forest preservation. The conventions addressing climate change, biodiversity, desertification, protection of endangered species, and protection of indigenous peoples all affect management of rainforests.[44] However, forest protection is such a local issue that international law and policy collide with state sovereignty in trying to address deforestation directly through international agreements. Overall, forming consensus in global treaties waters down attempts at conservation and these treaties are generally ineffective.

A. The Stockholm Declaration

The first international agreement to articulate principles with regard to the rainforests was the Stockholm Declaration in 1973.[45] Subsequent international agreements have reiterated the principles articulated in the Stockholm Declaration basically unchanged. The first principle reasserts the host country's power over the forest:

> States have . . . the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the jurisdiction of national jurisdiction.[46]

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[43] *Id.* at 349.

[44] David VanderZwaag & Douglas MacKinlay, *Towards a Global Forests Convention: Getting Out of the Woods and Barking up the Right Tree*, *in* Global Forests and International Environmental Law, *supra* note 2, at 4.

[45] *United Nations Conference on the Human Environment: Final Document*, June 16, 1972, U.N. Doc. A/CONF.48/14/Rev. 1 at 3, *reprinted in* 11 I.L.M. 1416 (1972).

[46] *Id.* at 1419 (citing "Principle 12").

The second assertion acknowledges the international community's responsibility to preserve the forests:

> Resources should be made available to preserve and improve the environment . . . making available to [developing countries] upon their request, additional international technical and financial assistance for this purpose.[47]

These principles of a sovereign right to exploit and an international duty to preserve were not resolved into a plan of action.

Much has been made of the fact that beginning with the Stockholm Declaration there has been no legally binding forest treaties.[48] However, the strength of international law is that treaties provide a consensus of international policy. This consensus pressures the international community into compliance. By declaring that the rainforest is a valuable resource that needs global protection, the nations of the world told the tropical nations that protecting forests is a priority. However, this assertion did not result in meaningful action to protect the rainforests.

B. The Forest Principles

In 1992 the global community met in Rio de Janeiro, Brazil for the United Nations Conference on Environment and Development.[49] The delegates at Rio agreed on a document addressing the rainforests, *The Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation, and Sustainable Development of All Types of Forests*, more commonly referred to as the "Forest Principles."[50]

The agreement is broad, too broad to accomplish any real goals. Because the Forest Principles apply to all forests, the delegates could not create an agree-

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[47]*Id.* at 1420 (citing "Principle 21").

[48]*See generally* Andrew F. Upton, Comment, *Big Green Stick: Reducing International Environmental Degradation Through U.S. Trade Sanctions*, 22 B.C. ENVTL. AFF. L. REV. 671, 678-79 (1995) (discussing the lack of enforcement power of the International Court of Justice and the futility of establishing a special International Court for the Environment, both colliding with concerns of sovereignty).

[49]Gary C. Bryner, *Agenda 21: Myth or Reality? in* THE GLOBAL ENVIRONMENT 157 (Norman J. Vig & Regina S. Axelrod eds., 1999).

[50] United Nations Conference on Environment and Development, June 13, 1992, *reprinted in* 31 I.L.M. 882 (1992).

ment that would be effective and flexible enough to cover the various climate, social, and economic conditions affecting various forests.[51] Further, the Forest Principles again focus on the two conflicting themes in rainforest preservation; the states have a right to exploit their own resources but also have an obligation to protect them. The only effect of the Forest Principles is that they are again evidence of a global commitment to forest preservation, although no one can commit to the undertaking of actual preservation.

C. The International Tropical Timber Agreement

The International Tropical Timber Agreement (ITTA) translates these broad principles into a more action oriented framework. In 1983, the ITTA was signed as a nonbinding trade agreement. It was amended in 1994 and is the current guiding document governing rainforest management.[52] The agreement is implemented through the International Tropical Timber Organization (ITTO). Under the terms of the ITTA and the guidance of the ITTO, timber producing nations were to implement strategies for sustainable development by 2001.[53] The ITTO has released information concerning progress toward those goals, but not surprisingly, developing countries are not producing timber at sustainable levels.[54]

The greatest strength of the ITTA is that it focuses the idea of conservation into articulable goals. Unlike the Stockholm Declaration and the Forest Principles which merely state that tropical resources are important and need to be addressed, the ITTO has been successful in getting countries to at least monitor the tropical timber trade.[55]

The narrow focus of the ITTA is also a weakness of the agreement. The ITTO's stated objectives are to promote trade and long-term harvesting.[56] By focusing on timber, it does not address the rainforest as a whole. Ninety percent

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[51] Ryan K. McKain, *A Critical Evaluation of the Development and Implementation of Forest Preservation Strategies*, 15 CONN. J. INT'L L. 235, 249-50 (2000).

[52] International Tropical Timber Agreement, 1994, Jan. 26, 1994, *reprinted in* 33 I.L.M. 1014 [hereinafter ITTA].

[53] *Id.*

[54] Duncan Poore & Thang Hooi Chien, International Tropical Timber Council, *Review of Progress Toward the Year 2000 Objective*, July 31, 2000 [hereinafter *Year 2000 Objective*].

[55] *Id.*

[56] Philip E. Wilson Jr., Comment, *Barking up the Right Tree: Proposals for Enhancing the Effectiveness of the International Tropical Timber Agreement*, 10 TEMP. INT'L & COMP. L.J. 229, 231 (1996).

of rainforest deforestation is due to causes other than logging, which makes the scope of the ITTA an incomplete solution to the rainforest problem.[57] Further, the objectives of the ITTA are skewed toward timber utilization, not preservation.[58] While the idea of sustainable development implies no net loss of forest lands, there is also no remediation of lost lands. There is also no consideration for patterns of development and deforestation. The ITTO does not make it a priority to protect large tracts of old growth lands or home ranges of indigenous peoples.

Although the goal of the ITTA is "sustainable development," the agreement does not actually define that term in its definitions or in the body of the agreement. While the ITTA is innovative in asserting the goal of sustainable development, there is no model success story for that goal.[59] "FNote3c" Even the general parameters of the term "sustainable development" are debated.[60] Some definitions encompass not only economic components, but also development that achieves preservation of biological diversity, intergenerational equity, respect for human rights, and elimination of poverty.[61] It is ludicrously ambitious to believe this can be achieved by struggling developing nations when even the industrialized nations have not reached these goals. Further, a single treaty governing timber trade can only be a small step in such broad goals.

The ITTA attempted to set up a structure where there is a sense of fairness in the obligations of consumer countries and producer countries. Toward that end, consumer countries were also supposed to achieve sustainable manage-

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[57] VanderZwaag, *supra* note 44, at 12.

[58] ITTA, *supra* note 52, at 1017. The objectives are:

(a) To provide an effective framework for consultation, international cooperation and policy development among all members with regard to all relevant aspects of the world timber economy;

(b) To provide a forum for consultation to *promote non-discriminatory timber trade practices*;

(c) To contribute to the process of sustainable development;

(d) To enhance the capacity of members to *implement a strategy for achieving exports of tropical timber and timber products* . . .

(e) To *promote the expansion and diversification of international trade in tropical timber* . . .

(f) To promote and support research and development with a view to improving forest management and *efficiency of wood utilization* . . . (emphasis added).

[59] Wilson, *supra* note 56, at 241.

[60] Johnston, *supra* note 20, at 36 (citing that the World Commission on Environment and Development in *Our Common Future* (1987) formulated a popular definition for sustainable development: "meeting the needs of the present without compromising the ability of future generations to meet their own needs").

[61] IUCN Ethics Working Group, *Report of the IUCN Ethics Workshop April 1993*, *in* ADVANCING ETHICS FOR LIVING SUSTAINEDLY 5 (1994).

ments of their forests by 2000.[62] This would eliminate the competitive advantage consumer nations have by being able to continue current unsustainable harvesting practices. However, this was such a controversial addition that it was included only in the Preamble and not in the text of the ITTA.[63] This seems like it would have been a relatively simple provision for consumer nations to agree to, considering they are supposed to be assisting the producer nations in technology for sustainable development. If the wealthier consumer nations do not have the capability of sustainable forest management, it is hypocritical for them to expect tropical producer nations to be able to economically comply with the treaty. Consumer nations supply the majority of the world's timber exports, and by not agreeing to promote sustainable practices they put their timber industries at a competitive advantage, further skewing the economic gulf between producer and consumer nations.[64] This is especially important in light of commentators' proposed revisions to the ITTA. Some feel that a licensing or certification system should be imposed by the ITTO to monitor compliance.[65] Because consumer nations are not bound by the same standards as producer nations, consumer nations would not have to certify their lumber exports.

The ITTO collected reports from various countries and NGOs in order to assess progress toward the goal of sustainability by the year 2000.[66] Not surprisingly, most countries have not achieved sustainable harvests. However, both producer and consumer countries have developed new policies and legislation aimed at promoting sustainable harvests.[67] Further, there is a greater market demand for timber products from sustainedly managed sources. The ITTO attributes this to an awareness of the need to conserve. The new conservation awareness is especially strong in local populations. NGOs have been successful in educating communities on forest management. These communities have begun to take greater advantage of harvesting non-wood forest products and promoting eco-tourism.

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[62] Wilson, *supra* note 56, at 239.

[63] ITTA, *supra* note 52, at 1016 ("noting also the statement of commitment to maintain, or achieve by the year 2000, the sustainable management of their respective forests made by *consuming members* . . .") (emphasis added).

[64] Wilson, *supra* note 56, at 249.

[65] *Id.* at 246.

[66] *Year 2000 Objective*, *supra* note 54.

[67] *Id.*

Consumer nations have also worked toward the goals of the treaty. Consumer countries have provided technical and financial support to producer countries. However, instead of contributing to the ITTO and forwarding the projects advanced by the treaty, consumer nations typically sent aid to particular nations directly.[68]

V. DEBT-FOR-NATURE SWAPS

The ITTA, being a commodity agreement, attempts a regulated market solution to rainforest deforestation. Because treaties are limited by sovereignty concerns, people have begun to design more creative market schemes that do not require abdication of any sovereign rights. Debt-for-nature swaps are one of these solutions that have begun to play an important role in rainforest preservation. Debt-for-nature swaps are not a cure-all mechanism for saving the rainforests. However, they are an innovative solution that have experienced trial by fire and appear to be working.

A. The Mechanism of Debt Exchange

International banks created debt exchange programs in order to manage the developing countries' escalating debt.[69] The banks created a secondary market, where they trade loans amongst themselves and eventually sell the debt back to the developing countries at a reduced rate. For example, suppose the debt is $200. In the secondary market, a bank sells the debt to an organization for a reduced price, approximately $50. The organization then sells the debt back to the developing country, for $100. The developing country has lowered its debt, the bank has reduced liability, and the transactional organization has made a profit.[70] Economists feel that this system actually has fewer transaction costs than if the developing countries tried to manage their debt on their own. In a debt-for-nature exchange, an international conservation organization ar-

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[68] *Id.*

[69] Priya Alagiri, Comment, *Give Us Sovereignty or Give Us Debt: Debtor Countries' Perspective on Debt-For-Nature Swaps*, 41 AM. U. L. REV. 485, 487 (1992).

[70] *Id.* at 490.

ranges the debt transaction. The organization uses the profit from the debt sale to fund conservation efforts in the developing country.[71]

B. The Myth of Complete Sovereignty

Although debt-for-nature swaps do not impinge on sovereignty by creating a system where a foreign government directly owns rainforest land, the sovereignty inquiry does not end there. International organizations which arrange debt-for-nature swaps do not always allow the government to retain control of the preserved land. In 1987, the National Parks Foundation purchased $5.4 million of Costa Rican debt for $918,000.[72] They exchanged the debt for Costa Rican bonds at seventy-five percent of the face value. The proceeds of the swap went to purchase land towards the Guanacaste National Park. The Costa Rican government will not gain title to the Park until the Park is complete and all conditions of the swap are met. Although the Costa Rican government agreed to these terms, the long-term contract does impinge on Costa Rica's sovereign right over control of its natural resources.

Perhaps one reason that these agreements are acceptable to foreign governments is that the controlling bodies are international conservation organizations, not other governments. In a treaty system, governments exert the pressures of compliance, and in this case the governments of powerful, industrial nations provide the pressure. The historic aversions to foreign control are absent in dealings with international conservation organizations. Additionally, the countries may feel that they have more bargaining power in an arrangement with a conservation organization. The conservation organization's only goal is to preserve natural resources, so the bargain is a narrow one. In the international community an industrialized nation has many sources of power to use against a weaker nation. Trade agreements, humanitarian aid, and military support agreements may all be on the bargaining table in formulating a treaty. Even if these factors do not directly influence an agreement, a weaker nation must always be wary that the stronger nation is once again exploiting them.

Debt-for-nature swaps also subvert the sovereignty rights of indigenous peoples. Much of the literature focuses on their under representation in treaty

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[71] *Id.* at 493.
[72] *Id.* at 495.

negotiations, but problems also arise that result from their lack of representation in conservation transactions. One debt-for-nature swap between Conservation International (CI) and Bolivia ignored the rights of the Moxo Indians. In order to preserve their homelands, the Moxo had attempted to obtain title to the land that was ultimately purchased by CI.[73] For a period of time, the Moxo's way of life was threatened by CI's management over their former homeland. Although the Moxo had sustainedly lived off of the forest for centuries, they were not allowed to use the forest to scavenge for food or fuel.[74] Money was given to rangers to keep the Moxo out of the forest lands. CI subsequently apologized for its practices and has allowed the Moxo to gain title to parts of the preserved lands.[75]

One suggestion is to invite indigenous groups to participate in the negotiations in the swap agreements.[76] In situations where it has been possible to include indigenous peoples, the results have been successful. The United States has entered into debt-for-nature agreements with the Philippines in which indigenous people are used similarly to park rangers, patrolling the area. In a time when most countries complain that the rainforest is too large to police, funding to educate indigenous peoples to protect their own sovereignty is a creative idea. This could be a workable solution for the Amazon. Besides the indigenous tribes, there are many small farmers living off of the land. If these people were taught to sustainably manage their land, they would be motivated to protect it. This participation would acknowledge indigenous peoples' sovereign rights and promote successful enforcement of conservation programs.

C. Debt-for-Nature Swaps Orchestrated by the United States

After several successful debt exchanges between conservation organizations and Latin American countries, the United States decided to become involved in debt exchange.[77] Under the Enterprise for the Americas Initiative (EAI) debtor countries may reduce money owed to the United States under the Agri-

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[73] *Id.* at 499-500.

[74] *Id.*

[75] J. Eugene Gibson & William J. Schrenk, *The Enterprise for the Americas Initiative: A Second Generation of Debt-for-Nature Exchanges—with an Overview of Other Recent Exchange Initiatives*, 25 GEO. WASH. J. INT'L L. & ECON. 1, 8 (1992).

[76] Alagiri, *supra* note 69, at 505.

[77] Gibson & Schrenk, *supra* note 75, at 16-18.

cultural Trade Development and Assistance Act of 1954.[78] The debtor country still must to pay the principal, but the interest is paid into an "Environmental Fund."[79] Each country creates its own Environmental Fund, in local currency, and uses it to support environmental projects. To qualify for the debt relief program, a debtor country must meet several conditions. These conditions all relate to restructuring current debts and economic reform.

While this seems like a good idea in theory, often these countries cannot bear the required economic reforms. Some of the suggested changes in economic policies include elimination of subsidies, including food subsidies, elimination of price controls, privatization, and tax reform.[80] Often, these reforms have negative political and social impacts which result in the countries feeling more pressure to use their natural resources for economic stability.[81]

The EAI has received mixed reviews. Many countries have successfully participated in the program.[82] Political leaders are enthusiastic about the economic support from the United States. The EAI provides funding for existing and new environmental programs. Further, governmentally orchestrated swaps have alleviated significantly larger amounts of debt than private swaps.[83] However, many have criticized the EAI as being a further impingement on sovereignty. Although the United States promotes the EAI as a partnership between itself and debtor countries, the United States actually acts unilaterally and selfishly.[84] First, the EAI forces economic policies upon debtor countries. Second, bodies controlled by United States delegates oversee disbursement of those funds.[85] Perhaps because these arrangements are completely voluntary and allow local governments to legislate how the economic policy goals are achieved, the local governments are not complaining about loss of sovereignty.

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[78] 7 U.S.C. § 1738 (2000); *see also* 22 U.S.C. § 2281 (2000) (defining debt-for-nature exchange).
[79] Gibson & Schrenk, *supra* note 75, at 17.
[80] *Id.* at 21.
[81] *Id.*
[82] *Id.* at 7-15, 21. Congress modified the economic eligibility conditions to allow the President more discretion in applying them. Most of the countries participating in the EAI would not be able to without waiver of some of the economic reform conditions. Bolivia, Brazil, Costa Rica, Dominican Republic, Ecuador, Madagascar, Mexico, and the Philippines have all participated in EAI.
[83] Michael S. Sher, *Can Lawyers Save the Rain Forest? Enforcing the Second Generation of Debt-for-Nature Swaps*, 17 HARV. ENVTL. L. REV. 151 (1993).
[84] Gibson & Schrenk, *supra* note 75, at 29.
[85] *Id.* at 25, 30.

CONCLUSION

The developing countries do not have the resources to stop deforestation on their own. The causes of deforestation continue, driven by domestic policies and social conditions. Without economic intervention, the developing countries will need to continue to exploit their natural resources for economic survival. The international community must find a way to preserve this valuable resource without sacrificing the sovereign rights of the rainforest countries.

Treaties have been ineffective in conserving the rainforests. Treaties have consistently affirmed customary international law that resources belong to the states and may be exploited by the states. While these treaties have also pledged assistance in preservation, that assistance has rarely materialized. The most effective treaty to date has been the ITTA. The ITTA has succeeded in forcing the global community to think about, and develop plans for sustainable development. It has also begun to create market interest in sustainedly harvested timber. However, because the ITTA is solely focused on timber, and on continuation of the timber trade, it is an insufficient mechanism for preservation of the rainforest as a whole.

Debt-for-nature swaps have made it attractive for countries to make the hard choice for ecosystem preservation. The swaps arranged with conservation organizations have encouraged countries to set aside blocks of land in reserve. The swaps arranged through the EAI have not only encouraged conservation, but also economic reform.

This is not to assert that debt-for-nature swaps are an ideal solution. The swaps infringe on sovereignty in several ways. To qualify for debt forgiveness under the EAI, the United States forces countries to undertake unpopular, and potentially socially devastating economic reforms. The swaps also often ignore the needs and lifestyles of indigenous peoples in setting up the preserves. However, entering into these arrangements is purely voluntary, so sovereigns are not literally forced into compliance. Perhaps by including the needs of indigenous people, and loosening political reform requirements, debt-for-nature swaps can help conserve the rainforests with a minimal invasion of sovereignty.