

Fordham International Law Journal

Volume 32, Issue 6

2008

Article 4

The Blood of Going Green: Using Environmental Initiatives to Account for the Human Rights Violations of the Green Movement

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Abstract

Part I of this Note first illustrates the science of climate change and the push for biofuel development. Next, this Note uses human rights to define the problems associated with biofuel development in Brazil, Argentina and Paraguay, and introduces the environmental law framework that can address these human rights violation. Part II details the main human rights violations in Brazil, Argentina, and Paraguay occurring at the hands of the soy industry, and surveys the main existing certification proposals that attempt to mitigate social and environmental abuses. Finally, Part III proposes ways that developed countries can collectively mitigate the negative human rights and environmental implications from biofuel development beyond their borders by implementing a comprehensive certification scheme in climate change initiatives that contain emissions reduction requirements.

NOTE

THE BLOOD OF GOING GREEN: USING ENVIRONMENTAL INITIATIVES TO ACCOUNT FOR THE HUMAN RIGHTS VIOLATIONS OF THE GREEN MOVEMENT

*Noushin Ketabi**

“When we try to pick out anything by itself, we find it hitched to everything else in the universe.” —John Muir¹

INTRODUCTION

Eleven-year old Silvino Talavera was walking home from school one day on his usual route when he was enveloped in a cloud of potent agrochemicals² sprayed by a neighboring crop duster upon a soy plantation.³ A few hours later, his entire family became sick after eating the food that Silvino brought home, unaware that it had been contaminated by the fumigation.⁴ After

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1. JOHN MUIR, *MY FIRST SUMMER IN THE SIERRA* 110 (Sierra Club Books, 1988) (1911).

2. See ENCARTA WORLD ENGLISH DICTIONARY (N. Am. ed. 2009), available at http://encarta.msn.com/dictionary_/agrochemical.html (defining agrochemicals as “chemical[s] used in farming, e.g. a fertilizer or pesticide”).

3. See JAVIERA RULLI ET AL., GRUPO DE REFLEXIÓN RURAL, PARAGUAY SOJERO: SOY EXPANSION AND ITS VIOLENT ATTACK ON LOCAL AND INDIGENOUS COMMUNITIES IN PARAGUAY: REPRESSION AND RESISTANCE 28 (2006), available at <http://www.lasojamata.org/files/Paraguay-humanrights-report.pdf> (describing how Silvino’s route home from school in his rural area is surrounded by soy fields); see also Jessica Weisberg & Benjamin Brown, *Eco-Injustice in Paraguay*, THE NATION, Feb. 20, 2007, <http://www.thenation.com/doc/20070305/weisberg> (recounting that the family lived in the town of Pirapey in the southern state of Itapua, Paraguay, with a population of 1600).

4. See RULLI ET AL., *supra* note 3, at 28 (telling how Silvino himself had absorbed the pesticides through his respiratory and digestive system); Angela Day, *Big Soy: The Underside of the Industry*, CANADIAN DIMENSION, Jul. 9, 2008, available at <http://canadiandimension.com/articles/2008/07/09/1906/> (telling how Silvino’s two

two weeks in the hospital, Silvino returned home where crop dusters were spraying only about fifteen meters from his house.⁵ In a matter of days, Silvino was again sprayed by toxic agrochemicals.⁶ Though doctors at a nearby hospital tried to pump his stomach, the cumulative effects overwhelmed Silvino's body.⁷ Silvino died a few days later.⁸

Sadly, Silvino's story does not stand alone. Numerous records describe other individuals who have been infected by the high amounts of agrochemicals used in the South American soy industry.⁹ There are also stories of soy producers invading the land of rural farmers in order to take them over to grow soy and using heavy force to keep out intruders.¹⁰

The staggering demand for soy comes in great part from countries seeking to reduce greenhouse gas ("GHG") emissions

siblings were also admitted to the hospital because of intolerable chemical levels in their bodies).

5. See RULLI ET AL., *supra* note 3, at 29 (explaining that large soy farmers use air dusters to spray crops); Day, *supra* note 4 (describing how since farmers' homes in Paraguay are generally open, often without glass in the windows, chemicals are difficult to contain when sprayed aerially).

6. See RULLI ET AL., *supra* note 3, at 29 (mentioning that several of Silvino's neighbors were also sent to the hospital due to the incident); Day, *supra* note 4 (noting that Silvino was exposed to herbicides used on soy crops, the most common of which is glyphosate, the herbicide in Roundup, patented by Monsanto).

7. See RULLI ET AL., *supra* note 3, at 29 (reporting that Silvino did not survive the second exposure to agrochemicals); Day, *supra* note 4 (illustrating how doctors could not save Silvino from the toxification).

8. See RULLI ET AL., *supra* note 3, at 29 (stating that one of Silvino's sisters remained in the hospital after he died and was left almost blind from the incident); Day, *supra* note 4 (holding that such negative externalities have resulted in protests against the soy industry).

9. See generally LILIAN JOENSEN ET AL., THE GAIA FOUNDATION, ARGENTINA: A CASE STUDY ON THE IMPACT OF GENETICALLY ENGINEERED SOYA 20 (2005), available at <http://www.econexus.info/pdf/ENx-Argentina-GE-Soya-Report-2005.pdf> (reporting that both humans and the environment suffer from harmful impacts of agrochemical use in Argentina's soy industry); NINA HOLLAND ET AL., RAINFOREST ACTION NETWORK ET AL., THE ROUND TABLE ON IR-RESPONSIBLE SOY: CERTIFYING SOY EXPANSION, GM SOY AND AGROFUELS 20 (2008), available at <http://www.corporateeurope.org/docs/soygreenwash.pdf> (discussing pesticide impacts on biodiversity, human life, and recounting specific incidents of contamination).

10. See, e.g., JOENSEN ET AL., *supra* note 9, at 17 (discussing how some soy producers use the rural farmers' and indigenous peoples' lack of legal knowledge and access to the legal system to usurp land from them); RULLI ET AL., *supra* note 3, at 23 (describing an eviction where armed men killed two individuals, seriously injured five others, and burned and stole property).

from biofuels.¹¹ Initiatives like the Kyoto Protocol to the United Nations Framework on Climate Change (“Kyoto Protocol” or “Protocol”),¹² the European Union’s (“E.U.”) regional climate change agreement,¹³ and other similar emissions reduction policies provide an impetus for the growing demand for biofuels.¹⁴

This push to reduce emissions has directly led to increased production of crops and resources used in biofuels.¹⁵ Some of this increased production has caused unintended negative effects—including deforestation, illegitimate land acquisitions, violence, and major health implications like those exhibited in Silvino’s story that, this Note argues, violate human rights.¹⁶

11. See MARINOT ET AL., RENEWABLE ENERGY POLICY NETWORK FOR THE 21ST CENTURY, RENEWABLES 2007: GLOBAL STATUS REPORT 15 (2008), available at http://www.martinot.info/RE2007_Global_Status_Report.pdf (highlighting the rapid growth of biodiesel production, which reached six billion liters in 2006—a 50% jump from the prior year); International Energy Agency, Biofuels, <http://www.iea.org/journalists/infocus.asp> (last visited June 17, 2009) (reinforcing that biofuels are playing a key role in meeting fuel demand). Note that other uses factor into the high demand for soy. See, e.g., RULLI ET AL., *supra* note 3, at 15 (pointing out that demand for soy is driven in part by soy flour and soy oil); Posting of Vanessa Barrington to EcoSalon, <http://www.ecosalon.com/> (Jan. 14, 2009, 05:00) (listing major uses for soy besides biofuels include cooking oil, animal feed, and processed foods, and mentioning that most of the soy that is exported to Europe from Brazil is used for animal feed).

12. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22 [hereinafter Kyoto Protocol].

13. See European Comm’n [E.C.], Climate Change, http://ec.europa.eu/environment/climat/home_en.htm (last visited Nov. 22, 2008) (outlining the European Commission’s regional climate change initiative, which will be discussed in Part I.G.).

14. See, e.g., American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 1705(a)(3), 123 Stat. 115, 145 (2008) (allocating \$6 billion as energy project loan guarantees, including “leading edge biofuel projects”); Energy Independence and Security Act of 2007, Pub. L. No. 110-140, § 202, 121 Stat. 1492, 1521-22 (2007) (revising 42 U.S.C. 7545(o)(2) of the Clean Air Act to ensure that domestic transportation fuel sold or introduced into commerce contains a specified volume of renewable fuels: from four billion gallons in 2006 to thirty-six billion gallons of renewable fuels by 2022).

15. See Food and Agric. Org. [FAO], *The State of Food and Agriculture: Biofuels: Prospects, Risks and Opportunities* vii (2008), available at <ftp://ftp.fao.org/docrep/fao/011/i0100e/i0100e.pdf> [hereinafter FAO, *State of Food and Agric.*] (pointing out that the emergence of biofuels as a “new and significant” source of demand for some agricultural commodities contributes to higher demand for the resources related to their production); see generally April Howard & Benjamin Dangel, *The Multinational Beanfield War*, IN THESE TIMES, Apr. 12, 2007, at 27 (asserting that the “booming biodiesel industry” has resulted in an exponentially growing soy industry).

16. See JAN MAARTEN DROS, MANAGING THE SOY BOOM: TWO SCENARIOS OF SOY PRODUCTION EXPANSION IN LATIN AMERICA (2004), available at http://assets.panda.org/downloads/managingthesoyboomenglish_nbvt.pdf (focusing on the soy industry of

Evidence shows these problems to be widespread.¹⁷ This Note focuses on one biofuel commodity, soy, in the region where most of it is grown: South America—specifically Brazil, Argentina, and Paraguay, the second, third, and fourth largest producers of soy worldwide after the United States.¹⁸ This Note argues developed countries should work toward ensuring that biofuel development does not incentivize human rights abuses and environmental degradation by providing a market for biofuel crop producers whose practices cause such negative externalities.

Part I of this Note first illustrates the science of climate change and the push for biofuel development. Next, this Note uses human rights to define the problems associated with biofuel development in Brazil, Argentina and Paraguay, and introduces the environmental law framework that can address these human rights violation. Part II details the main human rights violations in Brazil, Argentina, and Paraguay occurring at the hands of the soy industry, and surveys the main existing certification proposals that attempt to mitigate social and environmental abuses. Finally, Part III proposes ways that developed countries can collectively mitigate the negative human rights and environmental implications from biofuel development beyond their borders by implementing a comprehensive certification scheme in climate change initiatives that contain emissions reduction requirements.

South America); FRIENDS OF THE EARTH INT'L, *FUELLING DESTRUCTION IN LATIN AMERICA: THE REAL PRICE OF THE DRIVE FOR AGROFUELS* 9 (2008), available at <http://www.foei.org/en/publications/pdfs/biofuels-fuelling-destruction-latinamerica> (looking wider at the soy, ethanol, and palm oil industries in some Latin American countries); HOLLAND ET AL., *supra* note 9 (focusing on the soy industry in South America); RULLI ET AL., *supra* note 3 (focusing on effects of the soy industry in Paraguay); JOENSEN ET AL., *supra* note 9 (focusing on the soy industry in Argentina).

17. *See, e.g.*, FRIENDS OF THE EARTH INT'L, *supra* note 16 (describing human rights and environmental abuses in Colombia's palm oil industry, Uruguay's sugarcane and soy industry Brazil, Guatemala, Costa Rica, and El Salvador's sugarcane industry in addition to Argentina's soy industry); *see generally* Tom Knudson, *The Cost of the Biodiesel Boom: Destroying Indonesia's Forests*, *YALE ENV'T* 360, Jan. 19, 2009, <http://e360.yale.edu/content/feature.msp?id=2112> (addressing the devastating impact of Indonesia's palm oil industry on forests and human rights).

18. AMERICAN SOYBEAN ASS'N, *SOY STATS* 2008, <http://www.soystats.com/2008/> (2008) (stating that in 2007, Brazil produced 28% of market share, Argentina produced 21%, and Paraguay produced 3%); *see generally* Howard & Dangl, *supra* note 15 (illustrating the region's rapid expansion of soy production).

I. CLIMATE CHANGE, THE ENVIRONMENTAL, AND HUMAN RIGHTS LEGAL FRAMEWORK

This Part provides some of the factual background necessary for the rest of the discussion, connecting the science of climate change to the booming South American soy industry. The latter half of Part I legally frames the abuses associated with the South American soy industry in human rights language, and provides the fundamentals of the environmental law framework—which in Part III I propose should be used to mitigate these abuses.

A. Climate Change and Its Effects

The reality of climate change has pushed countries to start taking action to mitigate its effects. The United Nations' ("UN") Intergovernmental Panel on Climate Change ("IPCC") predicts that a doubling of carbon dioxide ("CO₂") from pre-industrial levels would result in a temperature increase within 1.8°C to 4.0°C by the end of this century.¹⁹ The IPCC has determined that a significant portion of this temperature increase is due to the impact of human-driven increased GHG emissions.²⁰

Developed countries have an undeniable responsibility for the increase in temperature. The United Nations Development Program ("UNDP") has cited that "with only 15% of the world's population," developed countries have contributed to almost

19. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS 13 *in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS (Susan Solomon et al. eds., 2007) [hereinafter IPCC 2007 Science Summary], available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf> (stating the range of predicted temperature increase by 2100 based upon six scenarios from high to low carbon dioxide ("CO₂")).

20. *See id.* at 3 (declaring with "very high confidence" that the global average net effect of human activity since 1750 has led to global warming); INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS 9 *in* CLIMATE CHANGE 2007: IMPACTS, ADAPTATION, AND VULNERABILITY (Martin Parry et al. eds., 2007) [hereinafter IPCC 2007 Impacts Summary], available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf> (describing how abundant evidence exists linking human activity to global warming); *see also* PEW CENTER ON GLOBAL CLIMATE CHANGE, THE CAUSES OF GLOBAL CLIMATE CHANGE 1 (2008), available at <http://www.pewclimate.org/docUploads/global-warming-science-brief-august08.pdf> (reinforcing that scientific evidence indicates that greenhouse gas ("GHG") from human activity is the "main cause of contemporary global warming").

“half of emissions of CO₂.”²¹ And the IPCC has found that developing countries are also more vulnerable to the adverse effects of climate change than developed countries.²² Developed countries have started to take responsibility for their disproportional contribution to climate change by introducing initiatives aimed at reducing their emissions, like the Kyoto Protocol and the E.U.’s regional climate change agreement discussed in Part I.G.

B. *What Are Biofuels?*

This Note focuses upon secondary (processed) liquid biofuels, like ethanol and biodiesel.²³ Ethanol is made from crops rich in sugar and starch, like sugarcane and corn.²⁴

21. United Nations Development Program, *Human Development Report, Fighting Climate Change: Human Solidarity in a Divided World 2007/2008, Summary* 14 (Nov. 2007) [hereinafter UNDP Report], available at http://hdr.undp.org/en/media/HDR_20072008_Summary_English.pdf; see also NATIONAL ENVIRONMENTAL TRUST, TAKING RESPONSIBILITY: WHY THE UNITED STATES MUST LEAD THE WORLD IN REDUCING GLOBAL WARMING POLLUTION 3 (2007), available at http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Global_warming/taking_responsibility_report.pdf (affirming that developed countries have disproportionately contributed to global warming more than developing countries).

22. NICHOLAS STERN, STERN REVIEW ON THE ECONOMICS OF CLIMATE CHANGE vii (2006), available at http://www.hm-treasury.gov.uk/d/Executive_Summary.pdf (explaining that developing countries are particularly vulnerable to climate change because of their low income, warmer climate, high rainfall variability, dependence upon agriculture, which is the most climate-sensitive economic sector, poor health provision, and low-quality public services); see generally IPCC 2007 Impacts Summary, *supra* note 20, at 9 (explaining that developing countries will be disproportionately affected by numerous climate change effects such as sea-level rise).

23. See Deepak Rajagopal & David Zilberman, *Review of Environmental, Economic and Policy Aspects of Biofuels* 19-20 (World Bank, Working Paper No. 4341, 2007) (elaborating that a variety of other technologies for conversion of biomass to fuels or substitutes for fuel-derived products like plastics is currently being researched and developed); see also International Energy Agency, *supra* note 11 (remarking that the next generation of biofuels include ligno-cellulosic feedstocks—straw, woody biomass residues, and vegetative grasses, which are expected to eventually provide more sustainable types of biofuels with more research and development).

24. See FAO, *State of Food and Agric.*, *supra* note 15, at 11 (explaining that “any feedstock containing significant amounts of sugar” can be used to produce ethanol); see also Energy Info. Admin., U.S. Dep’t of Energy, Ethanol Analyses, <http://www.eia.doe.gov/oiaf/ethanol3.html> (last visited June 17, 2009) (listing various sources and methods of creating ethanol).

Biodiesel is produced from oilseed crops like soybean, rapeseed, and palm oil.²⁵

Many policymakers, scientists, and environmental advocates have heralded biofuels as a resource that has the potential to mitigate global climate change, contribute to energy security, and support agricultural producers around the world.²⁶ Biofuels are replenishable, emit fewer carbon emissions than fossil fuels during combustion, increase farm income, improve energy security, create new jobs, and can be used in many ways to replace oil.²⁷

Indisputably, biofuels come with strings attached. Their elevated demand leads to deforestation.²⁸ It also increases the use of agrochemicals, exacerbates land conflicts and food security issues, and damages long-term crop production through mono-cultivation and other invasive cultivation techniques.²⁹ Part II of this Note will illustrate some of these negative externalities of the soy industry.

Biofuels, like ethanol and biodiesel have seen the strongest growth in recent years due in part to the demand for alternative transport fuels.³⁰ The production of biodiesel, for example,

25. See FAO, *State of Food and Agric.*, *supra* note 15, at 13 (describing processes used to create biodiesel and listing palm oil, rapeseed, and soybean as some of the raw materials used in the process); International Energy Agency, *supra* note 11 (suggesting that “biodiesel from oilseeds” will be among the most competitive sources of alternative fuel).

26. See FAO, *State of Food and Agric.*, *supra* note 15, at 3 (describing producers’ and consumers’ hopes for the positive impacts of biofuels); NATURAL RES. DEFENSE COUNCIL, *GROWING ENERGY: HOW BIOFUELS CAN HELP END AMERICA’S GROWING ENERGY DEPENDENCE* v-vi (2004), available at <http://www.nrdc.org/air/energy/biofuels/biofuels.pdf> (noting the positive aspects of biofuel development, including freeing the United States from oil dependence and countering the negative effects of such dependence).

27. See Rajagopal & Zilberman, *supra* note 23, at 7-8 (listing the benefits of biofuels); see also NATURAL RES. DEFENSE COUNCIL, *supra* note 26, at v-vi (suggesting that the benefits of increased production and use of biofuels range from energy security to a surge of new domestic job opportunities).

28. See HOLLAND ET AL., *supra* note 9, at 13 (identifying soy production as “one of the main drivers” of deforestation and causing “considerable damage to the environment and human health”).

29. See DROS, *supra* note 16, at 10 (explaining the severe effects of large-scale soy production on the soil, environment in general, and health); RULLI ET AL., *supra* note 3, at 13 (describing the harmful effects of mono-cultivation and the use of agrochemicals).

30. See FAO, *State of Food and Agric.*, *supra* note 15, at 11 (reiterating the strong growth in demand for biofuels); FAO, *A REVIEW OF THE CURRENT STATE OF BIOENERGY*

increased more than ten-fold from 2006 to 2007, reaching over ten billion liters.³¹ The demand for alternative transport fuels is partially the result of national and/or regional emissions reduction targets that include initiatives like tax reductions and fuel blending mandates.³² The E.U. alone is projected to account for more than half of global biodiesel use in 2017.³³ With the exception of Russia, every G8+5 country³⁴ has set biofuel targets in the transport sector.³⁵

Non-governmental organizations (“NGO”) have also expressed concern with the harmful environmental and human rights effects of biofuel development. Numerous NGOs, including the World Bank, have warned that current biofuel policies—be they national, regional or international—have failed to give adequate consideration to the collateral effects of their development on an international scale.³⁶

DEVELOPMENT IN G8+5 COUNTRIES 60, *available at* <ftp://ftp.fao.org/docrep/fao/010/a1348e/a1348e02.pdf> [hereinafter FAO Global Bioenergy Report] (noting the current growth in demand for biofuels and anticipating even stronger demand).

31. FAO, *State of Food and Agric.*, *supra* note 15, at 41 (stating that production of biodiesel increased ten fold within one year); MARJNOT ET AL., *supra* note 11, at 15 (highlighting the rapid growth of biodiesel production, with 2006 levels at six billion liters, a fifty percent jump over the prior year).

32. FAO, *State of Food and Agric.*, *supra* note 15, at 48, 54 (describing the effect of national mandates on demand); Rajagopal & Zilberman, *supra* note 23, at 58, 67-69 (discussing the various policies employed by states to encourage biofuel development).

33. FAO, *State of Food and Agric.*, *supra* note 15, at 48 (explaining that biofuel use is significantly driven by blending mandates); ORG. FOR ECON. COOPERATION & DEV. [OECD] & FAO, *AGRICULTURAL OUTLOOK 2008-2017*, at 72 (2008), *available at* <http://www.agri-outlook.org/dataoecd/54/15/40715381.pdf> (projecting that the European Union (“E.U.”) will lead the world’s usage of biodiesel at 14,843 mn/l in 2017 of the world’s 23,836 mn/l).

34. *See generally* Press Release, Bureau of Int’l Info. Programs, U.S. Dep’t of State, G8 Offers Plan for Cleaner, More Efficient Energy (Jul. 8, 2005), *available at* <http://www.america.gov/st/washfileenglish/2005/July/20050708153632cmretrop9.249514e-02.html> (explaining that G8 is composed of the United States, the Russian Federation, the United Kingdom, France, Italy, Germany, Canada, and Japan); *Politicians Sign New Climate Pact*, BBC NEWS ONLINE, Feb. 16, 2007, <http://news.bbc.co.uk/1/hi/sci/tech/6364663.stm> (describing the G8+5 as the G8 nations plus Brazil, China, India, Mexico, and South Africa).

35. *See* FAO, *State of Food and Agric.*, *supra* note 15, at 29 (noting that all G8+5 countries, except Russia, have set emission targets); FAO Global Bioenergy Report, *supra* note 30, at 24, 26-27 (affirming that Russia is the only G8+5 country that has not set a biofuel transport target).

36. *See* FAO, *State of Food and Agric.*, *supra* note 15, at 7 (describing collateral effects of development such as cost and technological limitations); *see, e.g.*, Open Letter: We Call on the E.U. to Abandon Targets for Biofuel Use in Europe from BiofuelWatch and

C. Soy Production

The production of soy, a primary biofuel component, has expanded rapidly over the past few years.³⁷ Soy is an especially attractive biofuel commodity, because soybean biodiesel is significantly more energy efficient than ethanol. Ethanol provides 25% more energy per gallon than is required for its production, while soybean biodiesel generates 93% more energy.³⁸

D. The South American Soy Industry

Among just Argentina, Brazil, and Paraguay, South America produces more soy than any other continent on the planet—in 2007, Argentina produced 21% of the market share, Brazil produced 28%, and Paraguay produced 3%.³⁹

South America is favored as the region to expand soy cultivation because of the availability of cheap land, the favorable climate, and presence of transport and financing infrastructure.⁴⁰ Human rights activists claim that soy producers are attracted to

Signatories, to the Council of the European Union, the European Commission, the European Parliament, and Citizens in Europe (Jan. 31, 2007), *available at* <http://www.biofuelwatch.org.uk/files/lettertomeps.pdf> (expressing the opposition of numerous nongovernmental organizations (“NGOs”) to the E.U.’s plan to adopt a mandatory target for biofuel use in transportation).

37. See FAO, *State of Food and Agric.*, *supra* note 15, at 6 (noting that soy production has increased to meet demand for biofuels); see also DROS, *supra* note 16, at 1 (explaining the importance of soy and its growth as South America’s “dominant crop” in recent years).

38. Proceedings of the National Academy of the Sciences of the United States of America, Environmental, Economic, and Energetic Costs and Benefits of Biodiesel and Ethanol Biofuels, 103 P.N.A.S. 11206-10 (2006), *available at* <http://www.pnas.org/content/103/30/11206.full.pdf+html> (describing the different energy yields per crop).

39. AMERICAN SOYBEAN ASS’N, *supra* note 18 (listing the market shares of soy production per country); see also Howard & Dangl, *supra* note 15 (“In 1999, 44 million acres of soy were grown in South America; by 2004 this had more than doubled to 94 million acres. In the past six years, annual expansion for soy in Argentina, Brazil, and Paraguay has exceeded 10%, mainly at the expense of rainforest and savannah.”).

40. See DROS, *supra* note 16, at 1 (pointing out that as current hefty soy producers like China and the United States have little arable land reserves, future soy production expansion will probably be concentrated primarily in Argentina, Bolivia, Brazil and Paraguay); see also FAO, *State of Food and Agric.*, *supra* note 15, at 60-61 (explaining that Latin America and the Caribbean have the most arable land available for crop expansion, estimated at between 250-800 million potential hectares, highlighting these regions as potential spots for more biofuel commodity production).

South America in part to take advantage of the region's weak enforcement of human rights, including its poor law enforcement, facilitation of illegal or irregular acquisition of public land, and lax regulations on deforestation.⁴¹

Latin America and the Caribbean as a region has the largest land potential for crop expansion, and is pinpointed as a prime region for more biofuel production, as there are 2.8 million hectares of additional land in Brazil alone available for the expansion of soy cultivation.⁴²

South America's prominence in the current soy market combined with the future projections of increased cultivation in the region present an urgent case for addressing the human rights and environmental concerns associated with its soy industry. Since the growing biofuel market significantly fuels the demand for soy production, environmental initiatives have the potential to mitigate these abuses by requiring that emissions reduction targets must be met via means that respect human rights.

E. *International Human Rights Obligations*

The abuses that are occurring in South America's soy industry should arguably be cast as human rights violations. Producers of biofuels and countries eager to consume them must both have a clear understanding of the human rights issues at stake. This Note will next define the human rights violations, and then explain how the environmental law framework can protect against such violations.

Human rights are dual-faceted, encompassing both the government's obligation to provide for the individual, as well as limits set to protect the autonomy and dignity of an individual

41. DROS, *supra* note 16, at 11 (describing how the production of soy leads to human rights violations); FRIENDS OF THE EARTH INT'L, *supra* note 16, at 5-9 (claiming that the biofuel production industry is responsible for human rights abuses, has strong influence over government policies and is increasingly displacing rural communities, exacerbating land conflicts, and threatening biodiversity).

42. FAO, *State of Food and Agric.*, *supra* note 15, at 61 (noting the availability of land for soy cultivation); *see also* Barrington, *supra* note 11 (recognizing that Brazil has shown a 3.8% increase in deforestation in the eleven months between August 2007 and July 2008, despite the fact that Greenpeace pressured many industrial soy customers to sign onto a two-year moratorium of soy purchases from newly deforested land).

from government.⁴³ Reports show that current soy production in South America has arguably violated several human rights.⁴⁴ This Note does not provide an exhaustive list of all the human rights that have been violated in the South American soy industry, but it focuses on three of the most egregious violations: the right to respect of privacy,⁴⁵ the right to life, liberty and the security of person⁴⁶ and the right to health.⁴⁷ Given the interrelationship and interdependency among all human rights, however, it naturally follows that the violation of the above rights likely implicates other rights.

The centerpiece of human rights law is the International Bill of Rights, comprised of the Universal Declaration of Human Rights (“UDHR”), the International Covenant on Civil and

43. See LOUIS HENKIN ET AL., *HUMAN RIGHTS* 3 (1999) (contrasting former as positive “resource claims” and latter as negative “immunity claims”); Amy Sinden, *Climate Change and Human Rights* 4-8 (Temple Univ. Beasley Sch. of Law, Legal Studies Research Paper Series, Research Paper No. 2008-49, 2008) (observing that human rights exist to counterbalance the weight of the state upon the individual).

44. See generally DROS ET AL., *supra* note 16 (focusing on the soy industry of South America); FRIENDS OF THE EARTH INT’L, *supra* note 16 (looking wider at the soy, ethanol and palm oil industries in some Latin American countries); HOLLAND ET AL., *supra* note 9 (focusing on the soy industry in South America); JOENSEN ET AL., *supra* note 9 (focusing on the soy industry in Argentina); RULLI ET AL., *supra* note 3 (focusing on effects of the soy industry in Paraguay).

45. See Universal Declaration of Human Rights, G.A. Res. 217A, art. 12, U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (Dec. 12, 1948) [hereinafter UDHR] (“No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation.”); see also International Covenant on Civil and Political Rights, art. 17, Dec. 19, 1966, 999 U.N.T.S. 171 [hereinafter ICCPR] (“No one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, nor to unlawful attacks on his honour and reputation.”).

46. UDHR, *supra* note 45, art. 3 (“Everyone has the right to life, liberty and security of person.”); see also ICCPR, *supra* note 45, arts. 6(1), 9(1) (“Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life. . . . Everyone has the right to liberty and security of person. No one shall be subjected to arbitrary arrest or detention.”).

47. UDHR, *supra* note 45, art. 25 (“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”); see also International Covenant on Economic, Social and Cultural Rights, art. 12, Dec. 16, 1966, 933 U.N.T.S. 3 [hereinafter ICESCR] (“The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”).

Political Rights (“ICCPR”) and the International Covenant on Economic, Social and Cultural Rights (“ICESCR”).⁴⁸ While the UDHR is a normative, non-binding document, the ICCPR and the ICESCR bind ratifying nations.⁴⁹

Argentina, Brazil, and Paraguay are also parties to the American Convention on Human Rights, which outlines both civil and political rights as well as economic, social and cultural rights.⁵⁰ The Convention creates further human rights obligations for the states, as states are bound to uphold the rights enshrined in the American Convention in addition to the ICCPR and the ICESCR.

1. Right to Respect of Privacy

The right to respect of privacy was first marked in article 12 of the UDHR, and is guarded by the ICCPR in article 17.⁵¹ This

48. See HENKIN ET AL., *supra* note 43, at 320 (setting forth that the International Bill of Rights consists of the UDHR, the ICCPR, and the ICESCR); RICHARD B. LILLICH ET AL., *INTERNATIONAL HUMAN RIGHTS* 85 (2006) (affirming that the International Bill of Rights consists of the UDHR, the ICCPR and the ICESCR).

49. See HENKIN ET AL., *supra* note 43, at 321 (stating that of the International Bill of Rights, the UDHR is non-binding and the ICESCR and ICCPR are binding covenants); LILLICH ET AL., *supra* note 48, at 85 (affirming that the UDHR is non-binding and that the ICESCR and ICCPR are legally binding).

50. See *generally* American Convention on Human Rights, July 18, 1978, 1144 U.N.T.S. 123 [hereinafter American Convention]; see also Dep’t of Int’l Law, Org. of Am. States, American Convention on Human Rights “Pact of San Jose, Costa Rica,” <http://www.oas.org/juridico/English/sigs/b-32.html> (last visited June 17, 2009) (listing Argentina, Brazil, and Paraguay as signatories of the Convention). Argentina, Brazil, and Paraguay are also parties to the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social, and Cultural Rights, “Protocol of San Salvador,” which binds signatories to more economic, social and cultural rights than the American Convention alone—including the right to health. See *generally* Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, Nov. 17, 1988, O.A.S. T.S. No. 69 [hereinafter Protocol of San Salvador]; see also Dep’t of Int’l Law, Org. of Am. States, Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social, and Cultural Rights “Protocol of San Salvador,” <http://www.oas.org/juridico/English/sigs/a-52.html> (last visited June 17, 2009) (listing Argentina, Brazil, and Paraguay as signatories).

51. See ICCPR, *supra* note 45, art. 17 (“No one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, nor to unlawful attacks on his honour and reputation.”); UDHR, *supra* note 45, art. 12 (“No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.”); see also American Convention, *supra* note 50, art. 11 (“No one may be the object of arbitrary or abusive interference with his

right provides for every person to be protected against arbitrary or unlawful interference with his privacy, family, and home.⁵² This right is to be guaranteed against interferences and attacks by both state authorities and non-state actors. Interferences condoned by the state must be in accordance with law, which itself may conform with the “provisions, aims and objectives of the Covenant.”⁵³ Any acquisition of land for soy production must occur in line with this right and with respect for the privacy of the owner of such land.

2. Right to Life, Liberty and Security of Person

Article 3 of the UDHR and both article 6 (right to life) and article 9(1) (right to liberty and security of person) of the ICCPR codify the right to life, liberty and security of person.⁵⁴ The general comments to the ICCPR explain that states should not only take action to “prevent and punish” the deprivation of life from criminal acts, but that it should also prevent arbitrary killing by its own agents.⁵⁵ Forced evictions, which occur repeatedly in

private life, his family, his home, or his correspondence, or of unlawful attacks on his honor or reputation.”).

52. See U.N. Human Rights Comm., *Gen. Comment No. 16: The Right to Respect of Privacy, Family, Home, and Correspondence, and Protection of Honour and Reputation (Art. 17)*, ¶¶ 1-4, U.N. Doc. A/43/40 (Sept. 20, 1988) [hereinafter General Comment No. 16] (specifying that a state’s action could also be considered arbitrary). General Comments are published by treaty bodies and provide an interpretation of the provisions of the human rights treaty. See Office of the U.N. High Comm’r for Human Rights [UNHCHR], *The United Nations Human Rights Treaty System: An Introduction to the Core Human Rights Treaties and the Treaty Bodies, Fact Sheet No. 30*, at 29 (June 2005), available at <http://www.ohchr.org/Documents/Publications/FactSheet30en.pdf> (explaining that General Comments can detail the interpretation of treaty language, provide guidance on the information that should be submitted in State reports, and bring forth wider issues like the role of human rights institutions).

53. General Comment No. 16, *supra* note 52, at ¶ 3.

54. ICCPR, *supra* note 45, arts. 6(1), 9(1) (“Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life Everyone has the right to liberty and security of person. No one shall be subjected to arbitrary arrest or detention.”); UDHR, *supra* note 45, art. 3 (“Everyone has the right to life, liberty and security of person.”). It is further codified in the American Convention, *supra* note 50, arts. 4(1), 7(1) (“Every person has the right to have his life respected. . . . Every person has the right to personal liberty and security.”).

55. U.N. Human Rights Comm., *General Comment No. 6: The Right to Life (Art. 6)*, ¶ 3, U.N. Doc. A/37/40 (1982).

the acquisition of land for soy plantations, as explained in Part II, are *prima facie* violations of the ICESCR.⁵⁶

3. Right to Health

The UDHR enshrined the right to health, guaranteeing all persons “the right to a standard of living adequate for the health and well-being of himself and to his family, including . . . medical care.”⁵⁷ The ICESCR later reinforced the legal obligations of signatory states to honor “the enjoyment of the highest attainable standard of physical and mental health.”⁵⁸ Provision 12(2) requires states to take specific steps to improve the health of their citizens, including improving environmental health.⁵⁹ The general comments to the ICESCR further define the obligations encompassed in the right to health as,

56. See generally U.N. Comm. on Econ., Soc. & Cultural Rights [CESCR], *General Comment No. 7: The Right to Adequate Housing (Art. 11(1)): Forced Evictions*, U.N. Doc. No. E/C.12/1997/4 (May 20, 1997) (affirming the Committee’s prior classification of forced evictions as “*prima facie*” violations of the ICESCR).

57. UDHR, *supra* note 43, art. 25.

58. ICESCR, *supra* note 47, art. 12. This right is further codified in the Protocol of San Salvador, *supra* note 50, at art. 10:

1. Everyone shall have the right to health, understood to mean the enjoyment of the highest level of physical, mental and social well-being.
2. In order to ensure the exercise of the right to health, the State Parties agree to recognize health as a public good and, particularly, to adopt the following measures that ensure that right:
 - a. Primary health care, that is, essential health care made available to all individuals and families in the community;
 - b. Extension of the benefits of health services to all individuals subject to the State’s jurisdiction;
 - c. Universal immunization against the principal infectious diseases;
 - d. Prevention and treatment of endemic, occupational and other diseases;
 - e. Education of the population on the prevention and treatment of health problems, and
 - f. Satisfaction of the health needs of the highest risk groups and of those whose poverty makes them the most vulnerable.

59. See ICESCR, *supra* note 47, art. 12(2). Specifically, that section provides that: [t]he steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for: (a) The provision for the reduction of the stillbirth-rate and of infant mortality and for the healthy development of the child; (b) The improvement of all aspects of environmental and industrial hygiene; (c) The prevention, treatment and control of epidemic, endemic, occupational and other diseases; (d) The creation of conditions which would assure to all medical service and medical attention in the event of sickness.

acknowledging that the right to health embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to . . . food and nutrition, housing, access to safe and potable water and adequate sanitation, safe and healthy working conditions, and a healthy environment.⁶⁰

The comments also obligate states to provide medical facilities, goods and services within “safe physical reach for all sections of the population, especially vulnerable or marginalized groups,” and implies that medical services and other “determinants of health,” like safe and potable water and adequate sanitation facilities, are within reach of rural areas.⁶¹

4. The Boundaries of Human Rights Obligations

One of the purposes of the United Nations is to achieve international cooperation in “promoting and encouraging respect for human rights.”⁶² The United Nations Charter obligates states to respect, protect, and fulfill human rights.⁶³ But generally, a state can be held to human rights obligations only if they are party to a binding agreement, such as the ICCPR or ICESCR, or if the right has achieved the status of a customary international law.⁶⁴ The geographic scope of a state’s obligations in honoring these rights depends on the agreement. The ICESCR calls for a more cooperative approach among nations in securing the economic, social and cultural rights guaranteed by the Covenant.⁶⁵ The ICCPR, on the other hand, explicitly

60. CESCR, *General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12)*, ¶ 11, U.N. Doc. E/C.12/2000/4 (Aug. 11, 2000).

61. *Id.* at ¶ 12.

62. U.N. Charter art.1, para. 3.

63. *See id.* art. 3 (“To achieve international cooperation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion.”).

64. The twenty-seven member states of the European Union and Argentina, Brazil, and Paraguay are parties to the ICCPR and the ICESCR. *See generally* ICCPR, *supra* note 45 (listing signatories); ICESCR, *supra* note 47 (same).

65. ICESCR, *supra* note 47, art. 2(1). Specifically, the Convention provides that: [e]ach State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the

precludes extraterritorial application of its obligations.⁶⁶ This point is important because the human rights abuses that are occurring in South America's soy industry cannot legally be attributed to other states whose policies may be providing a market, e.g., states whose biofuel policies are encouraging the soy industry's actions implicating human rights.⁶⁷

F. *Enforcing Environmental Obligations Beyond Borders*

Unlike human rights law reflected in the ICESCR and ICCPR, international environmental law has had a long-standing commitment to transboundary obligations. The first international environmental case was the *Trail Smelter* arbitration ("*Trail Smelter*") in 1941 between the United States and Canada.⁶⁸ In *Trail Smelter*, the United States brought a case against Canada to address sulfur dioxide pollution drifting over the border into the state of Washington from a smelter in British Columbia.⁶⁹ *Trail Smelter* held that Canada was liable for the negative externalities of its actions upon the environment within the United States—and in so doing, epitomized the innovative, transboundary problem-solving that has marked the evolution of international environmental law.

present Covenant by all appropriate means, including particularly the adoption of legislative measures.

66. ICCPR, *supra* note 45, art. 2, para. 1 ("Each State Party to the present Covenant undertakes to respect and to ensure to all individuals *within its territory and subject to its jurisdiction* the rights recognized in the present Covenant . . .") (emphasis added).

67. The United Nations' International Law Commission created the Draft Articles on the Responsibility of States for Internationally Wrongful Acts ("Draft Articles") in 2001, which are the principles governing when and how a state is responsible for a breach of an international obligation. The Draft Articles are a combination of codification and progressive development. According to the Draft Articles, an internationally wrongful act must be "attributable to the state under international law; and constitute a breach of an international obligation of the state." Draft Articles on Responsibility of States for Internationally Wrongful Acts, in Report of the International Law Commission on the Work of Its Fifty-third Session, U.N. GAOR, 56th Sess., art. 2, U.N. Doc. A/56/10 (2001), available at <http://untreaty.un.org/ilc/reports/2001/2001report.htm>. Commentators have observed that the Draft Articles do not address "new types of international responsibility growing out of human rights." See, e.g., Daniel Bodansky & John R. Crook, *Introduction and Overview*, 96 AM. J. INT'L L. 773, 790 (2002). Uncertainty remains as to whether the Draft Articles could be applied in the present situation.

68. See *Trail Smelter Arbitration (U.S. v. Can.)* (1941), 3 R.I.A.A. 1938 (1949).

69. See *id.*

Global environmental problems took center stage in the international arena over thirty-five years ago in the United Nations Conference on the Human Environment, the “Stockholm Conference,” in 1972.⁷⁰ The Conference pushed states to work collectively to combat environmental problems.⁷¹ It spurred numerous joint agreements with ambitions ranging from protecting outer space and Antarctica to arguably more modest objectives like controlling marine, river and air pollution, and protecting endangered species.⁷²

Next came the Montreal Protocol on Substances that Deplete the Ozone Layer (“Montreal Protocol”) during the Vienna Convention on the Protection of the Ozone (“Vienna Convention”)—which opened for signature in 1987 and which entered into force in 1989.⁷³ Both the Vienna Convention and the Montreal Protocol proceeded with an internationally collective approach to prevent the use of chemicals that damage the stratospheric ozone layer of the earth’s upper atmosphere.⁷⁴

In 1992, the United Nations Conference on the Earth and Development (“Earth Summit”) fell in line with the collective environmental convention movement since Stockholm.⁷⁵ The

70. See Hari M. Osofsky, *Learning from Environmental Justice: A New Model for International Environmental Rights*, 24 STAN. ENVTL. L.J. 71, 80-82 (2005) (explaining that the Stockholm Conference in 1972 was a critical moment in transboundary environmental action in that it inspired many treaties to fight transboundary, global common harms).

71. See *id.* (emphasizing the cooperative dimension to environmental agreements at the Stockholm Conference and throughout the history of environmental law).

72. See *id.* (citing Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, T.I.A.S. No. 10541; Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 27 U.S.T. 1087; Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter, Dec. 29, 1972, 26 U.S.T. 2403; Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410; Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794).

73. See Montreal Protocol on Substances that Deplete the Ozone, Sept. 16, 1987, 1522 U.N.T.S. 29.

74. See Daniel McCabe, Comment, *Resolving Conflict Between Multilateral Environmental Agreements: The Case of the Montreal and Kyoto Protocols*, 18 FORDHAM ENVTL. L. REV. 433, 437-38 (2007) (providing a brief description of the Vienna Ozone Convention and the Montreal Protocol).

75. See AYESHA DIAS, HUMAN DEV. REPORT OFFICE, HUMAN RIGHTS, ENVIRONMENT AND DEVELOPMENT: WITH SPECIAL EMPHASIS ON CORPORATE ACCOUNTABILITY 10 (2000), available at <http://hdr.undp.org/en/reports/global/hdr2000/papers/>

Earth Summit produced the Rio Declaration on the Environment and Development (“Rio Declaration”). The Rio Declaration was yet one more communal effort by the international community, represented by more than 120 nations, to adopt a more comprehensive set of laws to protect the environment. The preamble of the Rio Declaration highlights the collective nature of the obligation to protect the Earth by stating that its goal is “establishing a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people . . . recognizing the integral and interdependent nature of the Earth, our home”⁷⁶

G. Climate Change Initiatives: Kyoto Protocol and E.U. Regional Climate Change Agreement

The first prominent international step toward reducing emissions came in 1997 with the Kyoto Protocol.⁷⁷ The Kyoto Protocol opened for signature in 1998 and entered into force in 2005.⁷⁸ The Protocol commits countries to collectively reduce their greenhouse gas emissions by 5.2% below 1990 levels between 2008 and 2012⁷⁹ and implements a market-based emissions cap-and-trade system.⁸⁰ The initiative set emissions caps in place for each participating country and issued tradable allowances that grant countries the right to emit a set amount.⁸¹

ayesha%20dias%20.pdf (discussing the progression to the “Earth Summit” from the Stockholm Convention, and also noting that this gathering established the UNFCCC).

76. Rio Declaration on Environment and Development, Preamble, U.N. GAOR, 46th Sess., U.N. Doc. A/CONF. 151/5/Rev. 1 (June 13, 1992).

77. See generally Kyoto Protocol, *supra* note 12; see also McCabe, *supra* note 74, at 437-39 (explaining that the Kyoto Protocol was initiated to regulate GHG emissions).

78. See Status of Ratification, United Nations Framework Convention on Climate Change, http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php (last visited June 17, 2009) (stating that the Kyoto Protocol was opened for signature in 1998 in New York and entered into force in 2005).

79. See Kyoto Protocol, *supra* note 12, art. 3, ¶ 1 (binding participating countries to reducing their emissions 5% below 1990 levels by 2012); see also U.N. Framework Convention on Climate Change, Kyoto Protocol, http://unfccc.int/kyoto_protocol/items/2830.php (last visited Oct. 7, 2009) (describing the time frame of 2008-2012 as “first commitment period” of the Kyoto Protocol).

80. U.N. Framework Convention on Climate Change Secretariat, *Kyoto Protocol Reference Manual on Accounting of Emissions and Assigned Amounts* § 6 (2007) (outlining the cap-and-trade system).

81. See Kyoto Protocol, *supra* note 12, arts. 6, 17 (outlining the Protocol rules on emissions credits and trading between countries).

The countries that can reduce emissions cheaply are able to sell allowances to those whose emissions bring them over that cap.⁸² By creating a market for carbon emissions, the cap-and-trade system pushes countries to seek various methods to reduce their emissions in order to maximize the market, thus incentivizing the use of biofuels and other means in order to minimize emissions.

The United Nations and the 189 plus Kyoto signatories will create the reduction requirements for the second commitment period of the Kyoto Protocol (post-2012) during the Climate Change Conference that is set to take place in Denmark in 2009.⁸³

The E.U. was the first regional entity to sign a climate change reduction agreement.⁸⁴ The E.U. unveiled a preliminary package of broad climate change policies that would govern industry, energy generation, and transportation in the E.U. and push the bloc toward reaching its aim of cutting GHG emissions to at least 20% below 1990 levels by 2020.⁸⁵ One of the E.U.'s key strategies to reduce emissions centered on the requirement that

82. See *id.*; see also McCabe, *supra* note 74, at 439 (discussing this 'trade' aspect of cap-and-trade).

83. See Elizabeth Rosenthal, *Obama's Backing Raises Hope for Climate Pact*, N.Y. TIMES, Mar. 1, 2009, at A1, available at <http://www.nytimes.com/2009/03/01/science/earth/01treaty.html> (reporting that although Bush administration did not support Kyoto, the Obama government vows to negotiate a new climate treaty in a "robust way" at Copenhagen); *From Bali to Copenhagen*, COP15, <http://en.cop15.dk/climate+facts/process/from+bali+to+copenhagen> (last visited June 17, 2009) (characterizing the plan established at Bali Climate Change Conference in 2007 to create a new long-term climate agreement in 2009 as "ambitious").

84. See E.C., *supra* note 13 (noting that the E.U. has committed to reduce emissions to 30% below 1990 levels by 2020 if other developed countries implement comparable reductions under a binding agreement); see also Pete Harrison & Ingrid Melander, *Europe Clinches Deal to Battle Climate Change*, REUTERS, Dec. 12, 2008, <http://www.reuters.com/article/environmentNews/idUSTRE4BB36720081212> (describing the agreement as "the world's broadest agreement yet to battle global warming").

85. See E.C., *supra* note 13 (explaining that the E.U. had initially set three key targets for 2020 to underpin their commitments: a 20% reduction in energy consumption from current trends, a 20% increase in total share of renewable consumption, and a 10% increase in total share of gas and diesel consumption from biofuels). *But see* Harrison & Melander, *supra* note 84 (quoting Sanjeev Kumar of environmental organization World Wildlife Fund on the policy as saying that "[t]his is a flagship E.U. policy with no captain, a mutinous crew and several gaping holes in it," claiming too many concessions had been given to industry).

10% of transportation fuel be composed of biofuels.⁸⁶ But the agreement came under fire by environmentalists who were concerned that biofuels made from grains and oilseeds were pushing up food prices and causing “indirect land-use change.”⁸⁷ As a result of this pressure, the E.U. reached an agreement in December 2008 to require that up to almost one third of the E.U.’s 10% goal must be met without biofuels—through alternatives like electric cars and trains.⁸⁸

The December 2008 agreement shows that the global community is beginning to recognize the harmful consequences resulting from unsustainable biofuel production, and is ready to take steps to prevent such consequences.

H. *The Environment and Human Rights*

In 1994 the United Nations sought to integrate transnational environmental action with human rights preservation by appointing the first Special Rapporteur on Human Rights and the Environment, Fatma Ksentini, who soon after issued the UN Draft Principles on Human Rights and the Environment.⁸⁹ The non-binding principles stressed the

86. See Commission of the European Communities, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 20/20 by 2020: Europe’s Climate Change Opportunities, COM (2008) 30 Final (Jan. 23, 2008) (calling for biofuels that are “sustainably-produced”); Ian Traynor & David Gow, *Europe Sets Benchmark for Tackling Climate Change*, THE GUARDIAN, Mar. 10, 2007, available at <http://www.guardian.co.uk/world/2007/mar/10/eu.greenpolitics> (discussing how all twenty-seven member countries must incorporate 10% biofuels into their fuel systems).

87. Pete Harrison, *Update 3-E.U. Ends Biofuel Battle to Get Green Energy Deal*, REUTERS UK, Dec. 4, 2008, <http://uk.reuters.com/article/oilRpt/idUKL417770020081204?pageNumber=2&virtualBrandChannel=0&sp=true>; see also Posting of jamie to Greenpeace Blog, <http://www.greenpeace.org.uk/blog/> (Dec. 15, 2008) (describing biofuels as coming with “a whole raft of environmental and social problems”).

88. Harrison, *supra* note 87 (reporting the compromise reached by E.U. countries); Ian Traynor, *E.U. Agrees 2020 Clean Energy Deadline*, THE GUARDIAN, Dec. 9, 2008, available at <http://www.guardian.co.uk/environment/2008/dec/09/climatechange-energy> (articulating details of the agreement and describing the agreement as a “landmark deal”).

89. See U.N. Econ. & Soc. Council [ECOSOC], Sub-Comm. on Prevention of Discrimination & Prot. Of Minorities, *Review of Further Developments in Fields with which the Sub-Commission has been Concerned: Human Rights and the Environment*, ¶ 22, U.N. Doc. E/CN.4/Sub.2/1994/9 (July 6, 1994) (*prepared by* Special Rapporteur Fatma Zohra

connection between human rights and the environment by outlining several rights related to environmental preservation.⁹⁰ It outlined a specific duty for the states to “take measures aimed at ensuring that transnational corporations, wherever they operate, carry out their duties of environmental protection and respect for human rights.”⁹¹ That duty, transcending borders, requires states to take a stand and ensure that large-scale soy producers take responsibility for the negative human rights and environmental externalities of their industry.

I. *The Ever-Evolving Framework of Environmental Law*

The most recent scholarship in environmental law seeks further innovative means to hold actors accountable for climate change.⁹² No doubt this is a significant step, but it is also imperative—and in step with the history of international environmental law—that we use the environmental law framework to manage the human rights abuses that are occurring ironically through the means used to protect the environment. The same documents that push emissions reduction policies, like the Kyoto Protocol, its progeny, and the E.U. Climate Change Agreement, need human rights requirements. Incorporating such requirements would provide a promising first step toward mitigating the human rights abuses associated with biofuel production. Next, Part II provides a discussion about these specific human rights abuses and the certification strategies presented as means to mitigate them.

Ksentini) (“International environmental regulations, which emerged from a worldwide movement and a collective realization of the dangers threatening our planet and the future of mankind, were initially sectoral and essentially envisaged within the traditional framework of inter-State relations; they have finally attained a global dimension . . .”).

90. See *id.* (including environmental protection within the Draft Principles).

91. *Id.*; see also DIAS, *supra* note 75, at 32-33 (discussing that while intergovernmental organizations and NGOs have drafted standards for corporations to encourage practices that respect human rights and the environment, including the World Business Council for Sustainable Development, International Chamber of Commerce, and Amnesty International, these are all voluntary guidelines with no enforcement mechanism).

92. See, e.g., Daniel A. Farber, *Basic Compensation for Victims of Climate Change*, 155 U. PA. L. REV. 1605 (2007); Henry McGee, Jr., *Litigating Global Warming: Substantive Law in Search of a Forum*, 16 FORDHAM ENVTL. L. REV. 371, 372-78 (2005); Armin Rosenkranz & Richard Campbell, *Foreign Environmental and Human Rights Suits Against U.S. Corporations in U.S. Courts*, 18 STAN. ENVTL. L.J. 145 (1999).

II. *THE HUMAN RIGHTS VIOLATIONS*

Numerous reports have emerged on the conditions of soy production in South America.⁹³ Some of those reports illustrate likely human rights violations by soy producers and the host nations: Argentina, Brazil, and Paraguay. This Part will survey some of the most egregious abuses of the right to respect of privacy, the right to life, liberty & security of person and the right to health, and later present the environmental law framework with the potential to mitigate these violations.

A. *Setting Up the Problem: Human Rights Violations*

1. Land Issues and Human Rights

In cases where individuals already live on the land, sometimes soy producers acquire the land by direct usurpation, arguably violating the right to respect of privacy. Amnesty International noted that in Brazil alone, 2543 families were evicted from January to September of 2007, which was a marked rise from 2006.⁹⁴ Amnesty also found that soy plantations in particular were a primary source of land conflict in Brazil.⁹⁵

A direct violation of the right to respect of privacy arguably occurs when plantation owners arbitrarily deprive rural farming communities of their land via illegitimate claims to title. The Argentine Ministry of Justice describes a typical scenario as follows: An imposter claiming to be the owner of land already

93. See, e.g., DROS ET AL., *supra* note 16 (focusing on the soy industry of South America); FRIENDS OF THE EARTH INT'L, *supra* note 9 (looking wider at the soy, ethanol and palm oil industries in some Latin American countries); HOLLAND ET AL., *supra* note 9 (focusing on the soy industry in South America); JOENSEN ET AL., *supra* note 9 (focusing on the soy industry in Argentina); RULLI ET AL., *supra* note 3 (focusing upon effects of the soy industry in Paraguay).

94. See AMNESTY INT'L, THE STATE OF THE WORLD'S HUMAN RIGHTS 2008 76, AI Index POL 10/001/2008 (2008), available at <http://archive.amnesty.org/air2008/document/47.pdf> (elaborating that this figure is for all land evictions, not just those related to soy cultivation); see also FRIENDS OF THE EARTH INT'L, *supra* note 16, at 14 (claiming that statistics show that in the Brazilian region of Mato Grosso do Sul land conflicts grew by 85.7% from 2003 to 2005).

95. See AMNESTY INT'L, *supra* note 94, at 76 (recounting that expanding monocultures, including soy were main sources of conflict); see also HOLLAND ET AL., *supra* note 9, at 15 (discussing how exacerbated pressure on land results in local people facing eviction, loss of harvest, destruction of personal belongings, and even arrest).

being farmed visits a community and announces that the land belongs to him, sometimes with illegitimate documents as “proof” of his right.⁹⁶

In many cases, the removal becomes violent, threatening the right to life, liberty and security of person. Gangs sometimes come and “put up fences, cut down and burn forests, destroy property and remove evidence of occupation by the [rural community].”⁹⁷ The Ministry describes how the new “owner” will connive with local authorities for an official eviction notice against the previous owners.⁹⁸ It then becomes difficult for the dispossessed farmers to legally prove that they were living on the land and are the rightful owners, thus making repossession almost impossible and pouring salt on the wound of the lost right to respect of privacy.⁹⁹

In a particularly violent eviction in Paraguay, one soy producer accompanied by various heavily armed men, entered the community in jeeps and tractors and forcibly vacated community members from their homes.¹⁰⁰ The men then robbed and burned the homes in the presence of police and district attorneys.¹⁰¹ They then shot into a group of the people,

96. See JOENSEN ET AL., *supra* note 9, at 17 (explaining that many rural farmers have neither the legal sophistication or resources to challenge these false claims through legal avenues); see also A.D., *Los Campesinos y el Derecho a la Tierra*, PAGINA12, Apr. 5, 2004, available at <http://www.pagina12.com.ar/imprimir/diario/elpais/subnotas/33722-11866.html> (reporting that large soy farmers are usurping land from rural farmers).

97. JOENSEN ET AL., *supra* note 9, at 17; see also A.D., *supra* note 96 (illustrating techniques used by large soy farmers such as employing armed guards, encroaching on rural farmers’ land with fences, and stealing their animals).

98. See JOENSEN ET AL., *supra* note 9, at 17 (pointing out that such events are taking place throughout the country with the expansion of the soy frontier); see also RULLI ET AL., *supra* note 3, at 12 (alleging that Paraguay’s state agency responsible for carrying out land reforms is behaving in an illegal manner at the expense of rural farmers).

99. See JOENSEN ET AL., *supra* note 9, at 17 (describing how once their property is destroyed, it becomes “extremely difficult” for dispossessed rural peoples to prove that they are the rightful owners of the property).

100. See HOLLAND ET AL., *supra* note 9, at 15 (“There are numerous examples of violent evictions and peasant movements . . . becoming criminalized in many parts of South America”); RULLI ET AL., *supra* note 3, at 23 (noting that the district attorneys called upon 120 police officers to execute the eviction, although no legal order existed to do so).

101. See RULLI ET AL., *supra* note 3, at 23 (pointing out that the police reports conflicted regarding the incident, with police initially reporting that there had first been a confrontation with rural farmers, but then later changing their story when a Canadian

killing two individuals and injuring five others.¹⁰² In total, approximately four hundred people including over two hundred children were evicted via these threatening means.¹⁰³ Examples of violent evictions and acts of repression against the rural communities in the form of harassment, assault, confinement, torture, and even death have been documented.¹⁰⁴ Grupo de Reflexión Rural, an NGO that works on land conflicts and rural community rights in South America, tells the story of a fifteen-year old girl who was arrested and detained in an isolation cell for eight days after a land conflict because, in the words of the district attorney, “[s]he is very intelligent, she knows how to speak.”¹⁰⁵ In many of these South American countries, law enforcement either fails to notice the organized acts of violence carried out by soy producers against rural communities or simply stands by as it happens.¹⁰⁶

Sometimes police even add to the violent land clashes. On January 22, 2004, police shot two people dead and injured ten

anthropologist who witnessed the event came forward); *see also* Marco Castillo et al., *Paraguay: Campesino Leader Charged for Confronting Crop Spraying*, UPSIDE DOWN WORLD, Mar. 27, 2008, <http://upside-downworld.org/main/content/view/1198/44/> (reporting that a leader of a peasant movement, Tomás Zayas, along with three others, was charged with “homicidal intent and criminal association” for allegedly shooting a gun in the air while protesting against local soy producers’ use of pesticides, although community members claim Zayas was not even present during the protest).

102. *See* BUREAU OF DEMOCRACY, HUMAN RIGHTS AND LABOR, U.S. DEP’T OF STATE, 2006 COUNTRY REPORTS ON HUMAN RIGHTS PRACTICES: PARAGUAY (2007) *available at* <http://www.state.gov/g/drl/rls/hrrpt/2006/78901.htm> (denoting the eviction as “police action” and stating that the settler of the land and several of his employees were arrested); *see also* RULLI ET AL., *supra* note 3, at 23 (describing the details of the entire eviction).

103. *See* RULLI ET AL., *supra* note 3, at 23 (mentioning that three women also suffered from miscarriages and that numerous individuals are psychologically scarred from the traumatic incident); *see generally* An Maeyens, *Soy Expansion Continues to Trigger Violent Evictions and Repression Amongst Paraguayan Peasants*, Aug. 20, 2006, *ACTIVIST MAGAZINE*, *available at* http://activistmagazine.com/images/stories/campaigns/GMO/paraguay_violence.pdf (documenting incidents in which children were arrested or terrorized).

104. *See generally* RULLI ET AL., *supra* note 3, at 18-26 (surveying some specific incidents of these acts).

105. *Id.* at 19 (explaining the violent nature of the land conflict and the District Attorney’s response to questions from journalists).

106. *See Id.* at 20 (recounting an incident in which a large estate owner paid two police officers to murder a peasant leader); *see also* JOENSEN ET AL., *supra* note 9, at 16-17 (mentioning that police have backed the interests of landowners against rural farmers pushing for land reform).

others when a group came to show their solidarity with rural farmers that had clashed with the police the day before at a demonstration against pesticide use on a soy plantation.¹⁰⁷

The soy industry is composed of large-scale farms that are managed by private security guards.¹⁰⁸ The security forces often use violence to keep out rural farmers and indigenous groups that protest the presence of the farms.¹⁰⁹ Specific acts of violence have been documented by numerous Amnesty International reports as well as reports written by NGOs studying biofuel production in Latin America.¹¹⁰ States have an obligation both to refrain from violating citizen's rights themselves and to protect people within their borders against human rights violations by others.¹¹¹ By not providing adequate protection for the rural population who are hurt and killed by forced evictions, protests, and private security forces, the South American states appear to be violating one or both of these obligations in preserving the right to life.

107. See RULLI ET AL., *supra* note 3, at 31 (elaborating that these two deaths were the first of police killings on behalf of soy producers); see also, e.g., Lorena Rodriguez, *Police Repression and Presidential Promises: The Fight for Social Justice in Paraguay*, UPSIDE DOWN WORLD, Nov. 12, 2008, <http://upside-downworld.org/main/content/view/1574/1/> (articulating how police used strong force to squash a protest of rural farmers in Asunción, urging then newly-elected President Fernando Lugo to prioritize land reform).

108. See RULLI ET AL., *supra* note 3, at 18-26 (explaining the various roles armed guards play in the land conflict, including killing, injuring, and threatening farmers and land activists).

109. See *id.* (documenting the violent means that private security forces use to keep indigenous people and rural farmers out); Raymond Colitt, *Brazil's Landless Peasants Occupy Syngenta Plants*, REUTERS, Dec. 10, 2007, <http://www.reuters.com/article/latestCrisis/idUSN10291088> (documenting an incident in which Valmir Morra de Oliveira, leader of an activist group of landless farmers, was killed during a protest and stating that the farm lobbies have urged Brazilian government to get tougher on landless movement).

110. See AMNESTY INT'L, *supra* note 94, at 73, 76 (recounting the use of violence against rural communities in the soy industry in land conflicts); see, e.g., DROS ET AL., *supra* note 16 (describing impacts of soy cultivation in South America); FRIENDS OF THE EARTH INT'L, *supra* note 16, at 9 (explaining expansion in biofuel production in the context of cases of violence); RULLI ET AL., *supra* note 3, at 5 ("This report provides detailed examples of the people whose lives and environments are being destroyed by the advancement of 'green deserts' like soy . . .").

111. See HENKIN ET AL., *supra* note 43, at 3 (contrasting former as positive "resource claims" and latter as negative "immunity claims"); Sinden, *supra* note 43, at 5-8 (observing that human rights exist to counterbalance the weight of the state upon the individual).

2. Chemicals, Deforestation and the Right to Health

The high use of agrochemicals and deforestation compromise the right to health. The monocultivation of soy using “zero-tillage” techniques made weed control difficult, pushing farmers to use herbicides, like glyphosate.¹¹² When genetically modified herbicide-tolerant soy was introduced in 1998, its use spread far and wide.¹¹³ Today, at least 90% of the soybeans are genetically modified.¹¹⁴ The soy is genetically modified to make it resistant to the herbicide glyphosate, a non-selective herbicide that kills all kinds of plants over a period of days or weeks.¹¹⁵

Some weeds become resistant to glyphosate, and thus depend upon increasingly more chemicals to control the weeds.¹¹⁶ The increasing amounts of chemicals are often sprayed from the air or with spray trucks onto the plantations—sometimes without regard for wind or temperature—making

112. See DROS, *supra* note 16, at 17 (explaining that before using herbicides, weed control proved arduous, particularly in a system of continuous cultivation of annual crops like soy); see also G. B. Triplett, Jr. & Warren A. Dick, *No-Tillage Crop Production: A Revolution in Agriculture!*, 100 *AGRONOMY JOURNAL* S153 (2008) (“It was simply not thought possible to grow crops without first tilling the soil . . . for weed control. . . . [M]odern herbicides permitted no-tillage (NT) to be developed and practiced on actual working family farms. No-tillage is generally defined as planting crops in unprepared soil with at least 30% mulch cover.”).

113. DROS, *supra* note 16, at 17 (reporting that when genetically modified soy was introduced in 1998, it was widely adopted by Argentine farmers); Oliver Balch, *Seeds of Dispute*, THE GUARDIAN ONLINE, Feb. 22, 2006, <http://www.guardian.co.uk/science/2006/feb/22/gm.argentina> (describing how farmers enthusiastically embraced genetically modified soy upon its introduction in Argentina).

114. FRIENDS OF THE EARTH INT’L, *supra* note 16, at 6 (citing that more than 90% of Argentina’s soy crop is genetically modified, “leading to increased spraying of herbicides, contamination of surface waters and aquifers, and illness amongst people exposed to the cocktail of chemicals”); HOLLAND ET AL., *supra* note 9, at 18 (citing the figure as more than 98%).

115. HOLLAND ET AL., *supra* note 9, at 18 (explaining how glyphosate kills plants including grasses, perennials, and woody plants); Josef G. Thundiyil et al., *Acute Pesticide Poisoning: A Proposed Classification Tool*, 86 *BULLETIN OF THE WORLD HEALTH ORG.* 205, 210, (2008) available at <http://www.who.int/bulletin/volumes/86/3/07-041814.pdf> (explaining that glyphosate can cause airways, skin, mucous membrane irritation, abdominal pain, nausea, vomiting, shock, dyspnea, respiratory failure).

116. See HOLLAND ET AL., *supra* note 9, at 19 (stating that it has become necessary to use a wide spectrum of herbicides, insecticides and fungicides on soy plantations after cultivating, and that glyphosate-tolerant weeds have developed alongside new infestations); see also Thundiyil et al., *supra* note 115, at 210 (discussing serious health risks associated with high pesticide use, including glyphosate).

rural communities susceptible to their exposure.¹¹⁷ In one case, “immediately after spraying, [a] community [was] covered with a dense mist smelling strong of chemicals.”¹¹⁸

The Silvino Talavera story exemplifies further evidence of a violation of the right to health.¹¹⁹ Also, laborers on soy plantation—from children used as human flags to guide aerial spraying to workers directly handling and inhaling the agrochemicals—face an elevated risk for health problems.¹²⁰

In Paraguay, members of the Ka’atymi community live in the remnants of a forest completely surrounded by soy plantations, some only twenty meters away.¹²¹ The members explained that pesticide spraying occurs once a week, regardless of the weather conditions.¹²² Some members were forced “to flee into the forest to escape the toxic cloud” of chemicals.¹²³ After each spraying, the members suffer from various symptoms of poisoning such as diarrhea, coughing, vomiting, and headaches.¹²⁴

The chemical spraying sometimes infects food that neighboring farmers are growing, limiting production and causing crop anatomical malformation and physiological damage.¹²⁵

117. See JOENSEN ET AL., *supra* note 9, at 20 (“Sometimes when you spray the soya, the wind blows the spray across and this burns [other crops and fields.]”); see also HOLLAND ET AL., *supra* note 9, at 19, 30 (describing both pesticide spraying techniques and effects).

118. See JOENSEN ET AL., *supra* note 9, at 22.

119. While the government imprisoned the two soy producers who were responsible for the injury caused to Silvino, they shy away from regulating these harmful types of pesticide. See RULLI ET AL., *supra* note 3, at 28-30 (detailing the lack of enforcement and regulation regarding pesticides).

120. See JOENSEN ET AL., *supra* note 9, at 21 (explaining the “reports on contamination” from pesticides used in soy production).

121. HOLLAND ET AL., *supra* note 9, at 30 (“The community’s houses are just 20 meters from the soy fields.”).

122. See *id.* (explaining that pesticide spraying occurs weekly irrespective of wind, environmental conditions, or temperature).

123. *Id.*

124. See *id.* (recounting various symptoms that members experienced); see also JOENSEN ET AL., *supra* note 9, at 22 (describing the physical symptoms of farmers in Argentina affected by the pesticides as including “dizziness, nausea, vomiting, diarrhoea [sic], stomach pain, rashes, allergies, skin lesions, spots, eye irritation and vision disturbances”).

125. See HOLLAND ET AL., *supra* note 9, at 30 (describing the contamination of a nearby river and limited access to homegrown food). Joensen et al. tell a similar story regarding maize production in Argentina, a staple of the Argentine diet. See JOENSEN ET

Pesticides and chemical fertilizers are a primary source of water contamination in some soy-growing regions in South America, which leads to disastrous health consequences.¹²⁶ One example occurred in the San Pedro del Paraná region of Paraguay in December 2003.¹²⁷ The media reported that eleven-year old Antonio Ocampo Benitez was committed to a hospital bed with skin sores all over his body.¹²⁸ His mother explained that Antonio “often bathed in a nearby river” and that his lacerations might be due to his exposure to the water contaminated with pesticides.¹²⁹ Later, reports emerged that approximately three hundred other families suffered health problems of different dimensions. Twelve people had to be urgently hospitalized with severe stomach-ache, diarrhea and muscle pain.¹³⁰ Days later, Paraguay’s Agriculture and Public Health Department and the Secretary of the Environment published lab studies showing carbamate residues in the victims’ urine, and glyphosate in some of the water sources in the most affected area.¹³¹

Soy is a main driver of extreme deforestation in South America, which compromises health as well.¹³² An area equivalent to approximately 16% of the total Amazon rainforest has already been lost, and each day 7000 hectares of forest disappears.¹³³ Part of the soy produced from this deforestation

AL., *supra* note 9, at 20 (“When growing maize next to . . . soya, sometimes when you spray the soya, the wind blows the spray across and this burns the maize . . .”).

126. *See, e.g.*, HOLLAND ET AL., *supra* note 9, at 21 (“There are a number of children who have bathed in ponds and streams near the crops. They have lesions on their skin as if they had been covered with fungus.”).

127. *See generally* RULLI ET AL., *supra* note 3, at 30 (describing events in San Pedro del Paraná).

128. *See id.* (recounting that Antonio’s sores caused his hospitalization).

129. *Id.*

130. *See id.* (listing villagers’ symptoms as including “dermatitis, nausea, dizziness, vomiting, headache, fever, severe stomach-ache, diarrhea and muscle pain”).

131. *See id.* (explaining that the publication’s results noted the presence of contamination in two of the five water sources in Pindoyu).

132. *See* HOLLAND ET AL., *supra* note 9, at 13 (identifying soy production as “one of the main drivers” of deforestation and causing “considerable damage to the environment and human health”).

133. *Id.* (contending that soy production has forced some cattle farmers off their land, moving them into forests where they often resort to burning to clear the land, further dilapidating the environment and polluting nearby communities); *cf.* Joseph Fargione et al., *Land Clearing and the Biofuel Carbon Debt*, 319 *SCIENCE* 1235 (2008)

goes straight to biofuels.¹³⁴ For example, Greenpeace Germany found that 20% of the biofuel used to meet their emissions target was from countries where deforestation is a significant problem.¹³⁵

Leishmaniasis tegumentaria is parasitic infection of people and animals that is carried by small sandflies.¹³⁶ Incidents of the disease are intensified with deforestation due to the proximity of secondary forests and remnant primary forests.¹³⁷ According to Dr. Nestor Taranto, the Head of the Institute for Investigations of Tropical Diseases in the National University of Salta, approximately 4000 cases followed the deforestation of 9000 hectares in Campichuelo, Argentina.¹³⁸ The lack of adequately strong restrictions on deforestation seems to provide more evidence that the states do not provide necessary protection of the right to health.

Limited public health services and lack of access to medical services in several soy-growing regions make it difficult to carry

(projecting that the conversion of natural ecosystems like rainforests, peatlands, savannahs, and grasslands to grow biofuel food-based crops like corn, sugarcane or soybeans could release between 17 and 420 times more carbon than the annual GHG savings from fossil fuels, thus creating a “biofuel carbon debt”).

134. See generally DROS ET AL., *supra* note 16, at 12 (correlating deforestation to increased international demand for soy); JOENSEN ET AL., *supra* note 9, at 5 (noting the acceleration of deforestation as a result of increased soy production for biofuels).

135. See Michael Hogan, *Greenpeace Says German Soy Fuel Blend Fails Climate Test*, REUTERS, Apr. 2, 2008, <http://www.reuters.com/article/environmentNews/idUSL0282570220080402> (reporting that Greenpeace tested fuel from forty-six gas stations across Germany to determine the origin of fuels used in Germany’s compulsory diesel-biodiesel blending content); cf. HOLLAND ET AL., *supra* note 9, at 12 (listing leading soy producing countries and their high levels of deforestation).

136. See JOENSEN ET AL., *supra* note 9, at 23 (indicating that the disease is carried by small sandflies); World Health Organization, *Leishmaniasis: Background Information*, <http://www.who.int/leishmaniasis/en/> (last visited June 17, 2009) (describing that the disease can cause extreme disfiguration).

137. See JOENSEN ET AL., *supra* note 9, at 23; World Health Organization, *Burden of Disease*, <http://www.who.int/leishmaniasis/burden/en/> (last visited June 17, 2009) (affirming that *leishmaniasis* can derive from environmental changes such as deforestation, building of dams, new irrigation schemes, urbanization and migration of non-immune people to endemic areas, and that Brazil is one of the top nations where the disease occurs).

138. See JOENSEN ET AL., *supra* note 9, at 23 (quoting Dr. Nestor Taranto, “Here we have a clear and quantifiable example of activities often promoted as profitable and progressive, and for which severe and irreversible environmental impact is deemed acceptable. Not only do they not generate employment or progress, but they also bring serious impacts on the health of the people they are supposed to benefit”).

out appropriate inspections or even diagnose acute or chronic poisoning.¹³⁹ This infrastructural defect points to a clear violation of the South American states' obligation to fulfill the right to health.

B. *Reaching for Solutions: Certification Schemes and the Environmental Law Framework*

The Food and Agricultural Organization of the UN has remarked that, "Criteria for sustainable production can contribute to improving the environmental footprint of biofuels, but they must focus on global public goods and be based on internationally agreed standards and must not put developing countries at a competitive disadvantage."¹⁴⁰ The E.U., other international entities, and countries are currently exploring certification schemes as a plausible means to conform biofuels with minimum environmental and social standards over the scope of their life-cycle.¹⁴¹ Proposed certification schemes are aimed at improving environmental and social standards of the respective industry's producers, often via the creation of voluntary codes of good practice.¹⁴² Some of these schemes, like

139. See HOLLAND ET AL., *supra* note 9, at 22 (pointing out that limited public health services in most soy growing areas make it difficult to investigate or treat ills like soybean poisoning); JOENSEN ET AL., *supra* note 9, at 22 (stating that rural communities have publicly condemned the lack of medical facilities in rural areas).

140. FAO, *State of Food and Agric.*, *supra* note 15, at 8.

141. See RICHARD DOORNBOSCH & RONALD STEENBLIK, ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, BIOFUELS: IS THE CURE WORSE THAN THE DISEASE? 39 (2007) [hereinafter OECD PAPER] (explaining that certification schemes can be led by producers, consumers, or anyone without even a financial interest in the industry); Roger Harrabin, *Europe Rethinks Biofuel Guidelines*, BBC NEWS, Jan. 14, 2008, <http://news.bbc.co.uk/2/hi/europe/7186380.stm> (reporting that the E.U. would seek to implement a certification scheme alongside its 10% quota for biofuels in order to combat the potential of environmental and social harms associated with biofuel production).

142. See OECD PAPER, *supra* note 141, at 39 (explaining that some of the most prominent certification schemes include the Roundtable on Sustainable Palm Oil and the Better Sugarcane Initiative); see, e.g., ProForest for Coop Switzerland & World Wildlife Fund Switzerland, *The Basel Criteria for Responsible Soy Production*, Vers. 2005-02-16 (Aug. 2004), available at http://assets.panda.org/downloads/05_02_16_basel_criteria_engl.pdf (a set of criteria developed to improve social, economic and environmental aspects of biofuels, and to condition companies to adopt best practices that abide by their criteria in order to prepare for a mandatory certification process); Roundtable on Sustainable Soy Association, *Who We Are*, <http://www.responsiblesoy.org/> (last visited June 17, 2009) (setting forth that its main

the Roundtable for Sustainable Soy, have been challenged as “fail[ing] to address the major social and environmental impacts of industrial-scale soy cultivation and frustrat[ing] real solutions.”¹⁴³

The Roundtable on Sustainable Biofuels (“RSB”) is the most comprehensive certification scheme thus far developed to address biofuel production on a global level.¹⁴⁴ RSB was initiated in April 2007 at the École Polytechnique Fédérale de Lausanne in Switzerland by a group comprised of environmentalists, academics, NGOs, intergovernmental organizations, and private companies.¹⁴⁵ In August 2008, the group released “Version Zero,” the draft principles and criteria, which included both human rights and environmental requirements—and emphasized the inclusion of all stakeholders.¹⁴⁶ For example, the draft principles and criteria state that all stakeholders should be included in the consultation and planning process of biofuel projects, and subsequently involved in their monitoring.¹⁴⁷ The

tool is a “dialogue between groups with different interests and backgrounds, in order to define common ground for action”).

143. Press Release, Friends of the Earth, *The Only Responsible Soy is Less Soy* (Apr. 22, 2008), available at <http://www.foei.org/en/publications/pdfs/FoEIRTRS.pdf/> (calling certification a “façade of sustainability” for multinational corporations and businesses which control the soy industry, as well as for major oil and fuel companies); see, e.g., HOLLAND ET AL., *supra* note 9, at 3 (asserting that “the Round Table is in fact legitimizing the existing environmentally and socially destructive practices which have drawn widespread concern from around the world”).

144. See École Polytechnique Fédérale de Lausanne, Principles & Criteria, <http://cgse.epfl.ch/page70341.html> (last visited June 17, 2009) [hereinafter École Polytechnique Principles & Criteria Webpage] (outlining “Version Zero” and describing RSB’s extensive consultation process); see also OCED PAPER, *supra* note 141, at 39 (classifying the Roundtable on Sustainable Biofuels as “all-encompassing”).

145. See École Polytechnique Fédérale de Lausanne, Roundtable on Sustainable Biofuels, <http://cgse.epfl.ch/page65660.html> (last visited June 17, 2009) [hereinafter École Polytechnique CEN Energy Webpage], (explaining how the Roundtable on Sustainable Biofuels (“RSB”) brings together hundreds of stakeholders through various media toward building a consensus around a certification scheme for biofuels); see also OECD PAPER, *supra* note 141, at 39 (listing the variety of stakeholders involved in creating Roundtable on Sustainable Biofuels).

146. See École Polytechnique Principles & Criteria Webpage, *supra* note 144 (encouraging feedback from “any interested party” on “Version Zero”).

147. See ÉCOLE POLYTECHNIQUE FÉDÉRALÉ DE LAUSANNE, *ROUNDTABLE ON SUSTAINABLE BIOFUELS: GLOBAL PRINCIPLES AND CRITERIA FOR SUSTAINABLE BIOFUELS PRODUCTION VERSION ZERO 5* (Aug. 13, 2008), available at <http://cgse.epfl.ch/webdav/site/cgse/users/171495/public/RSB-brochure-eng.pdf> (“Biofuel projects shall

draft principles and criteria stresses the importance of following the law in biofuel production, requiring that biofuel production abide by the rights outlined in the UDHR.¹⁴⁸ It also specifically requires all biofuel projects to positively contribute to the social and economic development of rural and indigenous communities.¹⁴⁹ Additionally, it specifically mandates that all negative environmental externalities from production, e.g., emissions and deforestation, be minimized.¹⁵⁰ While the numerous technical, social, and environmental factors associated with biofuel production are highly complicated to assess, many key players in the environmental and development worlds stand in support of the Roundtable for Sustainable Biofuels' draft principles and criteria.¹⁵¹ Additionally, some E.U. countries have either already implemented biofuel sustainability requirements, or are in the process of doing so.¹⁵² Part III proposes that a

be designed and operated under appropriate, comprehensive, transparent, consultative, and participatory processes that involve all relevant stakeholders.”).

148. *See id.*, at 5, 7 (“1. Biofuel production shall follow all applicable laws of the country in which they occur. . . . 4. Biofuel production shall not violate human rights . . .”).

149. *See id.*, at 8 (“5. Biofuel production shall contribute to the social and economic development of local, rural and indigenous peoples and communities.”).

150. *See id.*, at 6, 9-10 (Principle 3 (Greenhouse Gas Emissions), Principle 7 (Conservation), Principle 8 (Soil), Principle 9 (Water), and Principle 10 (Air) pertain to the environment).

151. *See, e.g.*, Posting of Nathanael Greene to National Resource Defense Council Switchboard, <http://switchboard.nrdc.org/blogs/> (Sept. 19, 2008) (illustrating that policymakers at NRDC, as a leading national environmental organization, support the RSB as the new worldwide industry standard). Also, the Inter-American Development Bank, which provides funding to countries in Latin America and the Caribbean, has begun its own scorecard for biofuels based upon the criteria established by the RSB. *See id.*; Inter-American Development Bank, IDB Biofuels Sustainability Scorecard, <http://www.iadb.org/scorecard/> (last visited June 17, 2009) (framing the scorecard as a way to encourage sustainability by providing a framework around which players can assess the complicated issues surrounding biofuel development); *see also* Susanne Retka Schill, *The Search for Sustainable Solutions*, *BIODIESEL MAGAZINE*, Apr. 2009, available at http://www.biodieselmagazine.com/article.jsp?article_id=3312&q=&page=1 (reporting that the National Biodiesel Board has also created sustainability criteria for biofuels based in part upon RSB's).

152. *See* OECD PAPER, *supra* note 141, at 40, 48-49 (the Dutch government has commissioned a group to create a sustainability scheme for biomass, which requires satisfaction of nine criteria). Switzerland is already requiring that its biofuels be certified “sustainable,” based on its emissions reductions and the way the crops are grown, in order for it to count toward the annual 5.75% target for biofuels in transport fuel. *See* Edith Palmer, *Switzerland: Energy-Sustainability Criteria for Biofuels*, *GLOBAL LEGAL MONITOR*, Mar. 2, 2008, <http://www.loc.gov/lawweb/servlet/>

responsible, comprehensive certification scheme with human rights requirements could help to mitigate the harms that result from countries trying to achieve otherwise praiseworthy environmental aims, such as meeting emissions reduction targets.

III. WHERE DO WE GO FROM HERE?

In summary, the boom for biofuels has led to an increase in production of biofuel commodities, such as soy, in South America.¹⁵³ Human rights abuses permeate the soy industry in countries like Argentina, Brazil, and Paraguay.¹⁵⁴ The increased demand for biofuels leads to more soy production, and as a result, more human rights abuses—particularly affecting the rural farming and indigenous communities of these countries.¹⁵⁵

The international community has a responsibility to act to mitigate these abuses.¹⁵⁶ A responsible mitigation strategy could use the environmental law framework to address the human rights problems. The approach is two-fold. First, NGOs and intergovernmental entities like the United Nations and the European Union should direct research and financing toward establishing a certification scheme for biofuels. To adequately address concerns regarding certification policies, any scheme adopted must comprehensively address human rights concerns at

lloc_news?disp2_287_Energy (last visited Mar. 30, 2009) (explaining how Switzerland promulgated laws, made effective in July 2008, to introduce tax benefits or exemptions for use of biofuels contingent on biofuels reflecting a 40% reduction of GHG compared with the corresponding fossil fuels, or if biofuel commodity came from deforested land or land that should be preserved to promote biodiversity).

153. See *supra* notes 39-42 and accompanying text (describing the soy industry in South America—particularly Argentina, Brazil, and Paraguay).

154. See *supra* notes 41, 44-47 and accompanying text (discussing the vulnerability of communities in Argentina, Brazil, and Paraguay to human rights abuses and the specific abuses that are occurring at the hands of the soy industry in the region).

155. See *supra* Part II.A. (mentioning how abuses affect indigenous and farming communities in rural areas of Argentina, Brazil, and Paraguay).

156. See *supra* notes 62-92 and accompanying text (discussing the international community's responsibility to promote and encourage respect for human rights as promulgated in the U.N. Charter, emphasized in the ICESCR, as well as the history of environmental initiatives promoting a transboundary approach to environmental preservation).

all levels—specifically the right to respect of privacy,¹⁵⁷ the right to life, liberty and security of person,¹⁵⁸ and the right to health¹⁵⁹.

The Roundtable on Sustainable Biofuels offers a promising opportunity. With a diverse membership body consisting of players from all sides of the soy industry, the “Version Zero” protocol lays a helpful start to addressing the needs of affected communities in the soy industry.¹⁶⁰ The biofuel market is in dire need of this branding process in order to separate the socially and environmentally irresponsible producers from those whose production techniques are in line with human rights obligations. With a certification process, the market can sniff out those irresponsible producers without having to rely on individual country governments. This last point is particularly important, as some governments actually take part in these human rights abuses—if not directly via abusive government agents, then passively through insecure land tenure policies.¹⁶¹ Implementing a market-based check on the system could be a critical strategy toward mitigating these abuses.

The next step would be for environmental initiatives aimed at cutting emissions to require adequate human rights protections. With the establishment of a responsible certification scheme, international environmental agreements can mandate that all biofuels that are used to meet targets pass certification.

157. *See supra* notes 51-53 and accompanying text (outlining the right to privacy as articulated in the UDHR, the ICCPR, and the American Convention on Human Rights).

158. *See supra* notes 54-56 and accompanying text (outlining the right to life, liberty and security of person as articulated in the UDHR, the ICCPR, and the American Convention on Human Rights).

159. *See supra* notes 57-61 and accompanying text (outlining the right to health as articulated in the UDHR, the ICESCR, and the Additional Protocol to the American Convention on Human Rights).

160. *See supra* notes 146-150 and accompanying text (outlining the creation of “Version Zero” and its inclusion of environmental and social criteria, as well as its emphasis on including stakeholders from various aspects of the soy industry).

161. *See supra* notes 98-107, 135 and accompanying text (conveying incidents in which government either directly exercises abuse in conflicts or implicitly fail to provide adequate legal and social means of protection against human rights abuses resulting in the soy industry).

The United Nations is on the cusp of creating a post-Kyoto Protocol commitment this year.¹⁶² That opportunity, along with the growing demand for biofuels and the increasing projections of soy growth, places the global community at a critical crossroads. The United Nations, intergovernmental organizations, and developed countries seeking to mitigate their emissions should seize the opportunity at hand to implement strategies that effectively meet their environmental aims while promoting respect for human rights. Environmental initiatives that incorporate human rights requirements in a certification process for biofuel commodities would provide a satisfactory arsenal for fighting human rights abuses fueled by the demand for biofuels.

Incorporating transboundary human rights requirements in environmental initiatives is a natural next step in the environmental law framework. This framework has been marked by extraterritorial legal accountability, from the days of *Trail Smelter* to today's environmental initiatives like the Kyoto Protocol. As the Rio Declaration Preamble states, "the nature of our earth is interdependent"—thus, all countries must assess their environmental policies and take all reasonable measures to mitigate any negative externalities that occur beyond their borders.¹⁶³ Taking proactive measures to preserve human rights in the pursuit of environmental aims honors the spirit of the United Nations Charter toward achieving international cooperation in "promoting and encouraging respect for human rights."¹⁶⁴

CONCLUSION

Developed countries should work toward ensuring that biofuel development does not incentivize human rights abuses and environmental degradation. By implementing human rights requirements in environmental initiatives like the Kyoto

162. See *supra* note 83 and accompanying text (discussing how the United Nations and the 189 plus Kyoto signatories will create the reduction requirements for the second commitment period of the Kyoto Protocol (post-2012) during the Climate Change Conference that is set to take place in Denmark in 2009).

163. See *supra* note 76 and accompanying text (citing the Rio Declaration's emphasis on the interdependence of our earth).

164. See *supra* note 62 and accompanying text (quoting the U.N. Charter).

Protocol, its progeny, and the European Union's regional climate change agreement, states can ensure that their emissions mitigation strategies do not provide a market for industries that regularly violate human rights. A mandatory certification scheme that provides comprehensive human rights requirements could be a viable approach towards harmonizing environmental preservation and human rights protection. The preservation of the Earth should not require the destruction of human rights. The two commitments, as echoed in the Rio Preamble, are as John Muir would say, "hitched."