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AN ENVIRONMENTAL JUSTICE CRITIQUE OF COMPARATIVE ADVANTAGE: INDIGENOUS PEOPLES, TRADE POLICY, AND THE MEXICAN NEOLIBERAL ECONOMIC REFORMS

CARMEN G. GONZALEZ*

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1. INTRODUCTION

The Zapatista uprising on January 1, 1994 drew international attention to the plight of Mexico's indigenous farmers, and highlighted their opposition to the North American Free Trade Agreement ("NAFTA") and to the neoliberal restructuring of Mexico's economy of which the agreement was a part.¹ While U.S. and Mexican government officials argued that NAFTA would create jobs in Mexico and reduce illegal immigration to the United States,² the Zapatista rebels regarded NAFTA as the codification of economic policies that marginalized and impoverished Mexico's

¹ See generally Leonard Cavise, *NAFTA Rebellion: How the Small Village of Chiapas is Fighting for Its Life*, 21 HUM. RTS. 36 (1994) (explaining the uprising in Chiapas as an indigenous response to NAFTA and to Mexico's ongoing agrarian crisis); Andy Gutierrez, *Codifying the Past, Erasing the Future: NAFTA and the Zapatista Uprising of 1994*, 4 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 143 (1996-1998) (assessing the Zapatistas' claim that NAFTA threatens the survival of Mexico's indigenous peasants); Tim Golden, *Mexican Troops Battling Rebels: Toll at Least 57*, N.Y. TIMES, Jan. 3, 1994, at A1 (describing the battle between armed peasants and Mexican government troops in Chiapas just after the effective date of NAFTA); Tim Golden, *In Remote Mexican Village, Roots of Rebellion Are Bared*, N.Y. TIMES, Jan. 17, 1994, at A1 (describing a rebel uprising in Rizo de Oro, Mexico as the consequence of failed government anti-poverty programs, changes in land tenure laws, and the coming into force of NAFTA).

² See JOHN J. AUDLEY ET AL., NAFTA'S PROMISE AND REALITY: LESSONS FROM MEXICO FOR THE HEMISPHERE 11, 39-40 (Nov. 2003), available at <http://carnegieendowment.org/files/nafta1.pdf> (concluding that NAFTA failed to live up to its promise of creating jobs in Mexico and curbing illegal immigration to the United States).

rural indigenous communities.³ In hindsight, the Zapatistas' hostility to NAFTA proved well-grounded. Far from promoting Mexican prosperity, NAFTA devastated rural livelihoods, increased unemployment, and accelerated migration to the United States.⁴ Despite the growing militarization of the U.S.-Mexican border, the number of Mexicans migrating to the United States climbed steadily from approximately 350,000 per year before NAFTA to 500,000 per year by the early 2000s.⁵ An increasing proportion of Mexican migrants are indigenous.⁶

Notwithstanding the substantial scholarly literature on the relationship between globalization and migration,⁷ the

³ See Gutierrez, *supra* note 1, at 145–49 (discussing the Zapatistas' view of NAFTA as the death knell of indigenous peasants and chronicling the roots of Mexico's agricultural crisis); Cavise, *supra* note 1, at 36 (examining how and why NAFTA will harm the indigenous population of southern Mexico).

⁴ See ARMANDO NAVARRO, THE IMMIGRATION CRISIS: NATIVISM, ARMED VIGILANTISM, AND THE RISE OF A COUNTERVAILING MOVEMENT 126–27 (2009) (highlighting the specific ways NAFTA harmed Mexico's poor population and spurred migration to the United States); EDUARDO ZEPEDA ET AL., CARNEGIE ENDOWMENT FOR INT'L PEACE: POLICY OUTLOOK, RETHINKING TRADE POLICY FOR DEVELOPMENT: LESSONS FROM MEXICO UNDER NAFTA 10–13 (Dec. 2009), available at http://carnegieendowment.org/files/nafta_trade_development.pdf (discussing NAFTA's failure to improve Mexico's overall employment rate).

⁵ ZEPEDA ET AL., *supra* note 4, at 13.

⁶ See Jonathan Fox & Gaspar Rivera-Salgado, *Building Civil Society Among Indigenous Migrants*, in INDIGENOUS MEXICAN MIGRANTS IN THE UNITED STATES 2, 6–7, 10 (Jonathan Fox & Gaspar Rivera-Salgado eds., 2004) (discussing the growing number of indigenous Mexican migrants in the United States and detailing the various states where they settle and seek employment); LYNN STEPHEN, TRANSBORDER LIVES: INDIGENOUS OAXACANS IN MEXICO, CALIFORNIA, AND OREGON 242 (2007). While Mexican immigrants in the United States are generally presumed to be ethnically homogeneous, census figures belie this assumption. In spite of ambiguities in census racial categories and persistent undercounting in migrant communities, over 407,000 individuals self-identified as Hispanic American Indians in the 2000 census as opposed to Hispanics of black, white, or mixed race. Most were of Mexican and Guatemalan ancestry, including Mayan, Zapotec, Mixtec, Triqui, and P'urépecha peoples. Javier Huizar Murillo & Isidro Cerda, *Indigenous Mexican Migrants in the 2000 U.S. Census: "Hispanic American Indians"*, in INDIGENOUS MEXICAN MIGRANTS IN THE UNITED STATES, *supra*, at 281–83.

⁷ See, e.g., Chantal Thomas, *Migration and Social Regionalism: Labour Migration as an Unintended Consequence of Globalization in Mexico*, in SOCIAL REGIONALISM IN THE GLOBAL ECONOMY (Adelle Blackett & Christian Lévesque eds., forthcoming 2011) (“[E]conomic dislocation in Mexico arose out of a series of macroeconomic reforms geared towards ‘market liberalization,’ of which the adoption of [sic] NAFTA was a central feature.”); Timothy A. Canova, *Closing the Border and Opening the Door: Mobility, Adjustment, and the Sequencing of Reform*, 5 GEO. J.L. & PUB. POL’Y 341, 344 (2007) (proposing foreign assistance and massive investment in Mexican infrastructure and social capital as a means of reducing illegal

immigration debate in the United States has largely focused on national security and border enforcement rather than making an explicit connection between the economic and ecological dislocations caused by globalization and the influx of migrants into the United States.⁸ Similarly, the debate on trade and investment in the Americas has paid scant attention to the impact of trade liberalization on indigenous peoples despite the growing scholarly engagement with this issue.⁹ These omissions are troubling because NAFTA continues to serve as a template for trade agreements in the Americas, including the U.S.-Chile Free Trade Agreement, the Dominican Republic-Central American Free Trade Agreement ("CAFTA-DR"), the U.S.-Peru Free Trade Agreement, and the proposed free trade agreements with Colombia and Panama.¹⁰ Unless this template is fundamentally restructured, future trade agreements may simply replicate throughout the Western hemisphere the economic, ecological, and social dislocations experienced under NAFTA. This Article critiques the theoretical underpinnings of contemporary trade agreements from an environmental justice perspective using the Mexican

immigration); Howard F. Chang, *Migration as International Trade: The Economic Gains from the Liberalized Movement of Labor*, 3 UCLA J. INT'L L. & FOREIGN AFF. 371 (1998-1999) (arguing that immigration restrictions should be regarded as trade barriers that distort the price of labor and produce economic inefficiency); Philip L. Martin, *Economic Integration and Migration: The Case of NAFTA*, 3 UCLA J. INT'L L. & FOREIGN AFF. 419, 422-24 (1998-1999) (discussing the relationship between trade liberalization and migration with particular emphasis on the impact of NAFTA); Kevin R. Johnson, *Free Trade and Closed Borders: NAFTA and Mexican Immigration to the United States*, 27 U.C. DAVIS L. REV. 937 (1994) (analyzing the highly charged debate over trade and immigration occasioned by NAFTA).

⁸ DORI STONE, *BEYOND THE FENCE: A JOURNEY TO THE ROOTS OF THE MIGRATION CRISIS*, at xii-xiii (2009).

⁹ Valerie J. Phillips, *Identifying National and International Vacuums Potentially Impacting NAFTA and Indigenous Peoples*, 2 ESTEY CTR J. INT'L L. & TRADE POL'Y 246, 247 (2001) (lamenting the lack of attention to the impact of "NAFTA on indigenous peoples and their business interests"); see, e.g., Kevin C. Kennedy, *Trade and Foreign Investment in the Americas: The Impact on Indigenous Peoples and the Environment*, 14 MICH. ST. J. INT'L L. 139, 139 (2006) (noting that scholars have raised subsidiary questions beyond the central question about "the impact of international trade and foreign investment on the environment and on indigenous peoples").

¹⁰ ZEPEDA ET AL., *supra* note 4, at 2; see TRAVIS MCARTHUR & TODD TUCKER, PUB. CITIZEN, *A YEAR AFTER IMPLEMENTATION OF THE PERU FREE TRADE AGREEMENT, U.S. AND PERU LEFT WITH BROKEN PROMISES AND NO NEW TRADE MODEL* (Feb. 2010), <http://www.citizen.org/documents/PeruFTA-OneYear.pdf> (discussing the deterioration of environmental and labor conditions in Peru in the wake of the U.S.-Peru Free Trade Agreement).

agricultural sector under NAFTA as a case study. The Article examines the impact of globalization on the livelihoods of Mexico's rural indigenous peoples, the intersection of social inequality and natural resource degradation, and the ways in which these phenomena promote migration within Mexico and ultimately to the United States. The Article uses the Mexican experience to illuminate the theoretical and practical limitations of the theory of comparative advantage in order to lay the groundwork for more just and equitable policy alternatives. While the article focuses on trade liberalization in the Mexican agricultural sector, it examines this reform in the context of the larger restructuring of the Mexican economy along neoliberal lines, including deregulation, privatization of industry and government services, reduction of government spending, financial liberalization, promotion of direct foreign investment, and enhanced protection of private property rights.¹¹

The Article proceeds as follows. Part 2 defines environmental justice, explains what it means to evaluate trade policy from an environmental justice perspective, and discusses the laws and policies that have historically marginalized Mexico's indigenous peoples. Part 3 introduces the theory of comparative advantage and discusses its relevance to contemporary debates over trade liberalization. Part 4 examines the socioeconomic and environmental consequences of Mexico's neoliberal economic reforms, focusing on the impact of these reforms on the livelihoods and natural resources of Mexico's indigenous rural communities. Part 5 discusses the limitations of the theory of comparative advantage based on the lessons of the Mexican experience. Part 6 uses the paradigm of environmental justice to propose more just and sustainable policy alternatives.

2. ENVIRONMENTAL JUSTICE AND TRADE AGREEMENTS

The environmental justice movement in the United States emerged in the 1980s as a grassroots response to the disproportionate concentration of environmental hazards in low-income communities and communities of color.¹² As the full extent

¹¹ See *LATIN AMERICAN ADJUSTMENT: HOW MUCH HAS HAPPENED?* 18 (John Williamson ed., 1990) (setting forth the key elements of the neoliberal economic model).

¹² See LUKE W. COLE & SHEILA R. FOSTER, *FROM THE GROUND UP: ENVIRONMENTAL RACISM AND THE RISE OF THE ENVIRONMENTAL JUSTICE MOVEMENT*

of environmental injustice became known, the environmental justice movement expanded to encompass additional environmental issues, including access to parks and open space, exposure to toxic pesticides and contaminated fish, inequities in disaster preparedness and emergency response, and the development, management and use of natural resources in ways that disadvantage poor people and people of color.¹³

Analogous environmental movements in the Global South have engaged in grassroots struggles over pollution, over degradation of natural resources, and over access to the ecological necessities of life (food, water, and land).¹⁴ While the *types of environmental problems* addressed by these struggles have varied, what these movements have in common is the *types of communities* that have been involved—communities disadvantaged by high levels of poverty and by other forms of social marginalization.¹⁵ These communities view the environmental struggle as part of a larger struggle for social and economic justice.¹⁶

Indigenous peoples occupy an important and unique position in domestic and international environmental justice struggles. While indigenous peoples are often burdened by environmental hazards similar to those borne by other marginalized communities,

20–33 (2001) (describing the origins of the environmental justice movement in the United States).

¹³ See David H. Getches & David N. Pellow, *Beyond "Traditional" Environmental Justice*, in JUSTICE AND NATURAL RESOURCES: CONCEPTS, STRATEGIES, AND APPLICATIONS 3–5 (Kathryn M. Mutz et al. eds., 2002) (introducing the concept of environmental justice and discussing its evolution over time); CTR. FOR PROGRESSIVE REFORM, AN UNNATURAL DISASTER: THE AFTERMATH OF HURRICANE KATRINA 34–40 (Sept. 2005), http://www.progressivereform.org/articles/Unnatural_Disaster_512.pdf (discussing how environmental disasters have a particularly negative impact on the poor, using Katrina as an example).

¹⁴ See RAMACHANDRA GUHA, ENVIRONMENTALISM: A GLOBAL HISTORY 98–108 (2000) (describing environmental movements within poor communities outside of Western Europe and North America).

¹⁵ See *id.* at 105–06 (describing the particular characteristics of the “environmentalism of the poor”); Getches & Pellow, *supra* note 13, at 16–17 (proposing a working definition of environmental justice that expands the types of environmental justice issues, while narrowing the communities entitled to make environmental justice claims, namely poor people, people of color, and tribal communities).

¹⁶ See COLE & FOSTER, *supra* note 12, at 33 (“[M]ost environmental justice activists have a social justice orientation, seeing environmental degradation as just one of many ways their communities are under attack.”); GUHA, *supra* note 14, at 105 (“[Environmentalism of the poor] combines a concern for the environment with an often more visible concern for social justice.”).

indigenous peoples possess distinctive rights as the original inhabitants of colonized lands who retain their unique political and cultural identity.¹⁷ The primary demand of indigenous environmental movements has been territorial sovereignty and economic, political, and cultural self-determination.¹⁸ In the United States, for example, federally recognized Indian tribes exercise sovereign control over their territories, and environmental justice struggles have sought to protect and enhance tribal regulatory authority over land use, environmental protection, and economic development on reservation lands.¹⁹ At the international level, native peoples have sought recognition and protection under both domestic and international law of their rights to make decisions over the lands and natural resources that they have traditionally used and occupied.²⁰ Indigenous environmental movements have emphasized the unique spiritual, cultural, and economic relationship between native peoples and their ancestral territories as well as the importance of indigenous lands for economic and cultural survival.²¹

¹⁷ See Rebecca Tsosie, *Indigenous People and Environmental Justice: the Impact of Climate Change*, 78 U. COLO. L. REV. 1625, 1653-54 (2007) (explaining that indigenous peoples are distinctive because of their status as the "original" inhabitants of the lands they occupy and that their rights therefore cannot be coextensive with those of any other group).

¹⁸ See *id.* at 1629-33, 1652-56 (observing that "equality of status" as governments is the key environmental justice demand of native peoples rather than the "equality of citizenship" that has been emphasized by civil rights-based environmental justice movements on behalf of other poor communities and communities of color); Eric K. Yamamoto & Jen-L W. Lyman, *Racializing Environmental Justice*, 72 U. COLO. L. REV. 311, 333-41 (2001) (explaining why a one-size-fits-all environmental justice framework is a disservice to Native Americans).

¹⁹ See Sarah Krakoff, *Tribal Sovereignty and Environmental Justice*, in JUSTICE AND NATURAL RESOURCES, *supra* note 13, at 161-64 (describing the history and extent of Native American tribal sovereignty, and the environmental justice concerns that have arisen in relation to tribal lands).

²⁰ See S. James Anaya & Robert A. Williams Jr., *The Protection of Indigenous Peoples' Rights over Lands and Natural Resources under the Inter-American Human Rights System*, 14 HARV. HUM. RTS. J. 33, 34-38, 53-75 (2001) (discussing the achievements of the modern indigenous rights movement, including the recognition under international and domestic law of indigenous peoples' rights over their traditional lands and resources).

²¹ See Tsosie, *supra* note 17, at 1654-57 (arguing for indigenous rights to environmental self-determination based on territorial sovereignty, cultural relationship with the land, social justice or equal rights principles, and individual tribal members' rights to cultural survival); Rebecca Tsosie, *Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics, and Traditional*

Latin America has a long history of environmental justice struggles.²² The most prominent struggles are the efforts of indigenous peoples to resist the exploitation of their lands by extractive industries.²³ However, as trade liberalization increasingly threatens the livelihoods and natural resources of socially and economically disenfranchised communities, trade policy has emerged as an important environmental justice issue.²⁴ National and transnational organizations representing small farmers and indigenous peoples have been particularly active in Latin American debates and protests about trade policy.²⁵ Indeed, the Zapatista uprising of 1994 is an example of fierce opposition by indigenous communities to NAFTA and to the neoliberal

Ecological Knowledge, 21 VT. L. REV. 225, 274–86 (1996) (describing the elements of an indigenous land ethic). While recognizing the diversity among native peoples, Professor Tsosie integrates the literature on traditional indigenous world views and identifies four important aspects of indigenous communities' cultural and spiritual connection to the natural world:

a perception of the earth as an animate being; a belief that humans are in a kinship system with other living things; a perception of the land as essential to the identity of the people; and a concept of reciprocity and balance that extends to relationships among humans, including future generations, and between humans and the natural world.

Id. at 276.

²² See Peter Newell, *Contesting Trade Politics in the Americas: The Politics of Environmental Justice*, in ENVIRONMENTAL JUSTICE IN LATIN AMERICA: PROBLEMS, PROMISE, AND PRACTICE 49, 51 (David V. Carruthers ed., 2008) (recognizing Latin America's long history of environmental justice struggles, whether or not these struggles are described in such terms).

²³ See *id.* at 51 (explaining how trade liberalization has engendered conflicts with indigenous peoples and *campesinos* over access to lands and resources).

²⁴ See *id.* at 51–56 (describing the diverse social movements that have opposed trade liberalization in the Americas under the banner of environmental justice); see also INTERNATIONAL TRADE AND ENVIRONMENTAL JUSTICE (Alf Hornborg & Andrew K. Jorgenson eds., 2010) (examining the environmental consequences of international trade through an environmental justice paradigm); Carmen G. Gonzalez, *Beyond Eco-Imperialism: An Environmental Justice Critique of Free Trade*, 78 DENV. U. L. REV. 979 (2001) (using the framework of environmental justice to analyze the North-South distribution of the environmental costs of trade liberalization).

²⁵ See COURTNEY JUNG, THE MORAL FORCE OF INDIGENOUS POLITICS: CRITICAL LIBERALISM AND THE ZAPATISTAS 206–07 (2008) (describing the national and transnational alliances of indigenous and peasant organizations that have emerged in Latin America in opposition to globalization); Newell, *Contesting Trade Politics in the Americas*, *supra* note 22, at 56 (discussing the growing role of indigenous peoples' organizations in regional debates over trade policy).

development strategies that threaten indigenous lands, livelihoods, and lifeways.²⁶

In order to understand indigenous opposition to NAFTA, it is useful to examine the official Mexican policy toward indigenous peoples and their lands from the period of colonialism through the entry into force of NAFTA.

Mexico has over ten million indigenous inhabitants, a figure that represents ten to fourteen percent of the nation's population and nearly one-third of the indigenous population of Latin America.²⁷ Despite the formal equality bestowed by Mexican law, Mexico's native population suffers from high rates of poverty, malnutrition, and illiteracy.²⁸ In 1990, for example, eighty percent of indigenous Mexicans lived below the poverty line—as compared to only eighteen percent of their non-indigenous counterparts.²⁹

The subordinate status of Mexico's indigenous population is a function of a complex set of laws and policies that marginalized native communities and dispossessed them of their lands. Mexican policy toward indigenous communities can be divided into three distinct phases: the colonial era; the century from independence to the Revolution (1812-1910); and the post-Revolutionary period.³⁰

During the colonial era, the Spanish Crown secured indigenous acquiescence to the colonial project by recognizing indigenous land

²⁶ See Newell, *Contesting Trade Politics in the Americas*, *supra* note 22, at 57 (“Indeed, the Zapatista movement is in many ways a product of the effect of neo-liberal reforms on the rural poor in Mexico . . .”).

²⁷ See JUNG, *supra* note 25, at 107 (“Roughly 10 percent of Mexico’s population—just over 10 million people—are indigenous.”); DEBORAH J. YASHAR, *CONTESTING CITIZENSHIP IN LATIN AMERICA: THE RISE OF INDIGENOUS MOVEMENTS AND POSTLIBERAL CHALLENGE* 20-21 (2005) (explaining that ten to fourteen percent of Mexico’s population is indigenous and that approximately thirty percent of Latin America’s total indigenous population resides in Mexico); Derek A. Smith et al., *The Certification and Privatization of Indigenous Lands in Mexico*, 8 J. LAT. AM. GEOGRAPHY 175, 176 (2009) (“[T]he total number of indigenous people is likely at least 10 million people out of a total population of 103 million.”). Mexico’s indigenous population most likely exceeds official figures because Mexico has, until very recently, classified as indigenous only those who speak an indigenous language as opposed to those who self-identity as ethnically indigenous. See Fox & Rivera-Salgado, *supra* note 6, at 2.

²⁸ See JUNG, *supra* note 25, at 94-96, 107 (concluding that the Mexican government’s policy of “equality through assimilation” failed to improve the living standards of indigenous Mexicans).

²⁹ See *id.* at 107 (providing statistics on indigenous poverty, malnutrition, illiteracy, and lack of access to electricity and drinking water).

³⁰ *Id.* at 80.

rights and permitting indigenous communities a certain degree of autonomy.³¹ Nevertheless, the Indians were regarded as uncivilized, inferior beings in need of tutelage,³² and their lands were gradually appropriated by the colonizers through a variety of legal and extra-legal means.³³ By the end of the seventeenth century, the Spanish colonizers had acquired legal title to over half of Mexico's arable and grazing land.³⁴

After independence, the new legal order extended citizenship rights to all Mexicans and incorporated the semi-autonomous indigenous communities into municipal governments.³⁵ Mexican liberals sought to erase indigenous identity by promoting assimilation and miscegenation.³⁶ The government regarded communally held indigenous lands as obstacles to progress and proceeded to privatize these lands—producing an unprecedented concentration of landholding and an army of landless peasants.³⁷ By 1911, ninety-five percent of Mexico's rural population was landless.³⁸

The dispossession of Mexico's rural population and the consolidation of landholding in the hands of the rural elite laid the groundwork for the Mexican Revolution.³⁹ Both Emiliano Zapata

³¹ See *id.* at 82–83 (describing the Spanish colonial administration's policy of indigenous "autonomy").

³² See *id.* at 83 (explaining that, despite the "autonomy" given to indigenous communities, they were still seen as inferior and in need of special protection and were therefore denied equal legal status).

³³ See Willem Assies, *Land Tenure Regimes in Mexico: An Overview*, 8 J. AGRARIAN CHANGE 33, 36 (2008) (describing the various forms of expropriation of native lands by colonizers including: "mercedes (royal land grants), . . . *composiciones* (confirmations of *de facto* land occupation), sales or outright usurpation").

³⁴ *Id.*

³⁵ See JUNG, *supra* note 25, at 83–84 (explaining that the 1812 Mexican Constitution eliminated legal distinctions between indigenous and non-indigenous Mexicans and replaced indigenous "autonomy" with "ethnically blind municipal governments").

³⁶ See *id.* at 85 ("The . . . attitude toward Mexico's indigenous population was that it would soon disappear; it would be incorporated into the Mexican national identity through assimilation and miscegenation.").

³⁷ See *id.* at 86–87 (explaining how Indian lands, like church lands, were "entailed and held corporately"); Assies, *supra* note 33, at 37–38 (describing how indigenous land holdings were considered impediments to progress, leading to legal reforms that facilitated the acquisition of these lands by large landowners).

³⁸ JUNG, *supra* note 25, at 90.

³⁹ See *id.* at 87 (describing the Mexican Revolution as a "backlash against . . . the concentration of land in the hands of wealthy *hacendados* and foreigners.").

and Pancho Villa advocated the confiscation of the vast rural estates and the return of land to Mexico's impoverished rural dwellers.⁴⁰ Article 27 of the 1917 Mexican Constitution authorized the expropriation of large landholdings and introduced the *ejido* system as a means of returning land to indigenous communities and distributing land to the rural poor.⁴¹ *Ejido* land was communally owned land allocated by the state that could be inherited, but could not be rented, sold, or mortgaged.⁴² Although the land redistribution process was complicated and protracted, more than half of Mexico's lands belonged to *ejidos* by 1990.⁴³

Notwithstanding the significant material benefits conferred by the redistribution of land, the agrarian reforms stopped short of restoring the colonial-era administrative and political autonomy of indigenous communities.⁴⁴ Ruling elites continued to regard indigenous peoples as backward and inferior and promoted the "modernization" of the indigenous population through education, assimilation, and integration into Mexican *mestizo* culture—even as they exalted and romanticized Mexico's indigenous past.⁴⁵

⁴⁰ See *id.* (explaining that both Pancho Villa and Emiliano Zapato garnered support for the Mexican Revolution by championing the land rights of *campesinos*).

⁴¹ See MARIÁ TERESA VÁZQUEZ CASTILLO, LAND PRIVATIZATION IN MEXICO: URBANIZATION, FORMATION OF REGIONS, AND GLOBALIZATION IN *EJIDOS* 30–31 (2004) (explaining that Article 27 was enacted to regulate land ownership and redistribution in Mexico and how it enacted the *ejido* system to meet those goals). The full text of Article 27 of the 1917 Constitution is set forth in Volume V, No. 30 of the Mexican Constitution. Constitución Política de los Estados Unidos Mexicanos [C.P.], *as amended*, 150–51, Diario Oficial de la Federación [DO], Órgano del Gobierno Provisional de la República Mexicana, 5 de Febrero de 1917 (Mex.), available at <http://www.glin.gov/view.action?glinID=219102>.

⁴² See JUNG, *supra* note 25, at 89.

Ejido land was allocated by the state, could neither be bought nor sold, and was communally owned and farmed. *Ejido* land could be passed down to heirs, but if any individual or family was unable to farm his portion, . . . the land would pass along to another *ejido* member.

Id.; Pete Brown, *Institutions, Inequalities, and the Impact of Agrarian Reform on Rural Mexican Communities*, 56 HUMAN ORG. 102, 103 (1997) (explaining the restrictions on *ejido* lands).

⁴³ Brown, *supra* note 42, at 102.

⁴⁴ JUNG, *supra* note 25, at 92.

⁴⁵ See *id.* at 94–97 (discussing the development of Mexican indigenous policy); JOSEPH COTTER, TROUBLED HARVEST: AGRONOMY AND REVOLUTION IN MEXICO, 1880–2002, at 6–8 (2003) (describing the Mexican government's long-standing efforts to "modernize" peasant agriculture through a cultural campaign designed to transform the practices and beliefs of *campesinos*, indigenous communities, and

The next major shift in Mexican agricultural policy was the Green Revolution, which commenced in 1950 but had its roots in earlier efforts to “modernize” the agricultural sector with U.S. technical assistance.⁴⁶ Financed by the Ford and Rockefeller Foundations, the Green Revolution sought to reduce hunger by increasing food production through genetically uniform seeds that produced higher yields than traditional varieties in response to the application of controlled irrigation, chemical fertilizers, and pesticides.⁴⁷ While the Green Revolution was successful from the standpoint of food production, it primarily benefited wealthy farmers because poor farmers lacked the resources to purchase the improved seeds, agrochemicals, and irrigation equipment required to generate high yields.⁴⁸ Furthermore, as global agricultural output increased, agricultural commodity prices plummeted, thereby undermining the precarious livelihoods of small farmers and swelling the ranks of the rural poor.⁴⁹ Far from improving the well-being of the rural and indigenous communities that struggled alongside Emiliano Zapata and Pancho Villa, the Green Revolution triggered an exodus of poor farmers from the countryside to the shanty towns of Mexico’s cities and ultimately to the United States. Even the Mexican government’s massive investment in agricultural programs from 1970 to 1982 could not stop the mass migration.⁵⁰

other subalterns that the government and its technical personnel regarded as backward and inferior).

⁴⁶ See COTTER, *supra* note 45, at 233–79 (describing the origins and course of the Green Revolution).

⁴⁷ See GORDON CONWAY, *THE DOUBLY GREEN REVOLUTION: FOOD FOR ALL IN THE 21ST CENTURY* 44–65 (1997) (discussing the origins of the Green Revolution and evaluating its successes and failures); COTTER, *supra* note 45, at 251 (explaining that the Green Revolution sought to increase food production and to modernize Third World agriculture through high-yield seeds and agrochemicals); KEITH GRIFFIN, *ALTERNATIVE STRATEGIES FOR ECONOMIC DEVELOPMENT* 146–47 (2d ed. 1990) (discussing the high-yielding food grains developed and disseminated under the auspices of the Green Revolution).

⁴⁸ See COTTER, *supra* note 45, at 12 (“[M]ost *campesinos* could not use the new technologies because they required . . . irrigation, chemical fertilizers and pesticides, and the annual purchase of seed that they could not afford . . .”).

⁴⁹ See GRIFFIN, *supra* note 47, at 159–60 (discussing the mixed benefits of the early Green Revolution); Carmen G. Gonzalez, *Trade Liberalization, Food Security, and the Environment: The Neoliberal Threat to Sustainable Rural Development*, 14 *TRANSNAT’L L. & CONTEMP. PROBS.* 419, 443 (2004) (“Indeed, one of the major unintended consequences of the Green Revolution was the dispossession of many small farmers in the developing world.”).

⁵⁰ See COTTER, *supra* note 45, at 263, 301–03 (discussing the flight of *campesinos* to Mexican cities as a consequence of the Green Revolution).

The final stage of Mexico's agricultural transformation began with the debt crisis of 1982, which inaugurated decades of free market economic reforms that compromised the ability of the Mexican state to provide subsidies, credit, crop insurance, and other services to indigenous rural communities.⁵¹ The Mexican government adopted an export-oriented agricultural development strategy that favored large agro-exporters.⁵² Seeking yet again to "modernize" the agricultural sector, the government amended Article 27 of the Mexican Constitution in 1992 to permit the privatization of *ejidos* and to abolish the government's Constitutional obligation to redistribute land.⁵³ Viewing the abolition of land reform and the impending entry into force of NAFTA as threats to their economic and cultural survival, the Ejército Zapatista de Liberación Nacional (Zapatista National Liberation Army), a coalition of indigenous peasants in Chiapas, exploded into open rebellion.⁵⁴

One of the key demands of the Zapatista rebels was democratic dialogue over the changes to Article 27 and over NAFTA.⁵⁵ The Zapatistas pointed out that the privatization of the *ejidos* and the decision to enter into NAFTA had occurred without prior

⁵¹ See JUNG, *supra* note 25, at 138 (describing the neoliberal economic reforms adopted by the Salinas administration (1988–94) under pressure from the International Monetary Fund and the United States); Gutierrez, *supra* note 1, at 149–52 (explaining that the debt crisis of 1982 ushered in a series of free market reforms that eliminated state agricultural subsidies, price guarantees, and government assistance).

⁵² See Gisele Henriques & Raj Patel, *Agricultural Trade Liberalization and Mexico* 16 (Food First: Inst. for Food & Dev. Pol'y, Policy Brief No. 7, 2003) (discussing the Mexican government's shift in agricultural policy).

⁵³ See Assies, *supra* note 33, at 51–52 (summarizing the amendments to Article 27 of the Mexican Constitution). The revised text of Article 27 is set forth in the Constitución Política de los Estados Unidos Mexicanos [C.P.], *as amended*, Diario Oficial de la Federación [DO], 5 de febrero de 1917 (Mex.), *available at* <http://www.juridicas.unam.mx/infjur/leg/constmex/pdf/rc121.pdf>.

⁵⁴ See Marco Palau, *The Struggle for Dignity, Land, and Autonomy: The Rights of Mexico's Indigenous People a Decade After the Zapatista Revolt*, 36 COLUM. HUM. RTS. L. REV. 427, 437–41 (2005) (explaining the factors that precipitated the Zapatista uprising); David P. Kelly, *Trading Indigenous Rights: The NAFTA Side Agreements as an Impetus for Human Rights Enforcement*, 6 BUFF. HUM. RTS. L. REV. 113, 126–29 (2000) (describing the circumstances that led to the Zapatista revolt).

⁵⁵ See JUNG, *supra* note 25, at 198 (explaining that democratization was one of the eleven demands put forth by the Zapatistas on January 2, 1994).

consultation with indigenous and rural communities.⁵⁶ By calling for democratization, representation, and self-determination, the indigenous movement transcended the politics of patronage and sought instead to transform state-society relations.⁵⁷

Environmental justice advocates have long called for the democratization of trade policy and have demanded that trade negotiations be open to a wide variety of participants and points of view.⁵⁸ However, the technical nature of trade agreements and their grounding in economic theory can inhibit meaningful public participation. This Article seeks to promote debate over the purpose, pace, extent, and appropriateness of trade liberalization by examining the limitations of the economic theories that underlie contemporary trade agreements and by using the Mexican case study to ground the critique in social and economic reality. The Article does not purport to address all of the limitations of neoclassical trade theory or to break new ground in economic thought. Rather, the goal is to highlight several myths and misconceptions regarding the theory of comparative advantage that are particularly relevant to the plight of rural indigenous communities in the Americas.

3. THE THEORY OF COMPARATIVE ADVANTAGE: AN INTRODUCTION

The theory of comparative advantage plays a central role in legitimating both the ideology of free trade and the economic policy recommendations of the World Trade Organization ("WTO"), the World Bank, and the International Monetary Fund ("IMF").⁵⁹ Developed by David Ricardo, the theory of comparative advantage posits that each country should specialize in the goods that it produces relatively more efficiently and should import the

⁵⁶ See *id.* (quoting Comandante Tacho who described the Zapatistas' grievances and their demand for indigenous participation in national policy making).

⁵⁷ See *id.* at 200-01 (describing the demands of the Zapatista rebels).

⁵⁸ See Newell, *supra* note 22, at 59 ("[I]t is unsurprising that there have been calls to democratize trade policy in Latin America, to open it up to a plurality of participants, interests and agendas, and to revisit fundamentally the question of who and what trade is for.").

⁵⁹ See PAUL SAMUELSON, *ECONOMICS* 630 (11th ed. 1980) (illustrating the theory of comparative advantage); Michael H. Davis & Dana Neacsu, *Legitimacy, Globally: The Incoherence of Free Trade Practice, Global Economics and Their Governing Principles of Political Economy*, 69 U. MO.-K.C. L. REV. 733, 750-56 (2001) (explaining that the ideology and institutions of globalization depend upon the theory of comparative advantage for their legitimacy).

goods that it produces relatively less efficiently.⁶⁰ For example, countries with abundant natural resources and scarce capital should specialize in agricultural exports and should import manufactured goods.⁶¹ Furthermore, subsidies and tariffs are inefficient because they distort comparative advantage and encourage countries to produce goods in which they do not have a comparative advantage and which might be produced more cheaply elsewhere.⁶² In order to elucidate the relevance of the theory of comparative advantage to contemporary debates over trade policy, it is useful to summarize the ongoing controversy over international trade in agricultural products.

Global agricultural trade is currently distorted by high levels of protectionism in industrialized countries.⁶³ The lavish agricultural subsidies provided by the United States and the European Union to domestic farmers encourage overproduction and depress world market prices for agricultural commodities.⁶⁴ Many agricultural commodities are being sold in world markets at below the cost of production, thereby undermining the livelihoods of poor farmers in Asia, Africa, and Latin America.⁶⁵ For example, the United

⁶⁰ See DAVID RICARDO, ON THE PRINCIPLES OF POLITICAL ECONOMY AND TAXATION 133–34 (3rd ed. 1821), reprinted in 1 THE WORKS AND CORRESPONDENCE OF DAVID RICARDO 133–34 (Piero Sraffa ed., 1951) (explaining the theory). The theory of comparative advantage explains why it would be beneficial for two countries to engage in trade even though one of the countries might possess an absolute advantage (greater efficiency) in every item it produces. According to the theory of comparative advantage, the more efficient country is better served by specializing in the goods it produces most efficiently and importing the goods that it produces relatively less efficiently. For excellent examples of this proposition, see Alan O. Sykes, *Comparative Advantage and the Normative Economics of International Trade Policy*, 1 J. INT'L ECON. L. 49, 50–53 (1998).

⁶¹ But see Fred P. Gale, *Economic Specialization Versus Ecological Diversification: The Trade Policy Implications of Taking the Ecosystem Approach Seriously*, 34 ECOLOGICAL ECON. 285, 288–90 (2000) (explaining and critiquing the application of neoclassical trade theory's principle of specialization to natural resources).

⁶² See WILLIAM J. BAUMOL & ALAN S. BLINDER, ECONOMICS: PRINCIPLES AND POLICY 808–16 (7th ed. 1998) (describing the inefficiency of tariffs and subsidies).

⁶³ See U.N. DEV. PROGRAMME, HUMAN DEVELOPMENT REPORT 2005: INTERNATIONAL COOPERATION AT A CROSSROADS, AID, TRADE AND SECURITY IN AN UNEQUAL WORLD 129 (2005) [hereinafter UNDP, HUMAN DEVELOPMENT REPORT 2005] ("The problem at the heart of the Doha Round negotiations can be summarized in three words: rich country subsidies.").

⁶⁴ See *id.* at 130–32 (describing the protectionist agricultural policies of the United States and the European Union).

⁶⁵ See OXFAM INT'L, RIGGED RULES AND DOUBLE STANDARDS: TRADE, GLOBALISATION, AND THE FIGHT AGAINST POVERTY 114–17 (2002), available at http://www.maketrade-fair.com/assets/english/report_english.pdf (reviewing

States exports wheat, rice, corn, cotton, and soybeans at prices ranging from ten percent to forty-seven percent below the cost of production.⁶⁶ Moreover, tariffs on imported agricultural products imposed by industrialized countries limit the ability of developing country exporters to obtain access to the lucrative domestic markets of the United States, the European Union, and other developed nations.⁶⁷ According to the International Food Policy Research Institute, the revenue foregone by developing countries as a consequence of industrialized country subsidies and import barriers is \$24 billion per year.⁶⁸

Despite its stated objective of creating a "fair and market-oriented agricultural trading system," the WTO Agreement on Agriculture permits many of the subsidies and tariff barriers maintained by developed countries.⁶⁹ By contrast, many developing countries have been obligated to open their markets to foreign competition as a consequence of structural adjustment

data on trade subsidies and describing the negative economic, social, and environmental consequences of current policy); Sophia Murphy et. al., *WTO Agreement on Agriculture: A Decade of Dumping* (Inst. Agric. & Trade Pol'y, Paper No. 1, 2005), available at <http://www.iatp.org/iatp/publications.cfm?accountID=451&refid=48532> (analyzing the global effects of U.S. agricultural dumping).

⁶⁶ Murphy et al., *supra* note 65, at 2.

⁶⁷ See Carmen G. Gonzalez, *Institutionalizing Inequality: The WTO Agreement on Agriculture, Food Security, and Developing Countries*, 27 COLUM. J. ENVTL. L. 433, 460-63 (2002) (explaining how wealthy countries evaded the market access requirements of the Agreement on Agriculture and maintained high tariffs on agricultural products from developing country).

⁶⁸ XINSHEN DIAO ET AL., INT'L FOOD POL'Y RES. INST., HOW MUCH DOES IT HURT? THE IMPACT OF AGRICULTURAL TRADE POLICIES ON DEVELOPING COUNTRIES 2 (2003), available at <http://www.ifpri.org/sites/default/files/pubs/media/trade/trade.pdf>.

⁶⁹ Agreement on Agriculture pmbl., para. 2, Apr. 15, 1994, Annex 1A, 1867 U.N.T.S. 410 (1995) [hereinafter Agreement on Agriculture] (declaring that the objective of the agreement was "to establish a fair and market-oriented agricultural trading system"); see Gonzalez, *supra* note 67, at 459-68 (describing how the market access, export subsidy, and domestic subsidy provisions of the Agreement on Agriculture perpetuate many of the pre-existing distortions and inequities in world agricultural trade that favor agricultural producers in wealthy countries); OXFAM, DUMPING WITHOUT BORDERS: HOW US AGRICULTURAL POLICIES ARE DESTROYING THE LIVELIHOODS OF MEXICAN CORN FARMERS, 10-14 (Oxfam, Briefing Paper No. 50, 2003), available at http://www.oxfam.org.uk/resources/policy/trade/downloads/bp50_corn.pdf (describing how various aspects of U.S. agricultural policy undermine the stated purpose of the Agreement on Agriculture by strengthening the economic position of American agribusiness through production subsidies and export subsidies that are exempt from WTO restrictions).

programs mandated by the IMF and the World Bank pursuant to conditions in loan agreements.⁷⁰ The legal rules governing international agricultural trade have thus created a highly uneven playing field that permits protectionism in wealthy industrialized countries while imposing market openness in developing countries.⁷¹

Agricultural subsidies and import barriers continue to be one of the most contentious issues in the Doha Round of WTO negotiations.⁷² In September 2003, the WTO Ministerial Meeting in Cancun, Mexico, collapsed abruptly when developing countries walked out of the negotiations to protest the unwillingness of industrialized countries to reduce agricultural subsidies.⁷³ The negotiations came to a grinding halt again in 2008 as a consequence of unresolved disputes between developed and developing countries over agricultural trade.⁷⁴

Even the World Bank has expressed concern about the inequities in global agricultural trade, and has called for the elimination of agricultural subsidies and import barriers in both developed and developing countries as a means of enabling developing countries to combat poverty and to promote economic

⁷⁰ See Gonzalez, *supra* note 49, at 457-58 (explaining that the structural adjustment programs of the IMF and World Bank obligated developing countries to open their markets to foreign competition without requiring any reduction of the subsidies and import barriers maintained by developed countries).

⁷¹ See *id.* at 457-60, 463-64 (arguing that the neoliberal economic model is essentially a system of double standards imposed on poor countries by wealthy countries through which the latter maintain their economic dominance); Gonzalez, *supra* note 67, at 446-49, 459-68, 490 (contrasting agricultural policy in developed and developing countries and explaining that the Agreement on Agriculture enabled developed countries to maintain agricultural tariffs and subsidies while requiring market openness in developing countries); OXFAM INT'L, *supra* note 65, at 95-121 (supporting the double standard argument).

⁷² See James Kanter, *Hopes Fade For Deal to Cut Trade Barriers*, N.Y. TIMES INT'L, July 2, 2006, at A6 (explaining that conflicts over agricultural trade are the main sticking point in the Doha Round of WTO negotiations).

⁷³ See Elizabeth Becker, *Poorer Countries Pull Out of Talks Over World Trade*, N.Y. TIMES, Sept. 15, 2003, at A1 ("[D]elegates from Africa, the Caribbean and Asia walked out, accusing wealthy nations of failing to offer sufficient compromises on agriculture and other issues.").

⁷⁴ See Heather Stewart, *Tariffs: WTO Talks Collapse After India and China Clash with America Over Farm Products*, THE GUARDIAN, July 30, 2008, at 22, available at <http://www.guardian.co.uk/world/2008/jul/30/wto.india> (providing an account of the collapse of WTO negotiations due primarily to the United States' rejection of developing country proposals to protect small farmers from surges of low-price food imports).

development by capitalizing on their "comparative advantage" in agricultural production.⁷⁵ In short, World Bank analysts have advocated agro-export specialization as a viable development strategy provided that the "playing field" is "leveled" by reducing and eventually eliminating tariffs and import barriers.

Phasing out agricultural protectionism in developed countries will certainly produce benefits in developing countries, including higher incomes for farmers and enhanced export earnings, but these benefits are likely to be captured by a small number of countries that are already major agro-exporters, most notably, Argentina, Brazil, and China.⁷⁶ Small farmers will benefit the least because they lack the ability to compete with large-scale industrial agricultural producers who are well-integrated into global markets.⁷⁷ Rather than embracing agricultural trade liberalization in both developed and developing countries in accordance with the dictates of "comparative advantage," it is useful to critically examine the experiences of developing countries like Mexico in order to develop a more nuanced understanding of the theoretical and practical limitations of the theory of comparative advantage and of the policy prescriptions that emerge there from.

4. CASE STUDY: THE MEXICAN NEOLIBERAL ECONOMIC REFORMS

Beginning in 1982, Mexico embarked upon an economic restructuring that has profoundly affected the livelihoods of

⁷⁵ See M. Ataman Aksoy & John C. Beghin, *Introduction and Overview*, in *GLOBAL AGRICULTURAL TRADE AND DEVELOPING COUNTRIES* 1, 3 (M. Ataman Aksoy & John C. Beghin eds., 2005) ("[A] development strategy based on agricultural commodity exports is likely to be impoverishing in the current agricultural policy environment in which policymakers in many countries have mercantilist and protectionist reflexes that, when aggregated, compromise world trade in agricultural and food products."); WORLD BANK, *WORLD DEVELOPMENT REPORT 2008: AGRICULTURE FOR DEVELOPMENT* 11, 103-08, 117 (2007), http://siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf (providing details on the current and projected costs of existing agricultural trade policies and estimating the impacts of trade reform on both developed and developing countries).

⁷⁶ See Timothy A. Wise, *Promise or Pitfall? The Limited Gains from Agricultural Trade Liberalisation for Developing Countries*, 36 J. PEASANT STUDIES 855, 860-63 (2009) (suggesting that phasing out agricultural protectionism in developed countries will produce only small gains for developing countries as a whole and that these small gains will be concentrated in a limited number of developing countries).

⁷⁷ See *id.* at 863 (describing the limited gains small farmers can expect to achieve in the global economy).

millions of farmers in Mexico's poorest regions.⁷⁸ Mexico restructured its economy along neoliberal lines in response to pressure from the IMF and the World Bank, and subsequently accelerated this restructuring in its implementation of NAFTA as well as other bilateral and multilateral trade agreements.⁷⁹ This section examines the environmental justice implications of Mexico's neoliberal economic reforms by focusing on the effects of trade liberalization in the Mexican corn sector. Even though the Mexican economy is highly diversified, corn production plays an important role in the Mexican economy and Mexican society.⁸⁰ Corn is the staple of the Mexican diet, the source of livelihood for millions of Mexican farmers, and a product widely used in traditional medicine and in the religious ceremonies of local and indigenous communities.⁸¹ Thus, the Mexican corn sector serves as a useful vantage point from which to analyze the impact of trade liberalization on Mexico's rural indigenous population and on the natural resources upon which this population depends.

4.1. *The Significance of the Corn Sector in Mexico and the United States*

Corn has been cultivated in Mexico for thousands of years, and Mexican farmers currently cultivate over forty-one distinct landraces and thousands of corn varieties.⁸² Corn production alone utilizes sixty percent of Mexico's farmland, employs

⁷⁸ See Henriques & Patel, *supra* note 52, at 7–8, 14–17 (outlining the events leading up to Mexico's embrace of the neoliberal economic model and describing Mexico's trade agreements since 1982).

⁷⁹ See *id.* at 22 (describing Mexico's liberalized trade policies).

⁸⁰ See *id.* at 24 (explaining that corn is the single most important commodity in Mexico because it is the country's staple food crop, a major source of employment, and a crop that accounts for sixty percent of cultivated land).

⁸¹ See *id.*; Alejandro Nadal, *Zea Mays: Effects of Trade Liberalization of Mexico's Corn Sector*, in GREENING THE AMERICAS: NAFTA'S LESSONS FOR HEMISPHERIC TRADE 143, 158 n.2 (Carolyn L. Deere & Daniel C. Esty eds., 2002) (describing the various ways that corn is used in the cuisine and religious rituals of Mexican communities); Raj Patel & Gisele Henriques, *NAFTA, Corn, and Mexico's Agricultural Trade Liberalization*, INTERHEMISPHERIC RES. CTR. (IRC) (Feb. 13, 2004), <http://www.cipamericas.org/archives/1009> (outlining the socio-economic importance and historic role of corn in Mexican society).

⁸² See ALEJANDRO NADAL, OXFAM & WORLD WILDLIFE FUND INT'L, THE ENVIRONMENTAL & SOCIAL IMPACTS OF ECONOMIC LIBERALIZATION ON CORN PRODUCTION IN MEXICO 4 (2000), available at <http://ase.tufts.edu/gdae/Pubs/rp/NadalOxfamWWFMaizeMexico2000.pdf> (discussing the background and history of Mexico's corn production).

approximately three million farmers (eight percent of the Mexican population and forty percent of agricultural workers), and has a direct impact on Mexico's environment (particularly soil conservation, water quality and quantity, and agrochemical use).⁸³ While Mexico does possess modern, industrial corn farms in the northern states of Sonora and Sinaloa, most of Mexico's corn production comes from traditional landraces cultivated by peasant farmers in southern Mexico from seeds that they save from their own crops or obtain from neighbors.⁸⁴ These seeds are bred to withstand different environmental conditions (such as humidity, frost, drought, heavy rainfall, variable soil quality, pests, and wind).⁸⁵ Sowing different varieties of corn with different characteristics enables farmers to adapt seeds to local conditions and to diversify their risk in the event of crop failure.⁸⁶ This *in situ* conservation of genetic diversity is critical for global food security and provides plant breeders with the genetic resources with which to develop new varieties that will meet the world's food needs in the twenty-first century.⁸⁷

⁸³ *Id.* at 4, 11, 43.

⁸⁴ See Alejandro Nadal & Timothy A. Wise, *The Environmental Costs of Agricultural Trade Liberalization: Mexico-U.S. Maize Trade Under NAFTA* 4-5, 16-17 (Working Grp. on Dev. and Env. in the Ams., Discussion Paper No. 4, June 2004), <http://ase.tufts.edu/gdae/Pubs/rp/DP04NadalWiseJuly04.pdf> (noting that although Sinaloa's share of national production increased dramatically during the 1990s, much of Mexico's corn is produced by peasant farmers, despite great variation in their use of modern industrial farming methods and interaction with commercial markets).

⁸⁵ See Nadal, *supra* note 81, at 144-45 (explaining that corn has "extraordinary adaptive capabilities" and can be cultivated in a wide range of climate and soil conditions).

⁸⁶ See *id.* at 144 (discussing how farmers hedge risk by planting low yielding, early maturing corn as well as high-yielding, late maturing corn in order to deal with changing economic and climate conditions, and noting that some communities regularly plant at least eight different varieties of corn).

⁸⁷ See NADAL, *supra* note 82, at 4-5, 11 (noting the importance of genetic diversity for the survival of Mexican producers and for meeting the world's food demand in the twenty-first century). Genetically diverse crops enhance the resilience of agro-ecosystems because some varieties are better able to resist pests, disease, and adverse weather conditions to which other varieties might succumb. The dangers of genetic uniformity are best illustrated by the Irish potato famine, which resulted in the death of two million people and the migration to the United States of an additional two million. Because the Irish potato crop was genetically uniform, a single infestation was sufficient to produce widespread devastation. Regrettably, the dramatic erosion of the world's crop genetic diversity has rendered our food system increasingly vulnerable to catastrophic loss. See also CARY FOWLER & PATRICK R. MOONEY, *SHATTERING: FOOD, POLITICS, AND THE LOSS OF*

Cultivation of traditional landraces takes place in Mexico's poorest regions and most marginal lands, where seeds have been adapted over generations for properties not available in high-yield genetically-uniform varieties.⁸⁸ These regions of genetic diversity are also the areas in Mexico with the highest levels of cultural diversity.⁸⁹ The southeastern Mexican states of Oaxaca, Guerrero, and Chiapas, where traditional cultivation methods prevail, are disproportionately poor and disproportionately populated by indigenous communities.⁹⁰ Regrettably, traditional corn farmers are not compensated for their valuable stewardship of genetic diversity in this extremely important food crop; nor are they compensated for producing corn in ways that are less chemical-intensive than corn production in the United States or in the large, mechanized farms in northern Mexico.⁹¹ The market price of Mexican corn does not reflect the positive social and environmental externalities associated with its production.

In the United States, corn is a valuable export commodity. The United States is the world's leading producer and exporter of corn, and corn represents roughly nine percent of the value of all U.S. agricultural output.⁹² Corn is produced in the United States at approximately forty percent below the cost of production in Mexico, and U.S. yields are significantly higher than Mexican yields.⁹³ There are several reasons for these disparities. First, U.S. agricultural producers are highly subsidized—with benefits

GENETIC DIVERSITY 41–53, 82–89 (1990) (explaining the importance of genetic diversity to the security of the world's food supply).

⁸⁸ See Nadal & Wise, *supra* note 84, at 21–22 (“Traditional agricultural practices tend to prevail in more marginal environments, where native landraces have been selected over the generations to provide unique advantages not available in high-yield hybrid seeds.”).

⁸⁹ See *id.* at 21 (explaining how the southeastern region of Mexico's cultural diversity mirrors the diversity of seed used by farmers in this region).

⁹⁰ See *id.* at 21–22 (“[I]ndigenous farmers concentrated in the southeastern section of the country tend to use the widest diversity of seeds while also suffering the highest levels of poverty and marginalization. . . . The southeastern states of Oaxaca, Guerrero, and Chiapas tend to be dominated by traditional production methods.”).

⁹¹ See *id.* at 26 (explaining that Mexican corn farmers are not compensated for their stewardship of genetic diversity).

⁹² *Id.* at 4.

⁹³ See NADAL, *supra* note 82, at 5 (comparing corn production costs and yields in Mexico and the United States).

disproportionately accruing to the richest farmers and to agricultural exporters like Cargill and Archer Daniels Midland.⁹⁴ As Professors Alejandro Nadal and Timothy Wise point out, "[c]orn is one of the most heavily subsidized crops in the United States, with subsidies accounting for some 46% of farm income in the sector."⁹⁵ As a consequence of these subsidies, U.S. corn is exported at prices significantly below the cost of production, thereby undercutting corn farmers in Mexico.⁹⁶ Second, the United States produces more corn per hectare than Mexico because it uses mechanized production methods in the wide-open fields of the U.S. Midwest.⁹⁷ By contrast, eighty percent of Mexican corn is grown in mountainous, rain-fed areas that cannot be cultivated by mechanized means.⁹⁸ Finally, U.S. corn is produced using large amounts of toxic agrochemicals and aquifer-depleting irrigation systems.⁹⁹ Because the price of U.S. corn does not include the negative environmental impacts associated with these cultivation techniques, U.S. corn is under-priced relative to its true cost of production.¹⁰⁰

⁹⁴ See OXFAM, *supra* note 69, at 9-14 (discussing the magnitude of U.S. support for the corn sector and explaining that large grain traders such as Cargill and Archer Daniels Midland disproportionately benefit from this support); Henriques & Patel, *supra* note 52, at 24 (explaining that U.S. corn production is highly subsidized and that these subsidies depress world market corn prices); RAJ PATEL & SANAZ MEMARSADEGHI, FOOD FIRST, AGRICULTURAL RESTRUCTURING AND CONCENTRATION IN THE UNITED STATES: WHO WINS, WHO LOSES? 6, 18-19 (Inst. for Food & Dev. Pol'y, Policy Brief No. 6, 2003), available at <http://www.foodfirst.org/files/pdf/pb6.pdf> (explaining that U.S. agricultural subsidies disproportionately benefit wealthy farmers and facilitate the acquisition of small operations by larger farmers and agribusiness).

⁹⁵ Nadal & Wise, *supra* note 84, at 15.

⁹⁶ See *id.* (describing the effects of low prices on Mexican corn farmers).

⁹⁷ See Henriques & Patel, *supra* note 52, at 25 (explaining that U.S. corn production is highly mechanized and occurs in the flatlands of the Midwest).

⁹⁸ See *id.* ("Mexico's steep and mountainous terrain makes it difficult to introduce mechanized production.").

⁹⁹ Nadal & Wise, *supra* note 84, at 7-12 (discussing the use of fertilizer, pesticides, and irrigation in U.S. corn farming).

¹⁰⁰ See *id.* at 26 (explaining that U.S. corn producers are not obligated to internalize the environmental costs of chemical-intensive cultivation methods).

4.2. Background to the Mexican Neoliberal Economic Reforms

In order to evaluate the impact of NAFTA on the Mexican corn sector, it is important to place this agreement and the economic strategy of which it is a part in historical context. From the 1930s until the beginning of the 1980s, Mexico followed an economic strategy of import substitution industrialization ("ISI"), whereby the Mexican state protected both agriculture and industry through tariffs and quotas on imports.¹⁰¹ The objective of ISI is to diversify and industrialize the economic base of agro-exporting developing countries by promoting the establishment of firms within the local economy that can produce the manufactured goods that the country imports.¹⁰² ISI enables developing countries to *create* new comparative advantages in dynamic economic sectors (such as manufacturing), to protect the new industry for a specified period through tariffs or quantitative restrictions on imports (infant industry protection), and, ultimately, to export the products of the new industry in lieu of traditional agricultural exports.¹⁰³ For example, the Mexican chemical, automobile and metalworking industries were the main beneficiaries of import substitution in the 1970s, and they began to export ten to fifteen percent of their production in the 1980s.¹⁰⁴ While promoting ISI in the industrial sector, the Mexican government protected the livelihoods of small farmers (including corn producers) through price supports, subsidies for agricultural inputs (such as fertilizers and machinery), credit, and insurance.¹⁰⁵

Mexico's economic policies shifted in the 1980s as a consequence of the debt crisis of 1982 and of the structural adjustment policies imposed by the IMF and the World Bank in the

¹⁰¹ See Henriques & Patel, *supra* note 52, at 16 (describing Mexico's economic development strategy and the use of ISI until 1982).

¹⁰² See JAMES M. CYPHER & JAMES L. DIETZ, *THE PROCESS OF ECONOMIC DEVELOPMENT* 271-76 (1997) (discussing the early stages of ISI).

¹⁰³ See *id.* at 276-80, 300-03 (explaining why ISI is needed and discussing the later stages of ISI).

¹⁰⁴ ALICE H. AMSDEN, *THE RISE OF 'THE REST': CHALLENGES TO THE WEST FROM LATE-INDUSTRIALIZING ECONOMIES* 171 (2001).

¹⁰⁵ See Henriques & Patel, *supra* note 52, at 16 ("Mexico followed an import substitution strategy to industrialization (ISI), which protected national industry and agriculture For agriculture this meant: price supports to producers of staple crops, subsidies for agricultural inputs such as fertilizers and machinery, credit and insurance.").

context of debt restructuring.¹⁰⁶ In order to obtain the foreign exchange earnings with which to service the foreign debt, Mexico abandoned ISI and adopted an export-oriented industrialization strategy, whereby subsidies were targeted to industries likely to become successful exporters.¹⁰⁷ In the agricultural sector, Mexico subsidized large agro-exporters rather than small farms, thus fostering the growth of agribusiness.¹⁰⁸ Other elements of the neoliberal economic model were also adopted, including opening the economy to foreign competition by reducing tariffs and quantitative restrictions on imports, privatization of certain economic sectors, reduction of state involvement in the economy, and fiscal austerity.¹⁰⁹ Mexico underscored its commitment to neoliberal economic reforms by becoming a party to the General Agreement on Tariffs and Trade in 1986, to NAFTA and the WTO in the 1990s, and to numerous other bilateral and multilateral trade agreements.¹¹⁰

4.3. NAFTA, Comparative Advantage, and the Mexican Corn Sector

One of NAFTA'S key objectives was to facilitate the free flow of goods and services in order to permit each NAFTA member to capitalize on its comparative advantage without the distortions produced by tariffs, subsidies, and non-tariff barriers.¹¹¹ While NAFTA *encouraged* countries to reduce domestic agricultural subsidies, it imposed no binding subsidy reduction obligations

¹⁰⁶ See *id.* at 14–16 (describing Mexico's economic policies in the 1980s).

¹⁰⁷ See *id.* (examining Mexico's shift from ISI to export-oriented development).

¹⁰⁸ See *id.* (explaining how Mexico's free market economic reforms paved the way for agribusiness).

¹⁰⁹ See *id.* at 16 ("The liberalization of the market was part of a mix of policies that emphasized particular economic and monetary practices. These range from fiscal discipline, price stability, balance of external accounts, decreases in state involvement, privatization of certain sectors of the economy, support for export-led production, and sustained growth.").

¹¹⁰ See *id.* (explaining how Mexico's participation in NAFTA and other multilateral trade agreements demonstrates its underlying dedication to liberalization).

¹¹¹ See *id.* at 18 ("As with all of the free trade agreements, NAFTA aims, in principle, to capitalize on the comparative advantage of the three countries and establish trade regulations that allow for the free flow of goods in the region."); North American Free Trade Agreement art. 102, U.S.-Can-Mex., Dec. 17, 1992, 32 I.L.M. 289 (1993) [hereinafter NAFTA] (specifying the objectives of NAFTA).

beyond those contained in GATT/WTO commitments.¹¹² However, NAFTA explicitly required the elimination of most agricultural tariffs by 2004.¹¹³ In light of the importance of corn production to the Mexican economy, Mexico negotiated a fifteen-year transition period, during which existing import barriers would be transformed into a tariff-rate quota regime.¹¹⁴ Under the tariff-rate quota regime, a specific amount of U.S. corn would enter the Mexican market each year tariff-free (with the tariff-free amount expanding at the rate of three percent per year), while the remainder would be charged the applicable tariff, which would be reduced from 206% in 1994 to zero by 2008.¹¹⁵ Mexico proposed to gradually replace price supports for its corn farmers with less trade-distorting forms of support (such as direct income support, credit, and infrastructure investments), and reassured corn producers that they would receive adjustment assistance during the fifteen-year transition period.¹¹⁶

In practice, the Mexican government phased out tariffs over a period of thirty months (January 1994 to August 1996) rather than fifteen years, and permitted U.S. corn to enter the Mexican market virtually tariff-free beginning in 1996, resulting in an exponential increase in U.S. corn exports to Mexico.¹¹⁷ By the year 2000,

¹¹² See NAFTA, *supra* note 111, art. 704 (“[W]here a Party supports its agricultural producers, that Party should endeavor to work toward support measures that: a) have minimal or no trade distorting or production effects; or b) are exempt from any applicable domestic support reduction commitments that may be negotiated under the GATT.”).

¹¹³ See *id.* art. 302(2) (“[E]ach Party shall progressively eliminate its customs duties on originating goods in accordance with its Schedule to Annex 302.2.”).

¹¹⁴ See Henriques & Patel, *supra* note 52, at 18 (discussing how tariff rate quotas (“TRQ”) were applied to “sensitive” products, such as corn).

¹¹⁵ *Id.* at 33; see JUAN RIVERA ET AL., NAFTA AND THE CAMPESINOS: THE IMPACT OF NAFTA ON SMALL-SCALE AGRICULTURAL PRODUCERS IN MEXICO AND THE PROSPECTS FOR CHANGE 91 (2009) (explaining the tariff-rate quota regime for U.S. corn imports); Nadal, *supra* note 81, at 146 (describing the fifteen-year transition period in which Mexico had to align their corn prices with international prices).

¹¹⁶ See Nadal, *supra* note 81, at 146–47 (discussing the Mexican government’s official pronouncements during the NAFTA negotiations).

¹¹⁷ See *id.* at 149 (“Mexico’s planned 15-year transition period for the corn/agricultural sector was compressed to roughly 30 months.”); Henriques & Patel, *supra* note 52, at 32; Nadal & Wise, *supra* note 84, at 5–6. Mexican officials justified the decision to allow U.S. corn to enter the Mexican market virtually free of tariffs beginning in 1996 as a means of controlling corn prices and thereby keeping inflation under control. However, the revenues foregone by the Mexican

Mexico had become the second largest export market for U.S. corn after Japan.¹¹⁸ By 2006–2008, U.S. corn exports to Mexico had quadrupled relative to pre-NAFTA levels.¹¹⁹ Because U.S. corn prices are significantly lower than Mexican prices, the elimination of tariff barriers on U.S. imports caused real corn prices in Mexico to plummet.¹²⁰ This catastrophic drop in corn prices coincided with the Mexican government's almost complete elimination of subsidies and price supports for the agricultural sector.¹²¹ The Mexican government abolished its program of subsidized credit, dismantled the government agency responsible for providing price support, and reduced its investment in technological improvements, such as irrigation.¹²² The Mexican government restructured its assistance to the agricultural sector to focus on modern, export-oriented farms rather than small producers.¹²³

Mexican government officials were concerned that Mexican subsidies to corn farmers depleted the country's fiscal reserves and prevented the country from realizing its comparative advantage in

government as a result of the failure to implement the TRQ system have been estimated at two billion dollars. Mexican officials claimed that implementing the TRQ system would have raised tortilla prices and generated pressure to increase consumer subsidies. Thus, they argued, the tariff losses cancelled out the losses that would have been incurred through higher consumer subsidies. Unfortunately, subsequent events do not support the Mexican officials' contention. The domination of the tortilla market by two producers resulted in increased tortilla prices even as corn prices plummeted in the aftermath of NAFTA. See NADAL, *supra* note 82, at 26–27, 39.

¹¹⁸ Nadal & Wise, *supra* note 84, at 7.

¹¹⁹ See Timothy A. Wise, *Agricultural Dumping Under NAFTA: Estimating the Costs of U.S. Agricultural Policies to Mexican Producers* 4 (Global Dev. & Env't. Inst., Working Paper No. 09–08, 2009), available at <http://ase.tufts.edu/gdae/Pubs/wp/09-08AgricDumping.pdf> (explaining that U.S. corn exports to Mexico rose 413% between 1990–1992 and 2006–2008).

¹²⁰ See *id.* at 19 (“[W]ith the surge in [American] imports there was a 66% drop in real producer prices from the early 1990s to 2005 . . .”).

¹²¹ See Nadal & Wise, *supra* note 84, at 17–19 (explaining the Mexican government's dramatic reduction of subsidies, credit, irrigation and other forms of assistance to small farmers in the aftermath of NAFTA); NADAL, *supra* note 82, at 5, 28–31 (describing the declining state support for agriculture that accompanied the post-NAFTA drop in corn prices); James C. McKinley Jr., *Where Poverty Drove Zapatistas, the Living Is No Easier*, N.Y. TIMES, Sept. 11, 2005, at A12 (“[G]overnment crop subsidies and supports have disappeared, erasing any gain from new welfare programs.”).

¹²² Nadal & Wise, *supra* note 84, at 17–18.

¹²³ See *id.* at 18 (discussing government efforts to promote modern, export-oriented corn production while reducing government support to small farmers).

other crops and in non-agricultural sectors of the economy.¹²⁴ Indeed, Mexico's NAFTA negotiators hoped that two-thirds of Mexican corn farmers would shift from corn production to these other crops and sectors.¹²⁵ Mexico agreed to open its markets to corn imports from the United States in exchange for greater access to U.S. and Canadian markets for labor-intensive crops (such as vegetables, nuts, fruits, and coffee) in which Mexico enjoyed a comparative advantage due to lower labor costs.¹²⁶

4.4. *Impact of Trade Liberalization in the Mexican Corn Sector*

Contrary to the expectations of Mexico's NAFTA negotiators, corn production in Mexico remained stable despite the drastic decline in corn prices, and even experienced a slight increase.¹²⁷ There are several reasons for this paradox. First, lacking governmental financial assistance (subsidies, credit, and technology) to switch to other crops, many farmers had no alternative but to increase corn production in order to stabilize income levels.¹²⁸ Farmers boosted production by increasing pesticide and fertilizer use or by expanding the land under cultivation.¹²⁹ Second, farmers' decision to continue producing corn rather than switching to other crops (such as fruits and vegetables) was based on many additional variables, including market prices for these crops (which declined as a consequence of trade liberalization), stringent product quality standards in U.S. and Canadian markets, availability of suitable land and inputs, and the cost of processing, packaging, and transportation.¹³⁰ Finally, subsistence farmers may have been reluctant to abandon corn production because corn is a dietary staple strongly associated

¹²⁴ Nadal, *supra* note 81, at 145–46.

¹²⁵ *Id.* at 146.

¹²⁶ *Id.*

¹²⁷ See Henriques & Patel, *supra* note 52, at 27 (“In theory, producers should . . . cease to grow corn because it is no longer profitable. But . . . production has remained stable, even increasing slightly after NAFTA.”).

¹²⁸ *Id.* at 28.

¹²⁹ *Id.*

¹³⁰ See *id.* (summarizing the factors that have an impact on farmers' decision-making); Nadal, *supra* note 81, at 156 (listing factors influencing corn producers' decisions).

with Mexican culture and with the maintenance of traditional and indigenous rural lifeways.¹³¹

It is important to recognize the heterogeneity of Mexican farmers when evaluating the socioeconomic and environmental effects of trade liberalization in the Mexican corn sector. In general, the literature on the Mexican corn sector recognizes three distinct groups of farmers: (1) large, export-oriented mechanized agricultural producers; (2) intermediate farmers who produce for local and regional markets but also for household consumption; and, (3) small subsistence farmers who consume most of what they produce but sell some portion of their output in order to cover basic household expenses, such as education and healthcare.¹³²

Large, export-oriented farmers (primarily in the arid northern states of Sonora and Sinaloa) responded to the drop in corn prices by expanding corn production through greater use of pesticides, fertilizers, and irrigation water (often at unsustainable levels).¹³³ Even though these farmers had the financial and technical wherewithal to switch to other crops, they failed to do so because the price of other crops was often lower than the price of corn.¹³⁴ Moreover, some analysts suggest that Mexico "has probably already maximized its penetration of the North American market" for horticultural crops, such as fruits and vegetables.¹³⁵ The ecological consequences of increased corn production included depletion of aquifers, salinization, and accumulation of chemical

¹³¹ See Henriques & Patel, *supra* note 52, at 28 (discussing the use of corn in "cultural rituals, ceremonies and religious services"); Nadal, *supra* note 81, at 156 (noting that social and cultural preferences influence farmers' economic decisions).

¹³² See Henriques & Patel, *supra* note 52, at 29-30 (describing three distinct profiles of corn producers and the impact trade liberalization had on them); NADAL, *supra* note 82, at 6-9 (providing an overview of the environmental and social consequences of NAFTA-led liberalization on competitive, intermediate, and subsistence corn producers).

¹³³ See Nadal & Wise, *supra* note 84, at 16 (listing the consequences of the increase in industrial agricultural production, including "high chemical use, with its accompanying environmental impacts [and] unsustainable water use for heavily irrigated farms").

¹³⁴ See NADAL, *supra* note 82, at 6 ("As corn prices dropped, so did most of the prices for possible substitute crops. Except for beans, cotton and soybean, other crops such as barley, rice, sorghum and wheat, maintained lower prices than corn, so that corn remained relatively more profitable.").

¹³⁵ *Id.* at 7.

residues in soil, pollution of lakes and rivers, and increased human exposure to toxic agrochemicals.¹³⁶

Intermediate farmers generally maintained more or less stable corn output, but experienced lost profits due to the drop in corn prices.¹³⁷ The economic stress occasioned by lower corn prices and the elimination of government subsidies caused many intermediate farmers to reduce their use of hired laborers.¹³⁸ This, in turn, produced job loss among poorer subsistence farmers struggling to supplement their income with wage labor, and increased the pressure to migrate.¹³⁹ The declining use of hired labor may have also impeded the ability of intermediate farmers to maintain the practices and structures that prevent soil erosion, such as terracing, hedging, ground cover crops, mulching, and minimum tillage.¹⁴⁰

Finally, small subsistence farmers suffered extreme economic hardship as a consequence of declining corn prices and the elimination of government subsidies.¹⁴¹ The sudden drop in corn prices deprived these farmers of the cash income necessary to obtain basic necessities for themselves and for their families, such as medical care, school supplies, and foods not produced on the farm.¹⁴² Ironically, the decline in corn prices was not accompanied by a decrease in the price of tortillas, a dietary staple. On the contrary, tortilla prices increased three-fold in real terms between 1994 and 1999 as a consequence of the oligopolistic domination of the corn flour industry by two Mexican corporations.¹⁴³ Because it

¹³⁶ See Nadal & Wise, *supra* note 84, at 16. See generally NADAL, *supra* note 82, at 6–9 (discussing the negative environmental consequences resulting from the different farming practices of distinct types of producers).

¹³⁷ See NADAL, *supra* note 82, at 7 (“For the time being, intermediate producers have remained strong market participants and continue to engage in corn production.”).

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ See Nadal, *supra* note 81, at 156–57 (discussing the impact of plummeting corn prices on subsistence farmers).

¹⁴² See OXFAM, *supra* note 69, at 6–8 (highlighting the plight of Mexican subsistence farmers).

¹⁴³ See *id.* at 18.

The most stark example of the gap between the winners and the losers is the tortilla and flour sector, and its two main companies Maseca and Minsa. These two companies . . . command a dominant position in the tortilla and flour processing industries, as a result of their political

became cheaper to grow corn rather than to purchase tortillas and other corn products on the market, many subsistence farmers increased corn production by bringing marginal lands under cultivation.¹⁴⁴ The environmental consequences included "soil erosion, deforestation, and encroachment on biosphere reserves and other protected areas across Mexico."¹⁴⁵

The poverty and desperation produced by the collapse of Mexican corn prices caused many subsistence farmers to migrate to northern Mexico or to the United States in order to earn the cash necessary to support their families.¹⁴⁶ Indeed, from 1990 to 2000, the highest levels of out-migration in Mexico occurred in the regions with the highest levels of cultural diversity and corn agrobiodiversity.¹⁴⁷ This exodus of able-bodied male workers is fracturing families, leaving fields unplanted, and forcing women and children to work the land and to seek off-farm employment in order to supplement the family's income.¹⁴⁸ Unfortunately, many of these rural migrants have been unable to find employment in Mexico's urban areas because trade liberalization under NAFTA failed to create sufficient manufacturing jobs to keep pace with the

connections with the governments that have managed the liberalization of the sector.

Id.; NADAL, *supra* note 82, at 39 (finding that the tortilla "market is not competitive and the producers therefore have considerable power to set profit-maximizing prices.").

¹⁴⁴ See NADAL, *supra* note 82, at 8 (describing how subsistence corn producers often farm under "difficult conditions of inferior soil, sloping terrain, irregular rainfall, and small landholdings").

¹⁴⁵ Nadal, *supra* note 81, at 157.

¹⁴⁶ See *id.*; Henriques & Patel, *supra* note 52, at 36-37 (discussing migration's adverse impact on rural farming communities); McKinley, *supra* note 121, at A12 (noting that growing corn has become such a money-losing venture that farmers grow only enough for subsistence and let their other fields lie fallow); Nadal & Wise, *supra* note 84, at 25 (discussing how internal migration often precedes migration to the United States).

¹⁴⁷ See Nadal & Wise, *supra* note 84, at 25 tbl.3 (depicting the relationship between corn crop diversity, poverty, and migration). Because the cost of migrating to the United States is high, poor farmers typically migrate to other regions of Mexico (such as the horticultural fields in northern Mexico) in order to earn the money necessary to migrate to the United States. *Id.*

¹⁴⁸ See Bill Lambrecht, *Mexican Farmers Forced from Fields by Low Prices*, ST. LOUIS POST-DISPATCH, Oct. 30, 2005, at 14 (discussing how the exodus of men forces women and children to plant and tend the corn fields); OXFAM, *supra* note 69, at 7-8 (noting that when women are forced to engage in wage labor they often lack the time to grind corn flour for tortillas, which forces them to rely on low-quality commercial flour).

rural exodus.¹⁴⁹ At least 500,000 Mexican workers migrate to the United States every year, many of them from Mexico's impoverished rural areas.¹⁵⁰ Indeed, approximately two-thirds of the estimated twelve million undocumented workers in the United States came after 1995 and many are regarded as casualties of NAFTA.¹⁵¹ Recognizing the relationship between U.S. agricultural trade policy and immigration, a New York Times editorial acknowledged that "ending subsidies for agribusiness would be far more effective than beefing up the border patrol."¹⁵²

Migration also has important cultural, environmental, and economic consequences in Mexico and poses risks to global food security. Mexico's impoverished, indigenous peasants are the custodians of Mexico's genetically diverse varieties of corn. This genetic diversity protects farmers from catastrophic crop loss in the event of environmental disturbances and is also vital to global food security. The out-migration of farmers with traditional knowledge or experience may disrupt the transfer of this knowledge to future generations, leading to the replacement of traditional corn varieties with other crops or with commercial high-yield corn varieties, or, alternatively, to the abandonment of farming altogether.¹⁵³ In short, the migration of Mexican farmers threatens Mexico's genetic

¹⁴⁹ See AUDLEY ET AL., *supra* note 2, at 16–17, 20 (discussing how manufacturing employment under NAFTA has not improved commensurate with the increase in manufacturing output); KEVIN P. GALLAGHER & LYUBA ZARSKY, GLOBAL DEV. & ENV. INST., SUSTAINABLE INDUSTRIAL DEVELOPMENT? THE PERFORMANCE OF MEXICO'S FDI-LED INTEGRATION STRATEGY 44–47 (Feb. 2004), <http://ase.tufts.edu/gdae/pubs/rp/mexicofdireport11-03.pdf> (arguing that insufficient new manufacturing jobs have been created to keep pace with new entrants into the workforce and the jobs that have been created are of low quality).

¹⁵⁰ See JEFFREY S. PASSEL, PEW HISPANIC CTR., THE SIZE AND CHARACTERISTICS OF THE UNAUTHORIZED MIGRANT POPULATION IN THE U.S. 4 (2006), <http://pewhispanic.org/files/reports/61.pdf>; Julia Preston, *Rules Collide with Reality in the Immigration Debate*, N.Y. TIMES, May 29, 2006, at A11; see also AUDLEY ET AL., *supra* note 2, at 51 (discussing the post-NAFTA acceleration of rural migration and explaining that an increasing proportion of rural migrants made their way to the United States).

¹⁵¹ Marla Dickerson, *NAFTA Has Had Its Trade-Offs for the U.S.*, L.A. TIMES, Mar. 3, 2008), <http://www.articles/latimes.com/2008/mar/03/business/finafta3>.

¹⁵² Tina Rosenberg, *Why Mexico's Small Corn Farmers Go Hungry*, N.Y. TIMES, Mar. 3, 2003, at A22.

¹⁵³ See Nadal & Wise, *supra* note 84, at 20–21, 25 (pointing out the risks to corn agrobiodiversity posed by the out-migration of farmers who practice traditional cultivation techniques and by market pressure to cultivate commercial hybrid seeds or other crops).

diversity as well as the survival of Mexico's indigenous population.

The displacement of Mexican corn farmers as a result of the influx of highly subsidized U.S. corn has produced enormous social unrest in Mexico, including protests, hunger strikes, and civil disobedience.¹⁵⁴ In January 2003, approximately one hundred thousand farmers converged on Mexico City to demand that the Mexican government renegotiate the agricultural chapter of NAFTA, provide emergency assistance to those harmed by trade liberalization, implement long-term agricultural development programs, invest in rural infrastructure and communities, and recognize the rights of indigenous peoples.¹⁵⁵ While the farmers were unable to secure a commitment to renegotiate NAFTA from the pro-free trade administration of Mexican president Vicente Fox, they did secure new funds for rural development and an agreement to assess NAFTA's impact on small farmers and to take action to defend and promote the agricultural sector.¹⁵⁶ Renegotiation of the agricultural chapter of NAFTA emerged as an important issue in the 2006 presidential election, with opposition candidate Andrés Manuel López Obrador pledging to violate Mexico's NAFTA commitment to eliminate tariffs on all agricultural products by 2008 and calling for a new accord to promote Mexico's economic development.¹⁵⁷ Opinion polls

¹⁵⁴ See Henriques & Patel, *supra* note 52, at 38 (noting that this phenomenon "reached its zenith most recently with the 'El Campo no Aguanta Mas' movement - literally *the countryside can't take it any more.*").

¹⁵⁵ See *id.*; OXFAM, *supra* note 69, at 23 (explaining that the march was the culmination of the aforementioned 'El Campo no Aguanta Mas' movement); Timothy A. Wise, *Fields of Free Trade*, DOLLARS & SENSE, Nov. 10, 2003, at 14 (noting that Mexico's small farmers collectively demanded that their government renegotiate NAFTA's agricultural provisions).

¹⁵⁶ See Wise, *supra* note 155, at 14 (describing the improvements the farmers were able to secure from the government).

¹⁵⁷ See Jack Epstein, *Lopez Obrador Victory Would Alter Relations with States/Candidate Says He'd Focus on the Poor, Revise NAFTA*, S.F. CHRONICLE, July 1, 2006, http://articles.sfgate.com/2006-07-01/news/17302349_1_trade-pact-president-vicente-fox-andres-manuel-lopez-obrador (noting López Obrador's objections to NAFTA and his pledge to continue corn and bean tariffs); Tim Padgett, *Bush in Mexico: Whatever Happened to NAFTA?*, TIME, Mar. 30, 2006 (discussing López Obrador's plan to attempt to renegotiate NAFTA); Mark Stevenson, *Mexico Hopeful Takes Hard Line vs. NAFTA*, ASSOC. PRESS, June 18, 2006, available at <http://www.commondreams.org/headlines06/0618-05.htm> (relating López Obrador's promise to impose tariffs on U.S. corn and bean imports in violation of NAFTA).

conducted in 2007 revealed that Mexicans disapproved of NAFTA by a ratio of two to one.¹⁵⁸ When tariffs on U.S. agricultural products were largely eliminated in 2008 pursuant to NAFTA, 50,000 to 100,000 Mexican protestors marked the event by paralyzing traffic in Mexico City to demand renegotiation of the Agreement.¹⁵⁹

Finally, some Mexican farmers turned to marijuana as a highly profitable crop to replace corn.¹⁶⁰ The amount of marijuana seized each year on the border has doubled since NAFTA took effect in 1994 and U.S. authorities have discovered more than seventy-five tunnels funneling drugs from Mexico to the United States between 2006 and 2010 alone.¹⁶¹ Drug-related violence along the border has also skyrocketed and the drug cartels are increasingly diversifying their operations and expanding their revenues by participating in the lucrative migrant-smuggling business.¹⁶² While these correlations do not necessarily establish causation, they do highlight the importance of integrating drug policy, immigration policy, and trade policy.

4.5. *Winners and Losers from Trade Liberalization*

In order to draw lessons from the Mexican experience with agricultural trade liberalization, it is important to assess who wins and who loses as a consequence of this economic reform. In the United States, the main beneficiaries of trade liberalization in the corn sector are large agricultural enterprises that receive generous agricultural subsidies as well as corn exporters, such as Cargill and Archer Daniels Midland, that undercut Mexican producers by selling corn on world markets at artificially depressed prices.¹⁶³

¹⁵⁸ See Dickerson, *supra* note 151.

¹⁵⁹ See *id.*; James McKinley Jr., *Mexican Farmers Protest End of Corn-Import Taxes*, N.Y. TIMES, Feb. 1, 2008, at A12 (relating how farmers at the protest feared that a flood of cheap imported American corn would wipe them out).

¹⁶⁰ See Lambrecht, *supra* note 148 (discussing the survival strategies of Mexican corn farmers in the aftermath of NAFTA).

¹⁶¹ See *id.*; Rebecca Cathcart, *Second Rail-Equipped Drug Tunnel Found at Mexican Border*, N.Y. TIMES, Nov. 27, 2010, at A12; Jennifer Medina, *Drugs Seized in Tunnel Near Border*, N.Y. TIMES, Nov. 3, 2010, at A18.

¹⁶² See Peter Schrag, *Blowback at the Border*, THE NATION, May 4, 2009, at 23 (noting the expansion of drug cartels' activity into migrant smuggling).

¹⁶³ See OXFAM, *supra* note 69, at 3, 18 (arguing that large American farmers, and agricultural conglomerates like ADM, Cargill, and their Mexican partners, receive the lion's share of the benefits of corn exports to Mexico). In the United States, seventy-two percent of the \$43.2 billion disbursed by the federal

Between 1997 and 2005, for example, U.S. agro-exporters dumped corn on Mexican markets at an average of nineteen percent below the cost of production.¹⁶⁴ These exporters also benefit from the U.S. government's provision of export credits to Mexican importers of U.S. corn in order to increase U.S. market share and help U.S. companies compete against foreign producers.¹⁶⁵ In Mexico, the primary beneficiaries are the importers of U.S. corn, particularly large livestock enterprises (who use the corn for animal feed) and processors of soft drinks (who use corn syrup).¹⁶⁶ The two Mexican firms that dominate tortilla production also benefit from depressed corn prices because their market power has enabled them to raise tortilla prices rather than pass on the lower corn prices to consumers.¹⁶⁷ Indeed, public outcry over soaring tortilla prices and over the hoarding of corn flour by the giant tortilla companies in order to drive prices even higher prompted Mexican President Felipe Calderón to impose price controls on tortillas in early 2007.¹⁶⁸

The primary losers from trade liberalization are small farmers and consumers in Mexico, particularly traditional and indigenous

government from 1995 to 2009 to subsidize corn production was paid to the top ten percent of corn subsidy recipients. *Farm Subsidy Database*, ENVTL WORKING GRP., available at <http://www.ewg.org/farm/progdetail.php?fips=00000&progcode=corn&page=conc>. Since payments are linked to land area and past output, larger, wealthier farmers receive the greatest subsidies—even though seventy-five percent of all corn farmers in the United States are small farmers. See OXFAM, *supra* note 69, at 13. In Mexico, farm subsidies and credit have likewise been channeled to large-scale agricultural enterprises, leading many small farmers to undertake off-farm employment, rent their land to commercial growers, or simply sell their lands in order to survive. See AUDLEY ET AL., *supra* note 2, at 28–80; OXFAM, *supra* note 69, at 7–8. Like small farmers in Mexico, some small farmers in the United States are taking off-farm jobs, renting out their land, or abandoning agricultural production because the income received from selling their agricultural output is insufficient to cover the cost of production. See OXFAM, *supra* note 69, at 10, 13.

¹⁶⁴ See Wise, *supra* note 119, at 21.

¹⁶⁵ See OXFAM, *supra* note 69, at 3, 12–13 (discussing how export credits benefit major U.S. corn producers).

¹⁶⁶ See *id.* at 18 (noting that the primary Mexican beneficiaries of U.S. agricultural policy are major corn importers).

¹⁶⁷ See *id.* In Mexico City, for example, tortilla prices rose 279% between 1994 and 2004 even though corn prices plummeted as a consequence of U.S. agro-export dumping. See Patel & Henriques, *supra* note 81, at 4.

¹⁶⁸ See James C. McKinley Jr., *Cost of Corn Soars, Forcing Mexico to Set Price Limits*, N.Y. TIMES, Jan. 19, 2007, at A12 (discussing how Calderón was forced to abandon his free-trade principles because of public outrage over corn prices).

farmers whose livelihoods have been destroyed by the elimination of tariffs and by U.S. agricultural subsidies. However, human health and the environment in both the United States and Mexico have suffered under this arrangement in ways that are not immediately obvious due to the fact that social and environmental externalities (positive and negative) are not reflected in corn prices.

Corn production in the United States is more chemical-intensive than the production of other commodities (such as wheat or soybeans) and it is increasingly expanding into dry areas where irrigation is necessary.¹⁶⁹ As corn production expands to meet Mexican demand, U.S. surface and groundwater supplies are increasingly contaminated by agricultural runoff.¹⁷⁰ The contamination of surface waters by nitrogen-containing fertilizers promotes algae blooms that reduce dissolved oxygen in the water, thereby killing fish and other wildlife.¹⁷¹ The great quantities of nitrogen carried from the nation's agricultural heartland by the Mississippi River have already produced a "dead zone" in the Gulf of Mexico, where marine life cannot survive.¹⁷² Likewise, atrazine, the most common herbicide used on corn, disrupts the endocrine system and is known to cause cancer in rats.¹⁷³ Exposure to atrazine poses serious risks for farm workers (many of whom are Mexican immigrants), consumers of corn products, and people who use groundwater downstream from fields where corn is cultivated.¹⁷⁴ Chlorpyrifos, the most common insecticide used in corn production, is a neurotoxin that is particularly dangerous to children who are exposed to it at high levels.¹⁷⁵ Finally, the expansion of corn cultivation into Nebraska, Kansas, Texas, and Colorado to meet growing Mexican demand has necessitated the pumping of additional groundwater for irrigation, resulting in

¹⁶⁹ See Nadal & Wise, *supra* note 84, at 9-11 (concluding that corn is more chemically intensive than other crops).

¹⁷⁰ See *id.* at 7-12 (assessing the environmental impact in the United States of increased corn production in the aftermath of NAFTA).

¹⁷¹ See *id.* at 8 (describing the agrochemical contamination of surface and groundwater supplies in the United States as a consequence of corn cultivation).

¹⁷² See *id.*

¹⁷³ See *id.*

¹⁷⁴ See *id.*

¹⁷⁵ See *id.*

unsustainable rates of withdrawal from the Ogallala Aquifer and conflicts over water rights.¹⁷⁶

In Mexico, the most significant social externality resulting from the drop in corn prices is growing rural poverty, which has increased rural-to-urban migration and threatens the integrity of indigenous and local farming communities.¹⁷⁷ The most significant environmental externality is the threat to agrobiodiversity posed by the out-migration of the farmers who cultivate Mexico's diverse corn varieties.¹⁷⁸

The market price for U.S. corn understates the true social cost of production because it neglects to internalize the human health and environmental costs discussed above. Conversely, the market price for Mexican corn fails to take into account the social and environmental benefits of traditional corn cultivation, including the well-being of indigenous farming communities and the importance for these communities and for the world's food supply of conserving Mexico's diverse corn varieties.

As a consequence of trade liberalization, market failures in the United States interface with market failures in Mexico to create a price structure that misidentifies the United States as the most efficient corn producer, thereby increasing harm to human health and the environment in the United States, undermining the sustainable livelihoods of indigenous communities in Mexico, and jeopardizing Mexico's genetic diversity.¹⁷⁹ Economist James Boyce has referred to this phenomenon as the "globalization of market failure."¹⁸⁰

¹⁷⁶ See *id.* at 11 ("Well-publicized problems concerning irrigation include the unsustainable rate of withdrawals from the Ogallala Aquifer, and conflicts over the scarce and overused water from western rivers.").

¹⁷⁷ See *id.* at 24-25 (pointing out that two-fifths of the Mexican rural districts with the highest levels of poverty and corn genetic diversity have experienced out-migration).

¹⁷⁸ See *id.* at 20-21 ("[F]igures on production or planted area or even migration may mask trends that are leading to the gradual loss of traditional knowledge in the process of seed selection, which is the basis for the ongoing evolution and stewardship of maize genetic diversity.").

¹⁷⁹ See *id.* at 26-27 ("Market failures in one area—negative externalities in the U.S.—interact with market failures in another—positive externalities in Mexico—to create a net environmental impact that is greater than the sum of its parts.").

¹⁸⁰ JAMES K. BOYCE, *THE POLITICAL ECONOMY OF THE ENVIRONMENT* 88-103 (2002).

5. LESSONS FROM THE MEXICAN NEOLIBERAL ECONOMIC REFORMS

The grim saga of the Mexican corn sector illustrates why industrialized country agricultural subsidies have become one of the most contentious issues in the Doha Round of WTO negotiations. Poor farmers in developing countries cannot compete with highly subsidized agricultural producers in the United States and the European Union. The economic dislocations in the Mexican countryside are being replicated all over the world, as developing countries reduce agricultural tariffs and eliminate subsidies pursuant to IMF and World Bank mandated structural adjustment programs, or pursuant to bilateral and multilateral free trade agreements.¹⁸¹ Rather than being governed by comparative advantage, winners and losers in agricultural trade are determined on the basis of “comparative access to subsidies—an area in which food producers in the industrialized world [enjoy] an unrivalled advantage over those in developing countries.”¹⁸²

Dismantling industrialized country agricultural subsidies and import barriers is an essential first step toward mitigating the inequities in global agricultural trade that exacerbate poverty and accelerate rural-to-urban migration in developing countries. However, it is important to recognize that formal equality in the rules governing international trade is not sufficient to produce substantive equality among vastly unequal trading partners. Contrary to the views expressed in the World Bank’s 2004 report on global agricultural trade, it is dangerous to advise developing countries to capitalize on their “comparative advantage” in agricultural production as a means of combating poverty and promoting economic development—even if industrialized country protectionism is eliminated.¹⁸³ The Mexican case study serves as a

¹⁸¹ See U.N. FOOD & AGRIC. ORG., *Synthesis of Country Case Studies*, para. 18 (FAO Symposium on Agriculture, Trade and Food Security, Paper No. 3, Sept. 1999), available at <http://www.fao.org/DOCREP/meeting/x3065E.htm> (citing the marginalization of small producers as a reason for the increase in unemployment and poverty); John Madeley, *Trade and Hunger: An Overview of Case Studies on the Impact of Trade Liberalisation on Food Security*, GLOBALA STUDIER, Oct. 2000, at 8, 15, 34–35, 72, available at <http://www.ppl.nl/bibliographies/wto/files/645.pdf> (explaining that agricultural trade liberalization has generally increased rural poverty and inequality and accelerated migration from rural areas).

¹⁸² Kevin Watkins, *Free Trade and Farm Fallacies: From the Uruguay Round to the World Food Summit*, 26 *ECOLOGIST* 244, 245 (1996).

¹⁸³ See Aksoy & Beghin, *supra* note 75, at 3 (providing an overview of the World Bank report on global agricultural trade and developing countries).

useful vehicle for examining the limitations in the theory of comparative advantage that counsel against an agro-export led development strategy. These limitations are examined in detail below.

5.1. *The Importance of State Intervention to Promote Economic Diversification*

Contrary to the agro-export specialization advocated by the World Bank based on the theory of comparative advantage, it is well-established that economic diversification and industrialization are essential for economic prosperity.¹⁸⁴ As the United Nations Development Programme points out: "Success in global markets depends increasingly on the development of industrial capabilities. In a knowledge-based global economy cheap labour and exports of primary commodities or simple assembled goods are insufficient to support rising living standards."¹⁸⁵

Specialization in the export of primary commodities is disastrous for developing countries due to the long-term decline in agricultural commodity prices relative to the price of manufactured goods—a phenomenon first described over 50 years ago by economists Raul Prebisch and Hans Singer, confirmed by subsequent empirical studies, and predicted to continue despite the post-2008 boom in agricultural commodity prices.¹⁸⁶ The most

¹⁸⁴ See UNDP, *Human Development Report 2005*, *supra* note 63, at 120–21 (noting that openness to trade has its costs); Erik S. Reinert, *Increasing Poverty in a Globalized World: Marshall Plans and Morgenthau Plans as Mechanisms of Polarization of World Incomes*, in *RETHINKING DEVELOPMENT ECONOMICS* 453, 470 (Ha-Joon Chang ed., 2003) (explaining that "[n]o nation has ever taken the step from being poor to being wealthy by exporting raw material in the absence of a domestic manufacturing sector"); Howard Stein, *Rethinking African Development*, in *RETHINKING DEVELOPMENT ECONOMICS*, *supra*, 153, 155–56, 169 (detailing the ill effects of IMF and World Bank policies that relegated African countries to primary product exports and arguing that economic diversification and industrialization are necessary to foster economic development).

¹⁸⁵ UNDP, *Human Development Report 2005*, *supra* note 63, at 120–21.

¹⁸⁶ See U.N. Food & Agric. Org., *The State of Agricultural Commodity Markets* 10, 12–13 (2004) (arguing that "[p]rices of agricultural commodities can be expected to decline relative to industrial products as technological advances reduce costs . . ."); CYPHER & DIETZ, *supra* note 102, at 87 box3.5, 177–80 (explaining the reasoning behind the Prebisch-Singer hypothesis). Despite the 2007–2008 boom in agricultural commodity prices—due, in part, to growing demand for biofuels and speculative investment in commodity markets fueled by the collapse of the U.S. housing bubble—analysts predict that prices will continue to decline over the long term. See Wise, *supra* note 76, at 856 (arguing that "the current commodity boom . . . is unlikely to fundamentally alter the structure of

vulnerable countries in the global economy are those that specialize in the export of one or two agricultural commodities and rely on the revenues generated by these exports for the purchase of food, energy, and other necessities.¹⁸⁷ Poor harvests, volatility in agricultural commodity markets, and the declining terms of trade for agricultural products vis-à-vis manufactured goods can interfere with the ability of these countries to acquire food and other essential items on international markets and to obtain the foreign exchange earnings necessary for productive investment.¹⁸⁸

Furthermore, notwithstanding the neoliberal policy prescriptions of the IMF, the World Bank, and the WTO, successful industrialization typically requires aggressive market intervention by the state. Nearly all industrialized countries (including

global agriculture and the long-term trends toward lower prices.”). *See generally* U.N. DEP’T. OF ECON. AFFAIRS, THE ECONOMIC DEVELOPMENT OF LATIN AMERICA AND ITS PRINCIPAL PROBLEMS, U.N. Doc. E/CN.12/89/Rev. 1, U.N. Sales No. SO.11.G.2 (1950) (suggesting that nations who specialize in exporting raw materials have little incentive to industrialize). There are two principal reasons cited in the economics literature for the long-term decline in agricultural commodity prices. First, demand for manufactured goods increases with rising income, whereas demand for food does not. Second, labor productivity is generally higher in countries that produce manufactured products. *See, e.g.,* Henry J. Bruton, *A Reconsideration of Import Substitution*, 36 J. ECON. LITERATURE 903, 905 (1998) (explaining the reasons for the long-term decline in primary commodity prices).

¹⁸⁷ Currently, approximately forty-three countries in sub-Saharan Africa, Latin America, and the Caribbean rely on agro-export production to generate over half of foreign exchange earnings and depend on a single agricultural commodity for over twenty percent of their export revenues. U.N. FOOD & AGRIC. ORG., THE STATE OF FOOD INSECURITY IN THE WORLD 17 (2003), *available at* <http://ftp.fao.org/docrep/fao/006/j0083e/j0083e00.pdf>.

¹⁸⁸ *See* PETER ROBBINS, *STOLEN FRUIT: THE TROPICAL COMMODITIES DISASTER* 2–3, 12–15 (2003) (discussing the devastating impact on small farmers and agriculture-dependent developing nations of declining agricultural commodity prices); CYPHER & DIETZ, *supra* note 102, at 86 (explaining that primary product specialization is not a viable development strategy); U.N. Food & Agric. Org., *supra* note 187, at 17 (noting that declines in agricultural commodity prices in export-dependent developing countries “have taken a toll on income, investment, employment, and growth”). Regrettably, World Bank and IMF policies promoting specialization in agro-export production as a means of servicing the foreign debt have consigned much of sub-Saharan Africa to grinding poverty by limiting the ability of African countries to diversify their exports and move into more lucrative manufacturing sectors. Furthermore, in African countries that possessed manufacturing capacity, World Bank and IMF-mandated elimination of protectionist barriers undermined these fledgling industries by prematurely opening them up to the full force of foreign competition. *See* Stein, *supra* note 184, at 155–56, 169–70 (suggesting that the solution to Africa’s economic stagnation is to develop the region’s industrial capacity through private sector or join private-state entrepreneurship).

Germany, France, the United Kingdom, Japan, and the United States) achieved economic prosperity through economic protectionism, including subsidies, tariffs, and state funding of industry.¹⁸⁹ Beginning in the 1950s and 1960s, state intervention in the market played a critical role in the rapid industrialization of several East Asian countries (including Taiwan and South Korea).¹⁹⁰ South Korea, for example, directed and subsidized credit to certain key industries, required firms to increase the use of local inputs, imposed technology transfer requirements on foreign investors, disregarded intellectual property rights to encourage copying and reverse engineering, and only gradually opened its economy to foreign competition.¹⁹¹ Most recently, China became a major economic power in the course of a few decades through the use of tariffs, import quotas, technology transfer requirements, local content requirements, and other forms of state intervention to achieve long-term development goals.¹⁹² What these countries have in common is their successful use of industrial policy—the identification and aggressive promotion of those economic sectors likely to increase overall economic well-being.¹⁹³ It is ironic that industrialized countries, having achieved economic prosperity through the use of protectionism, are now counseling developing countries to open up their markets to foreign competition and to capitalize on their comparative advantage in agricultural production.

In sum, the economic specialization promoted by the theory of comparative advantage is fundamentally at odds with the

¹⁸⁹ See HA-JOON CHANG, KICKING AWAY THE LADDER: DEVELOPMENT STRATEGY IN HISTORICAL PERSPECTIVE 19–51, 59–66 (2002) (discussing the successful industrial, trade, and technology policies used by now-developed countries).

¹⁹⁰ See Ha-Joon Chang, *The East Asian Development Experience*, in RETHINKING DEVELOPMENT ECONOMICS, *supra* note 184, at 107, 114–17 (explaining the East Asian model of development).

¹⁹¹ See Sanjaya Lall, *Technology and Industrial Development in an Era of Globalization*, in RETHINKING DEVELOPMENT ECONOMICS, *supra* note 184, at 277, 293–94 (discussing the elements of South Korea's successful economic development strategy).

¹⁹² See Carmen G. Gonzalez, *China in Latin America: Law, Economics, and Sustainable Development*, 40 ENVTL. L. REP. NEWS & ANALYSIS, 10171, 10174–75 (2010) (explaining that China achieved unprecedented economic prosperity through protectionist policies that contravened neoliberal economic orthodoxy).

¹⁹³ See ROBIN HAHNEL, THE ABCs OF POLITICAL ECONOMY: A MODERN APPROACH 268–70 (2002) (discussing the industrial policy of several now-developed nations).

economic diversification and industrialization necessary for successful economic development. Furthermore, state intervention in the economy is necessary in order to *create* comparative advantage in those industries most likely to enhance long-term national economic welfare under current market conditions (*dynamic* comparative advantage). The World Bank's advocacy of agro-export production appears to be based on a *static* conception of comparative advantage that would relegate developing countries to economically disadvantageous patterns of primary product specialization imposed during the colonial era.¹⁹⁴

These insights were not lost on Mexico. Beginning in the 1930s, Mexico developed its manufacturing base through aggressive state intervention in the market in order to avoid the pitfalls of agro-export specialization. Only since the debt crisis of 1982 has Mexico embarked upon neoliberal economic reforms that curtailed public investment, slashed social programs for the poor (including poor farmers), privatized public enterprises, and allocated subsidies to large export-oriented enterprises (such as the large, mechanized farms in northern Mexico).¹⁹⁵

Notwithstanding Mexico's diversified economic base and strength in certain technology sectors (such as automobiles and electronics), greater economic openness beginning in the 1980s and 1990s has been associated with wage stagnation, increasing unemployment, and declining economic growth.¹⁹⁶ One of the reasons for this poor economic performance is weak industrial policy.¹⁹⁷ Much of Mexico's recent export growth has been based on the assembly and re-export of imported products by low-wage, low-skill workers in *maquiladoras* with limited local value added, no linkages to the rest of the economy (such as the stimulation of businesses that might supply parts and materials) and limited transfer of technology—akin to low-wage, low-skill garment

¹⁹⁴ See *id.* at 184 (explaining how Japan and South Korea created "new comparative advantages in high productivity industries rather than continue to specialize in industries where productivity growth was slow").

¹⁹⁵ See Henriques & Patel, *supra* note 52, at 16 (discussing Mexico's abandonment of state-led economic development in favor of free market economic reforms).

¹⁹⁶ See UNDP, *Human Development Report 2005*, *supra* note 63, at 121–22 (pointing out the pitfalls of market openness using Mexico and Vietnam as examples).

¹⁹⁷ See *id.* at 122 (citing weak industrial policy as one of the four main reasons for Mexico's poor economic performance).

exporters like Bangladesh, Honduras, and Nicaragua.¹⁹⁸ Indeed, since 1980, the *maquiladora* sector has been the centerpiece of the Mexican export-oriented economic model, comprising over half of Mexico's total manufactured exports.¹⁹⁹ This economic model has rendered Mexico vulnerable to low-wage competitors such as China,²⁰⁰ and has resulted in the loss of over one million manufacturing jobs between 2000 and 2009.²⁰¹ The weakness of Mexico's manufacturing sector has limited the country's ability to absorb rural migrants in the aftermath of the NAFTA-induced economic dislocations in the agricultural sector.²⁰² In addition, with more than eighty-five percent of its exports destined for the United States, Mexico suffered greater losses than any other Latin American country as a consequence of the 2009 economic downturn in the United States in the wake of the financial crisis.²⁰³

In short, one of the lessons of the Mexican case study is that the rules governing international trade must enable developing countries to use tariffs, subsidies, and other protectionist measures to protect vulnerable populations (such as small farmers and indigenous communities) from unfair competition, to foster robust

¹⁹⁸ *Id.* at 118; AUDLEY ET AL., *supra* note 2, at 16-17 (enumerating the dangers of relying on low-wage, low-skill export sectors that depend on imported inputs and fail to stimulate local businesses).

¹⁹⁹ See Raúl Delgado Wise, *Migration and Imperialism: The Mexican Workforce in the Context of NAFTA*, 33 LATIN AM. PERSP. 33, 34-35 (2006) (discussing the role of the *maquiladora* sector in Mexico's economy).

²⁰⁰ UNDP, *Human Development Report 2005*, *supra* note 63, at 122. Mexico faces fierce competition from China in labor-intensive economic sectors such as garment manufacturing and electronics. In 2003, Mexico was displaced by China as the second-largest exporter to the United States after Japan. As the United States enters into additional free trade agreements with low-wage nations (such as the members of Central American Free Trade Agreement) Mexico's comparative advantage in low-wage, low-skill labor may be further undermined. AUDLEY ET AL., *supra* note 2, at 17.

²⁰¹ See Enrique Dussel Peters, *Manufacturing Competitiveness: Toward a Regional Development Agenda*, in THE FUTURE OF NORTH AMERICAN TRADE POLICY: LESSONS FROM NAFTA 27, 29 (Bos. Univ., Frederick S. Pardee Ctr. for the Study of the Long Range Future, 2009), available at <http://www.bu.edu/pardee/files/2009/11/Pardee-Report-NAFTA.pdf>.

²⁰² See AUDLEY ET AL., *supra* note 2, at 16-17, 20 (pointing out that Mexico's post-NAFTA growth in manufacturing exports was accompanied by stagnation in manufacturing employment); Gallagher & Zarsky, *supra* note 149, at 44-47 (arguing that "the bumpy growth in the manufacturing sector . . . has exacerbated unemployment and underemployment in Mexico.").

²⁰³ See ZEPEDA ET AL., *supra* note 4, at 10 (discussing how the 2009 economic downturn in the United States had a significant negative impact on the Mexican economy).

industrial capabilities, and to promote job growth in dynamic economic sectors. Countries that attempt to capitalize on their comparative advantage in agricultural production or low-wage, low-skill labor will inevitably lose out in increasingly competitive international markets.²⁰⁴

5.2. The Cost of Adjusting to the Economic Dislocations Caused by Trade Liberalization

Some advocates of neoliberal economic reforms assume that countries can easily adjust to the economic dislocations caused by trade liberalization (such as the loss of jobs, firms, and even entire industries) because the overall benefits of trade liberalization will ultimately outweigh the costs.²⁰⁵ Mexico's NAFTA negotiators expected that NAFTA-induced declines in corn prices would reallocate land, labor, and capital to productive activities (elsewhere in the agricultural sector or in other economic sectors) that would better utilize Mexico's comparative advantage in low-wage labor.²⁰⁶ Indeed, according to the theory developed by economists Eli Heckscher and Bertil Ohlin (hereinafter the "Heckscher-Ohlin hypothesis"), trade liberalization should increase demand for goods that use inputs in which a country has a comparative advantage.²⁰⁷ Mexico has a comparative advantage in unskilled labor. Accordingly, trade liberalization should increase U.S. demand for Mexican labor-intensive goods, thereby generating employment for displaced Mexican farmers, placing upward pressure on wages and reducing migration.²⁰⁸

The benefits of trade liberalization predicted by the NAFTA negotiators and by the Heckscher-Ohlin hypothesis were not realized for several reasons. First, the capacity of other agricultural

²⁰⁴ See UNDP, *Human Development Report 2005*, *supra* note 63, at 119–23 (suggesting that success in global markets requires developing industrial capabilities).

²⁰⁵ See HA-JOON CHANG & ILENE GRABEL, *RECLAIMING DEVELOPMENT: AN ALTERNATIVE POLICY ECONOMIC MANUAL* 59–66 (2004) (explaining and critiquing the view that the benefits of trade liberalization outweigh the adjustment costs).

²⁰⁶ See Nadal, *supra* note 81, at 146–47 (suggesting that faulty economic assumptions underlay Mexico's agreement to include corn in NAFTA).

²⁰⁷ See HAHNEL, *supra* note 193, at 188–90 (describing and critiquing the Heckscher-Ohlin hypothesis).

²⁰⁸ See Thomas, *supra* note 7, at 26 (discussing how trade liberalization between a capital-rich country such as the United States and a labor-rich country such as Mexico would play out under the Heckscher-Ohlin hypothesis).

sectors (such as fruit and vegetable production) to absorb displaced corn producers had been over-estimated.²⁰⁹ While exports of fruits and vegetables to the United States increased, these exports came from a small number of states with capital-intensive, highly industrialized production systems that employed limited numbers of agricultural workers.²¹⁰ Second, the Mexican manufacturing sector was unable to generate sufficient jobs to keep pace with the influx of rural migrants to Mexico's urban areas due to weak industrial policy, limited linkages between manufacturing and other economic sectors, and growing competition from China.²¹¹ Finally, the benefits of trade liberalization in the developing world were eclipsed by the severe economic dislocations in the agricultural sector caused by the Green Revolution, structural adjustment, and policies undertaken pursuant to bilateral and multilateral trade agreements.²¹²

Mexico's neoliberal economic reforms can be regarded as the continuation and intensification of misguided efforts to "modernize" the agricultural sector at the expense of Mexico's indigenous rural communities. These efforts commenced at independence, were reversed by the Mexican Revolution, but resumed with full force under the auspices of the Green Revolution and the post-1982 neoliberal economic reforms. The export-oriented policies promoted by the World Bank and the IMF in the aftermath of the debt crisis exacerbated rural poverty and inequality by requiring debtor nations to simultaneously slash subsidies to poor farmers and open their markets to devastating competition from highly subsidized transnational agribusiness headquartered in the industrialized world.²¹³ The pauperization of

²⁰⁹ See Nadal, *supra* note 81, at 155 (explaining that increased efficiency in the horticultural and fruit sectors led to increased outputs without generating additional agricultural jobs—contrary to Mexican government expectations).

²¹⁰ See Timothy A. Wise, *Reforming NAFTA's Agricultural Provisions*, in THE FUTURE OF NORTH AMERICAN TRADE POLICY: LESSONS FROM NAFTA, *supra* note 201, at 35, 36 ("Exports came overwhelmingly from a small number of states with highly industrialized agriculture and relatively developed infrastructure.").

²¹¹ See Peters, *supra* note 201, at 28–30 (discussing the limited growth of the manufacturing sector in Mexico); ZEPEDA ET AL., *supra* note 4, at 10–12 (concluding that NAFTA generated large increases in trade and foreign investment but created relatively few jobs).

²¹² See HAHNEL, *supra* note 193, at 189 (arguing that the Green Revolution has made the "rural labor force redundant in third world agriculture.").

²¹³ See Gonzalez, *supra* note 49, at 467 (arguing that "the lowering of tariff barriers and the elimination of non-tariff barriers in developing countries

rural communities and the depopulation of the countryside continued under NAFTA as over two million Mexican farmers abandoned agricultural production in response to the surge of cheap imported food from the United States.²¹⁴ The exodus from rural areas in the Global South has been so great in recent decades that urban unemployment is increasing rather than declining and real wages continue to fall.²¹⁵

Finally, the theory of comparative advantage underestimates the costs of adjustment to trade liberalization because it fails to take into account the devastating impact of rural-to-urban migration on the spiritual, material, and cultural well-being of indigenous communities. Indigenous peoples possess a powerful cultural connection to their ancestral lands, and separation from these lands, resources, and lifeways can result in cultural disintegration.²¹⁶ Indigenous peoples who are forced to migrate to urban areas in search of wage labor often suffer extreme poverty as a consequence of discrimination, limited formal education, language barriers, and lack of marketable skills for the urban workforce.²¹⁷ Indigenous migrants experience difficulty securing employment, finding culturally appropriate education and health care, and obtaining adequate housing.²¹⁸ Migration to the United States poses its own challenges, including racial, ethnic, and language discrimination; lack of access to health care and government services; and the difficulty of maintaining collective identities and indigenous languages.²¹⁹ One of the lessons of the

increased rural poverty and depressed domestic food production by exposing developing country farmers to ruinous competition from industrialized country producers.”).

²¹⁴ See Wise, *supra* note 210, at 35 (noting that this represents a twenty-five percent drop in the number of people engaged in agriculture).

²¹⁵ See HAHNEL, *supra* note 193, at 190 (discussing how the job-creating effects of trade liberalization in Mexico have been overwhelmed by the exodus of farmers from rural areas, leading to increased overall unemployment).

²¹⁶ See Tsosie, *supra* note 17, at 1645 (“Geographical location is essential to indigenous identity.”).

²¹⁷ See CARLOS YESCAS ANGELES TRUJANO, INT’L ORG. FOR MIGRATION, INDIGENOUS ROUTES: A FRAMEWORK FOR UNDERSTANDING INDIGENOUS MIGRATION 24, 45-46 (2008) (describing the set of challenges generally faced by indigenous migrants).

²¹⁸ See *id.* at 45-50.

²¹⁹ See Fox & Rivera-Salgado, *supra* note 6, at 12-13, 22-24 (describing the unique challenges experienced by indigenous Mexican migrants in the United States and their efforts to overcome these difficulties by creating community institutions and providing social services in indigenous languages).

Mexican case study is the danger of relying on de-contextualized economic theories (such as the Heckscher-Ohlin hypothesis) that neglect to consider real world economic and political dynamics.²²⁰

5.3. *The Conflict between Agro-Export Specialization and Agro-Biodiversity*

The theory of comparative advantage promotes economic specialization in goods that a country produces relatively more efficiently. For countries well-suited to agricultural production, the theory of comparative advantage would counsel specialization in several primary agricultural commodities and importation of manufactured goods.

One of the lessons of the Mexican case study is that extending the principle of specialization from industry to agriculture is fundamentally inconsistent with the agrobiodiversity necessary to protect the integrity of the world's food supply. Cultivating different varieties of corn designed to resist different environmental conditions enables local farmers to diversify their risk in the event of crop failure. This genetic diversity is also essential to the world's plant breeders as they seek to develop new varieties to address the food security challenges of the 21st century, including climate change.

The lessons of the Mexican case study are broadly applicable to other crops. One of the great risks posed to small farmers in developing countries and to the resilience of the world's food supply is the pressure to abandon traditional, biodiverse cultivation techniques in favor of uniform seeds, chemical fertilizers, and synthetic pesticides.²²¹ Indeed, the U.N. Food and Agriculture Organization reports that seventy-five percent of the world's food crop diversity was lost in the 20th century.²²² Although thousands of food crops have been cultivated since the beginning of agriculture, four crops (corn, wheat, potato, and rice) currently supply sixty percent of the world's dietary energy from

²²⁰ See HAHNEL, *supra* note 193, at 189 (discussing the inherent limitations of economic theories).

²²¹ See FOWLER & MOONEY, *supra* note 87, at 56–81 (tracing the history of industrial agriculture from the Green Revolution through the end of the twentieth century and examining the resulting loss of crop genetic diversity).

²²² *Women: Users, Preservers, and Managers of Agro-Biodiversity*, U.N. FOOD & AGRIC. ORG., <http://www.fao.org/FOCUS/E/Women/biodiv-e.htm> (last visited Feb. 26, 2011).

plants.²²³ Furthermore, the genetic base of these crops is alarmingly narrow. Genetically uniform, high-yielding varieties have displaced traditional varieties for 70 percent of the world's corn; 50 percent of the wheat in Asia, Africa, and Latin America; and 75 percent of Asian rice.²²⁴ The replacement of biodiverse agroecosystems by monocultures is destroying the reservoir of genetic diversity necessary to enable local farmers and the global food supply to recover from serious environmental disturbances — including the floods, droughts, and other dislocations associated with climate change.²²⁵

The cultivation of uniform crop varieties also increases vulnerability to pest and disease infestation (because different crops and different genetic strains of a particular crop may be more resistant to certain pests), depletes the soil of vital nutrients, requires the use of environmentally harmful chemical fertilizers and pesticides, and impairs human nutrition by reducing the varieties of foods consumed.²²⁶ The expansion of export monocultures as a consequence of agro-export led development strategies promoted by the IMF and the World Bank has imposed severe environmental costs on a wide range of developing countries. These costs include deforestation, unsustainable uses of freshwater resources, agrochemical contamination of groundwater and surface waters, and greater pesticide-related illnesses.²²⁷

²²³ See *First Fruits of Plant Gene Pact*, U.N. FOOD & AGRIC. ORG., <http://www.fao.org/news/story/0/item/20162/icode/en/> (last visited Feb. 28, 2011).

²²⁴ See Christopher M. Picone & David Van Tassel, *Agriculture and Biodiversity Loss: Industrial Agriculture*, in *LIFE ON EARTH: AN ENCYCLOPEDIA OF BIODIVERSITY, ECOLOGY, AND EVOLUTION* 99, 100 (Niles Eldredge ed., 2002).

²²⁵ See LORI ANN THRUPP, *CULTIVATING DIVERSITY: AGROBIODIVERSITY AND FOOD SECURITY* 5 (1998) (summarizing the importance of biodiversity for agricultural production and food security); PLATFORM FOR AGROBIODIVERSITY RES. (PAR) CLIMATE CHANGE PROJECT, *COPING WITH CLIMATE CHANGE: THE USE OF AGROBIODIVERSITY BY INDIGENOUS AND RURAL COMMUNITIES* 19 (Sept. 2009), available at http://www.agrobiodiversityplatform.org/blog/wp-content/uploads/2009/09/PAR_climate-change_briefing_web.pdf (noting that “[r]evitalising and supporting local food traditions and indigenous food systems based on agricultural biodiversity” may contribute to climate change adaptation and help prevent food crises).

²²⁶ See FOWLER & MOONEY, *supra* note 87, at 82–83 (enumerating the risks associated with lack of crop diversity); THRUPP, *supra* note 225, at 26–32 (describing the ecosystem effects of cultivation of uniform crops).

²²⁷ See MICHAEL E. CONROY ET AL., *A CAUTIONARY TALE: FAILED U.S. DEVELOPMENT POLICY IN CENTRAL AMERICA* 13–14, 18–19, 124–25, 138–39 (Peter M. Rosset ed., 1996) (examining the environmental impacts of agro-export

5.4. *Failure to Internalize Social and Environmental Costs*

The theory of comparative advantage fails to recognize that market prices distort comparative advantage by not taking into account social and environmental externalities. As the Mexican case study illustrates, the market price for U.S. corn did not take into account the significant environmental consequences of monocultural corn production, including soil erosion, increased agrochemical use, water pollution due to pesticide and fertilizer runoff, and depletion of aquifers used for irrigation; conversely, the market price for Mexican corn failed to reflect the social and environmental benefits of traditional corn cultivation, including the protection of biodiversity and the well-being of Mexico's indigenous farming communities.²²⁸ In theory, eliminating trade barriers should promote efficiency and make everyone better off by identifying the lowest cost producer of a particular commodity. In practice, trade liberalization in the agricultural sector made everyone worse off by misidentifying the United States as the most efficient corn producer, thereby increasing harm to human health and the environment in Mexico and the United States, undermining the livelihoods of indigenous corn farmers in Mexico, and jeopardizing an irreplaceable resource—Mexico's genetic diversity. Contrary to the theory of comparative advantage, liberalized trade based on market prices rather than on true social and environmental costs can promote global inefficiency.

5.5. *Distortions in Market Prices Caused by Market Concentration*

Finally, the theory of comparative advantage assumes perfect competition and neglects to account for market distortions caused

specialization in Central America); LORI ANN THRUPP, BITTERSWEET HARVESTS FOR GLOBAL SUPERMARKETS: CHALLENGES IN LATIN AMERICA'S AGRICULTURAL EXPORT BOOM 17-18, 94-96, 102, 106-08, 112 (1995) (describing the environmental consequences of agro-export production in the developing world); Gonzalez, *supra* note 49, at 469-70 (describing the environmental impact of agricultural trade liberalization and agro-export production in the Global South); STRUCTURAL ADJUSTMENT PARTICIPATORY REVIEW INT'L NETWORK (SAPRIN), THE POLICY ROOTS OF ECONOMIC CRISIS AND POVERTY: A MULTI-COUNTRY PARTICIPATORY ASSESSMENT OF STRUCTURAL ADJUSTMENT 124-25 (2002), available at http://www.saprin.org/SAPRI_Findings.pdf (discussing the environmental impacts of structural adjustment in several developing countries).

²²⁸ See Nadal & Wise, *supra* note 84, at 25-26 (lamenting the failure of markets to take into account the positive and negative externalities associated with corn production in the United States and Mexico).

by the domination of agricultural trade by a small number of transnational corporations.²²⁹ Two corporations control seventy-five percent of the world's grain trade.²³⁰ Six agrochemical companies control seventy-five percent of global agrochemical sales.²³¹ Ten corporations control sixty-seven percent of proprietary seed sales, nearly ninety percent of the agrochemical market, and forty percent of retail grocery sales.²³² Similar market concentrations exist for other commodities, including coffee, tea, sugar, cocoa and bananas.²³³

The market power of transnational corporations enables them to manipulate market prices so as to maximize profits—paying farmers relatively low prices for crops while maintaining high prices on the food products purchased by consumers.²³⁴ The distortions caused by market concentration were evident in the Mexican corn case study. The Mexican government assumed that NAFTA-induced decreases in domestic corn prices would benefit consumers by reducing tortilla prices.²³⁵ However, since two Mexican firms controlled ninety-seven percent of the corn flour

²²⁹ See CYPHER & DIETZ, *supra* note 102, at 119 (discussing the assumption of perfect competition).

²³⁰ BILL VORLEY, FOOD, INC.: CORPORATE CONCENTRATION FROM FARM TO CONSUMER 39 (U.K. Food Grp. ed., 2003), available at <http://www.ukfg.org.uk/docs/UKFG-Foodinc-Nov03.pdf>.

²³¹ *Who Owns Nature: Corporate Power and the Final Frontier in the Commodification of Life*, COMMUNIQUE (Action Grp. on Erosion, Tech., and Concentration, Ottawa, Can.), Nov. 2008, at 15, available at http://www.etcgroup.org/upload/publication/707/01/etc_won_report_final_color.pdf (charting the percentages).

²³² *Id.* at 4.

²³³ Brian Halweil, *Farming in the Public Interest*, in STATE OF THE WORLD 2002, 51, 68 (Worldwatch Inst. ed., 2002) (charting the percentages).

²³⁴ See generally Rep. of the Special Rapporteur on the Right to Food, Agribusiness and the Right to Food, U.N. Human Rights Council, 13th Sess., ¶ 9, U.N. Doc. A/HRC/13/33 (Dec. 22, 2009), available at <http://www2.ohchr.org/english/bodies/hrcouncil/docs/13session/A-HRC-13-33.pdf> (describing the power imbalances in food systems that disadvantage consumers and producers); SOPHIA MURPHY, MANAGING THE INVISIBLE HAND: MARKETS, FARMERS AND INTERNATIONAL TRADE 21-29, 32 (Inst. for Agric. & Trade Policy, 2002), available at <http://www.tradeobservatory.org/library.cfm?RefID=25497> (analyzing the market power of transnational agribusiness); PATEL & MEMARSADEGHI, *supra* note 94, at 34-36 (discussing the negative consequences of corporate domination of the food supply); PETER M. ROSSET, FOOD IS DIFFERENT: WHY WE MUST GET THE WTO OUT OF AGRICULTURE 45-49 (2006) (discussing the impact on small farmers and consumers of concentration in agricultural markets).

²³⁵ See Nadal, *supra* note 81, at 147 (discussing the Mexican government's assumptions regarding the effects of NAFTA).

industry, tortilla prices increased substantially despite the significant drop in corn prices.²³⁶

The problem of market concentration is compounded when companies control multiple stages of the production process through ownership of other firms or through joint ventures ("vertical integration").²³⁷ For example, the companies that dominate the grain trade tend to be vertically integrated conglomerates that use grain in the production of livestock and processed food.²³⁸ Because the processing of corn, the production of feed, and the raising and slaughter of livestock are internal to the company, market forces do not dictate prices until the processed meat is actually sold in supermarkets.²³⁹ This enables these companies to capture enormous profits, measured in the spread between prices paid to corn farmers and wholesale meat prices.²⁴⁰ When grain prices plummeted in the early 2000s, the price of processed meat sold in supermarkets remained the same.²⁴¹ When grain prices soared during the food price crisis of 2008, small farmers did not benefit because input prices increased as well and because many small farmers sell to intermediaries rather than on international markets.²⁴²

Finally, transnational agribusiness firms possess superior market information due to their world-wide operations, and this market information, combined with significant amounts of capital, enables them to utilize futures and options markets to influence market prices and maximize profits.²⁴³

²³⁶ See Nadal & Wise, *supra* note 84, at 26 (surmising that "imperfect price transmission is due to oligopoly market structures in the corn flour industry").

²³⁷ See U.N. FOOD & AGRIC. ORG., TRADE REFORMS AND FOOD SECURITY: CONCEPTUALIZING THE LINKAGES 122 (2003), available at <ftp://ftp.fao.org/docrep/fao/005/y4671e/y4671e00.pdf> (defining and giving examples of vertical integration in the food industry).

²³⁸ See *id.*

²³⁹ See *id.*

²⁴⁰ See *id.*

²⁴¹ See *id.*

²⁴² See U.N. FOOD & AGRIC. ORG., THE STATE OF AGRICULTURAL COMMODITY MARKETS: HIGH FOOD PRICES AND THE FOOD CRISIS EXPERIENCES AND LESSONS LEARNED 34-35 (2009), available at <http://www.fao.org/docrep/012/i0854e/i0854e00.htm> (explaining that higher commodity prices were offset by increases in input costs and that these higher commodity prices are less likely to reach small farmers who are not well-integrated into commercial markets).

²⁴³ See U.N. FOOD & AGRIC. ORG., *supra* note 237, at 122-23 (describing the operations of transnational food corporations).

In sum, market prices misidentify comparative advantage because they are distorted by the market power of transnational agribusiness. Even if the United States and the European Union were to eliminate all subsidies and tariffs, these market distortions would remain. Even the World Bank has acknowledged that producers of seven basic commodities were underpaid as much as \$96 billion between 1975 and 1993 due to the market power of transnational agricultural enterprises.²⁴⁴ Regrettably, the trade liberalization agenda of the World Bank, the IMF, and the WTO focuses on market distortions caused by governments and ignores market distortions caused by transnational agribusiness. Indeed, the neoliberal economic reforms promoted by these institutions deprive developing country governments of the ability to mitigate the power of transnational agribusiness by prohibiting or restricting the use of subsidies and tariffs to nurture domestic agro-export enterprises or to protect domestic farmers from foreign competition.²⁴⁵ In so doing, the neoliberal economic model reinforces the power of transnational agribusiness at the expense of small farmers, indigenous peoples, and consumers.

6. TOWARD AN ENVIRONMENTAL JUSTICE APPROACH TO TRADE POLICY

The critique of comparative advantage set forth in the preceding section underscores the importance of being attentive to the limitations of economic theory when designing trade policy. Rather than liberalizing trade in accordance with one-size-fits-all economic models, policy-makers should utilize trade as a means of achieving important social ends, including environmental protection and the promotion of human rights. This Part outlines several key elements of an environmental justice approach to trade policy and then examines each element in greater detail.

Environmental justice at the international level is grounded in human rights, including: the rights to life, health, and cultural integrity; the right to a healthy environment; the right to self-determination; and the right to be free from racial

²⁴⁴ See *id.* at 124.

²⁴⁵ See Gonzalez, *supra* note 49, at 490-92 (explaining how trade liberalization reinforces the economic power of the transnational corporations that dominate the global food system).

discrimination.²⁴⁶ An environmental justice approach to trade policy must ensure that international trade is regulated in a manner that respects, protects, and fulfills fundamental human rights—both universal human rights and the distinctive rights of indigenous peoples. As the Mexican case study illustrates, trade liberalization imposes particular risks on traditional land-based cultures whose collective identities are rooted to their ancestral territories and resources. At a minimum, an environmental justice approach to trade policy must impose an affirmative duty on governments to refrain from assuming obligations under trade agreements that would deprive indigenous communities of their rights to subsistence, self-determination and cultural integrity.²⁴⁷

A major challenge posed by trade policy is liability for extraterritorial harm. For example, should the United States be responsible for human rights violations in Mexico occasioned by the combination of U.S. agro-export dumping and Mexican trade liberalization? An environmental justice approach to trade policy must address the extraterritorial scope of human rights and environmental obligations in order to ensure that countries with disproportionate influence over the outcome of trade negotiations are held accountable for extraterritorial consequences.²⁴⁸

Environmental justice advocates have long recognized the importance of giving communities adequate information and a meaningful opportunity to participate in decisions that affect their

²⁴⁶ See Carmen G. Gonzalez, *Genetically Modified Organisms and Justice: The International Environmental Justice Implications of Biotechnology*, 19 GEO. INT'L ENVTL. L. REV. 583, 626 (2007) (discussing human rights law as the legal foundation for international environmental justice claims).

²⁴⁷ Professor Rebecca Tsosie argues for an analogous obligation in the context of climate change. She proposes a right to environmental self-determination, which would enable indigenous peoples to "maintain their unique cultural and political status as the peoples of traditional lands since before the establishment of current national boundaries." This right would impose an affirmative obligation on nation-states to mitigate climate change to avoid catastrophic harm to indigenous lands and resources. Tsosie, *supra* note 17, at 1674.

²⁴⁸ Like climate change, trade policy can impose injuries on indigenous communities that are not subject to redress through traditional self-determination rights based on territorial control because the injury is caused by activities outside the boundaries of indigenous lands and outside national borders. See Tsosie, *supra* note 17, at 1644 ("[T]he problem of climate change cannot be resolved through recognition of Native sovereignty, because the environmental harms are largely occurring beyond the boundaries of [Native] lands.") An environmental justice approach to trade policy must therefore develop theories of responsibility for extraterritorial harm.

health, resources, and livelihoods.²⁴⁹ An environmental justice approach to trade policy must provide for *ex ante* environmental and human rights impact assessment of trade agreements, and must enable communities potentially affected by trade agreements to participate in the assessment process and to comment on draft trade agreement negotiating texts.

Finally, one of the objectives of environmental justice is to promote equitable distribution of environmental amenities and to ensure that no community is disproportionately burdened by environmental hazards.²⁵⁰ As Professor Dinah Shelton observes:

Environmental justice emphasizes the environment as a social good rather than a commodity or purely economic asset. The focus is on the proper allocation of social benefits and burdens, both in the present and in the future. Thus, it requires equitable distribution of environmental amenities and environmental risks, the redress and sanctioning of environmental abuses, the restoration and conservation of nature and the fair allocation of resource benefits.²⁵¹

An environmental justice approach to trade policy must examine the ways in which international trade distributes economic and environmental benefits and burdens, and must seek to mitigate North-South inequality as well as inequities within nations. Such an analysis is necessarily interdisciplinary, multifaceted, and context-specific. It should result in proposals for scaling back the inordinate influence of wealthy countries in international economic relations, for mitigating the power of transnational corporations, and for recognizing alternatives to the dominant development paradigm. An environmental justice framework must also acknowledge the heterogeneity of the communities affected by trade policy in order to craft solutions

²⁴⁹ See Gonzalez, *supra* note 246, at 639–41 (discussing the right of those potentially affected by environmental degradation to have a say in the developmental decisions that may lead to harm).

²⁵⁰ See Carmen G. Gonzalez, *Markets, Monocultures, and Malnutrition: Agricultural Trade Policy Through an Environmental Justice Lens*, 14 MICH. ST. J. INT'L L. 345, 378 (2006) (articulating the elements of an environmental justice analysis at the international level).

²⁵¹ Dinah Shelton, *The Environmental Jurisprudence of International Human Rights Tribunals*, in LINKING HUMAN RIGHTS AND THE ENVIRONMENT 1, 23 (Romina Picoletti & Jorge D. Taillant eds., 2003).

that take into account each community's distinct history, culture, goals, needs, identity, and relationship to the environment.²⁵²

While an analysis of the specific indigenous communities in Mexico affected by NAFTA is beyond the scope of this paper, the remainder of this Article explains in greater detail the elements of an environmental justice approach to trade policy outlined above.

6.1. *Obligation to Fulfill Human Rights and Environmental Norms*

An environmental justice approach to trade policy must begin by recognizing the obligation of all states to regulate international trade in a manner that promotes human rights.²⁵³ While human rights norms with *jus cogens* status (prohibitions on genocide, torture, slavery, and systemic racial discrimination) unquestionably trump conflicting international law rules of lesser status,²⁵⁴ two arguments have traditionally been advanced to justify the hierarchical superiority of human rights norms more generally.²⁵⁵

First, as members of the Organization of the United Nations, all states have pledged to "take joint and separate action in cooperation with the Organization" to promote "universal respect for, and observance of, human rights and fundamental freedoms

²⁵² See Tsosie, *supra* note 17, at 1653–54 (discussing the distinctive rights of indigenous peoples as opposed to racial and ethnic minorities); Yamamoto & Lyman, *supra*, note 18, at 333–41 (calling for a nuanced environmental justice analysis that considers each subordinated group's history, culture, values, and interactions with other white, racialized, and indigenous groups).

²⁵³ See BERTA E. HERNÁNDEZ-TRUYOL & STEPHEN J. POWELL, *JUST TRADE: A NEW COVENANT LINKING TRADE AND HUMAN RIGHTS* 277 (2009) ("[A] special responsibility to seek consistency between trade and human rights rules exists because of the universal recognition that human rights treaties define the standards of right and wrong treatment of civil society"); Gonzalez, *supra* note 246, at 626–27 (discussing the reasons for according international human rights law primacy over conflicting legal norms); see also Gonzalez, *supra* note 24, at 1014–15 (explaining the importance of human rights law as a means of interjecting environmental justice into the trade and environment debate).

²⁵⁴ See HERNÁNDEZ-TRUYOL & POWELL, *supra* note 253, at 67 (describing the hierarchy of human rights norms in relation to other types of international law obligations).

²⁵⁵ See Olivier De Schutter, *A Human Rights Approach to Trade and Investment Policies*, in *THE GLOBAL FOOD CHALLENGE: TOWARDS A HUMAN RIGHTS APPROACH TO TRADE AND INVESTMENT POLICIES* 14, 15 (2009), available at <http://www.tradeobservatory.org/library.cfm?refID=107049> (entire volume available at <http://www.tradeobservatory.org/>) (summarizing the two traditional justifications for the hierarchical superiority of human rights law over other norms of international law).

for all without distinction as to race, sex, language or religion.”²⁵⁶ Article 103 of the UN Charter provides that the obligations of UN member states under the UN Charter shall prevail in the event of a conflict with obligations under any other international agreement.²⁵⁷ It logically follows that obligations under trade agreements must be set aside to the extent that they conflict with human rights norms.²⁵⁸

Second, human rights law is hierarchically superior to obligations flowing from trade agreements because it is premised on the natural law notion of the inherent dignity and worth of every individual, and is therefore not subject to compromise in the pursuit of other social objectives, including economic efficiency.²⁵⁹ Unlike trade agreements, human rights treaties do not involve reciprocal exchanges of obligations among contracting states.²⁶⁰ Rather, human rights norms are designed to codify the fundamental rights that groups and individual possess by virtue of their humanity. The inalienable nature of human rights claims and their recognition in a variety of human rights conventions and other legal instruments require the interpretation of trade law in a manner that promotes human rights.²⁶¹ Thus, in the *Case of the Sawhoyamaxa Indigenous Community v. Paraguay*, the Inter-American Court of Human Rights rejected Paraguay’s claim that a bilateral investment treaty precluded the country from giving effect to the indigenous community’s property rights over ancestral lands. The

²⁵⁶ See U.N. Charter, arts. 1(3), 55–56, 59 (calling upon states to promote universal respect for and observance of human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion).

²⁵⁷ *Id.* art. 103.

²⁵⁸ See De Schutter, *supra* note 255, at 15 (explaining why human rights norms should prevail over international trade norms in the event of a conflict).

²⁵⁹ See Frank J. Garcia, *The Global Market and Human Rights: Trading Away the Human Rights Principle*, 25 BROOK. J. INT’L. L. 51, 69–76 (1999) (examining the normative underpinnings of human rights law and arguing for the hierarchical superiority of human rights law over international economic law).

²⁶⁰ See De Schutter, *supra* note 255, at 16 (explaining that human rights obligations “do not primarily define obligations owed to other states” and are thus “not reducible to bilateral exchanges between contracting states”).

²⁶¹ See Ernst-Ulrich Petersmann, *Theories of Justice, Human Rights, and the Constitution of International Markets*, 37 LOY. L.A. L. REV. 407, 410–11 (2003) (“[T]he universal recognition . . . of inalienable human rights deriving from human dignity can be understood as requiring the interpretation of national and international law as a functional unity for promoting individual and democratic autonomy and diversity.”); De Schutter, *supra* note 255, at 16 (discussing the relationship between international trade law and human rights law).

court noted that the enforcement of bilateral commercial treaties "should always be compatible with the American Convention, which is a multilateral treaty on human rights that stands in a class of its own and that generates rights for individual human beings and does not depend entirely on reciprocity among states."²⁶²

At a minimum, human rights law must inform the interpretation of trade agreements because it forms part of the corpus of public international law of which international trade law is a part.²⁶³ As Professor Ernst-Ulrich Petersmann observes:

Human rights must guide the interpretation, not only of the WTO's 'exceptions' and safeguard clauses, but also of the interpretation of the basic WTO guarantees of freedom, non-discrimination, property rights and the rule of law which protect corresponding human rights values of individual liberty, non-discrimination, private property and access to courts.²⁶⁴

The special status of human rights norms can be best acknowledged by including a hierarchy of norms clause in trade agreements specifying that human rights norms will prevail in the event of a conflict with trade norms.²⁶⁵ Because the protection of air, water, and other natural resources is necessary to the realization of human rights (including the right to life and the right to health), environmental rights and obligations should likewise receive hierarchical priority.²⁶⁶ This approach is not

²⁶² *Sawhoyamaya Indigenous Community v. Paraguay*, Merits, Reparations, and Costs, Judgment, Inter-Am. Ct. H.R. (ser.C) No. 146, ¶ 140 (Mar. 29, 2006).

²⁶³ See HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 67-69 (discussing the application of human rights law to WTO disputes).

²⁶⁴ Ernst-Ulrich Petersmann, *Time for a United Nations 'Global Compact' for Integrating Human Rights into the Law of Worldwide Organizations: Lessons from European Integration*, 13 EUR. J. INT'L L. 621, 645 (2002).

²⁶⁵ See Gonzalez, *supra* note 246, at 627-28 (recommending that trade agreements include a hierarchy of norms clause that recognizes the primacy of human rights law).

²⁶⁶ See, e.g., HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 86-88 ("The rights to life and to health . . . would not be possible without clean water, clean air, and adequate food and shelter, all of which are dependent on a healthy environment."); Dinah Shelton, *Developing Substantive Environmental Rights*, 1 J. HUM. RTS. & ENV'T 89, 97-115 (2010) (describing the use of international environmental law norms by human rights tribunals to effect the fulfillment of various rights linked to environmental protection); United Nations Conference on Environment & Development, Rio de Janeiro, Braz., June 3-14, 1992, *Agenda 21*, art. 15.2, U.N. Doc. A/CONF.151/26 (Vol. II) (June 13, 1992) (pointing out that the

unprecedented. NAFTA already contains a hierarchy of norms clause that privileges certain enumerated environmental treaties should they conflict with NAFTA requirements.²⁶⁷ In the absence of a hierarchy of norms clause, states may hesitate to fulfill their obligations under human rights and environmental treaties for fear of violating trade agreements and exposing themselves to economic sanctions.²⁶⁸

6.2. Flexibility in Trade Agreements

An environmental justice approach to trade policy calls for flexible terms and generous exceptions in trade agreements in order to enable countries to fulfill human rights and environmental obligations. Because the Mexican corn case study involves the rights of indigenous peoples, this section will identify some of the applicable human rights norms and will then discuss the relevance of these norms to trade agreements.

Indigenous peoples are entitled to a panoply of rights under international law, including those contained in the Universal Declaration of Human Rights,²⁶⁹ the International Covenant on Civil and Political Rights ("ICCPR"),²⁷⁰ and the International

loss of biological diversity jeopardizes natural resources essential to the provision of food, clothing, medicine, housing, and spiritual nourishment).

²⁶⁷ See NAFTA, *supra* note 111, art. 104 (specifying which environmental treaties take priority over NAFTA in case of inconsistencies between the agreements).

²⁶⁸ See De Schutter, *supra* note 255, at 21 (describing how the fragmentation of international law into areas such as "trade law," "investment law," and "human rights law" may lead states to prioritize compliance with trade and investment norms because these are enforceable through economic sanctions).

²⁶⁹ See Universal Declaration of Human Rights, G.A. Res. 217A, U.N. GAOR, 3rd Sess., U.N. Doc. A/810 (Dec. 10, 1948) [hereinafter UDHR] (delineating rights to which all human beings are entitled, including the rights to life, liberty, freedom from servitude, freedom from arbitrary invasion of privacy, and freedom of movement). The Universal Declaration of Human Rights was adopted by the United Nations General Assembly on December 10, 1948, and is widely regarded as a legally binding codification of general principles of international law, or alternatively as customary international law. See De Schutter, *supra* note 255, at 15.

²⁷⁰ See International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171 [hereinafter ICCPR] (listing civil and political rights to which all people are entitled, including the right to assemble, due process rights, electoral rights, freedom of speech, and freedom of religion). Both Mexico and the United States are parties to this treaty and are therefore bound by its obligations. See *International Covenant on Civil and Political Rights, Status of Ratifications as of November 25, 2010*, UNITED NATIONS TREATY COLLECTION, <http://treaties.un.org>

Covenant on Economic, Social and Cultural Rights ("ICESCR").²⁷¹ Article 1 of both the ICCPR and ICESCR acknowledges the fundamental human right of all peoples to self-determination (which includes the right to "freely pursue their economic, social and cultural development") and prohibits states from interfering with a population's "own means of subsistence."²⁷² Article 2 of the Universal Declaration, the ICCPR, and the ICESCR each prohibits discrimination on the basis of race, color, sex, language, religion, or other status.²⁷³ The rights to life, health, and well-being are recognized in articles 3 and 25 of the Universal Declaration, article 6 of the ICCPR, and article 12 of the ICESCR.²⁷⁴ Other significant human rights treaties include the American Convention on Human Rights, the Convention on the Elimination of All Forms of Discrimination Against Women ("CEDAW"), the Convention on the Elimination of All Forms of Racial Discrimination ("CERD"),

/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-4&chapter=4&lang=en#EndDec (listing the signatories to the ICCPR).

²⁷¹ International Covenant on Economic, Social and Cultural Rights, Dec. 19, 1966, 993 U.N.T.S. 3 [hereinafter ICESCR] (detailing economic, social, and cultural rights to which all people are entitled, including the right to social security, the right to family life, and the right to an adequate standard of living). Mexico is a party to this treaty. The United States is a signatory, and is therefore obligated to act consistently with the treaty's object and purpose. See *International Covenant on Economic, Social and Cultural Rights, Status of Ratifications*, UNITED NATIONS TREATY COLLECTION, http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-3&chapter=4&lang=en (last visited Feb. 28, 2011) (listing the signatories to the ICESCR).

²⁷² ICCPR, *supra* note 270, art. 1; ICESCR, *supra* note 270, art. 1; see also Benedict Kingsbury, *Reconciling Five Competing Conceptual Structures of Indigenous Peoples' Claims in International and Comparative Law*, 34 N.Y.U. J. INT'L L. & POL. 189, 228-34 (2001) (discussing the evolution of the law of self-determination under the ICCPR and ICESCR as applied to indigenous peoples); Tsosie, *supra* note 17, at 1664-66 (explaining the evolution of the right of indigenous peoples to self-determination).

²⁷³ See UDHR, *supra* note 269, art. 2 (providing that regardless of race, color, or national or social origin, everyone is entitled to the rights set out in the other articles); ICCPR, *supra* note 270, art. 2 (providing that regardless of race, color, or national or social origin, everyone is entitled to the rights set out in the ICCPR); ICESCR, *supra* note 271, art. 2 (providing that regardless of race, color, or national or social origin, everyone is entitled to the rights set out in the ICESCR).

²⁷⁴ See UDHR, *supra* note 269, arts. 3, 25 (recognizing the rights to life, liberty, security of person, and an adequate standard of living); ICCPR, *supra* note 270, art. 6 (limiting the conditions under which someone can be sentenced to death); ICESCR, *supra* note 271, art. 12 (recognizing the right to physical and mental health).

the Convention on the Prevention and Punishment of the Crime of Genocide, and the Convention on the Rights of the Child.²⁷⁵

International human rights law also identifies certain rights specific to indigenous peoples. International Labor Organization Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries ("ILO Convention 169")²⁷⁶ and the United Nations Declaration of the Rights of Indigenous Peoples²⁷⁷ codify existing customary international human rights norms specific to indigenous peoples.²⁷⁸ These include the right to cultural

²⁷⁵ See HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 56 (listing significant human rights treaties).

²⁷⁶ See International Labour Organization Convention (No. 169) Concerning Indigenous and Tribal Peoples in Independent Countries, 28 I.L.M. 1382, 1384 (1989) [hereinafter ILO Convention No. 169] (delineating the minimum human rights standards applicable to indigenous peoples); see also ILO Convention No. 169 Table of Ratifications, INT'L LAB. ORG., <http://www.ilo.org/ilolex/cgi-lex/ratific.pl?C169> (last visited Jan. 31, 2011) (indicating that, as of November 25, 2010, ILO Convention No. 169 had been ratified by twenty-two countries, including Mexico. The United States is not yet a party to this treaty).

²⁷⁷ See United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), G.A. Res. 61/295, U.N. Doc. A/RES/61/295 (Sept. 13, 2007) [hereinafter UNDRIP] (recognizing the distinctive rights of indigenous peoples); Press Release, General Assembly Dep't of Pub. Info., UN General Assembly Adopts Declaration on Rights of Indigenous Peoples, U.N. Press Release 10/10612 (Sept. 13, 2007), available at <http://www.un.org/News/Press/docs/2007/ga10612.doc.htm> (indicating that the Declaration was approved by 143 nations, including Mexico, but was opposed by four nations with large indigenous populations: the United States, Canada, New Zealand, and Australia). However, Canada, New Zealand, and Australia subsequently switched their votes and endorsed the Declaration, leaving the United States as the lone holdout. In December 2010, the Obama Administration announced that it was reversing the position of the Bush administration and would endorse the Declaration. See Valerie Richardson, *Obama Adopts U.N. Manifesto on Rights of Indigenous Peoples*, WASH. TIMES, Dec. 16, 2010, <http://www.washingtontimes.com/news/2010/dec/16/obama-adopts-un-manifesto-on-rights-of-indigenous/> (last visited Feb. 28, 2011).

²⁷⁸ See S. JAMES ANAYA, *INDIGENOUS PEOPLES IN INTERNATIONAL LAW* 49–58 (1996) (discussing ILO Convention 169 and other legal instruments as evidence of customary international law regarding the rights of indigenous peoples); S. James Anaya, *International Human Rights and Indigenous Peoples: The Move Toward the Multicultural State*, 21 ARIZ. J. INT'L & COMP. L. 13, 14–15 (2009) (discussing the evolution of customary international law with respect to the rights of indigenous peoples); Anaya & Williams, *supra* note 20, at 53–74 (analyzing the emerging customary international law norms regarding the rights of indigenous peoples); Mauro Barelli, *The Role of Soft Law in the International Legal System: The Case of the United Nations Declaration on the Rights of Indigenous Peoples*, 58 INT'L & COMP. L. Q. 957, 962–63, 972–77 (2009) (explaining that the United Nations Declaration on the Rights of Indigenous Peoples crystallizes and restates diverse legal norms related

integrity,²⁷⁹ the right to lands and resources traditionally owned, occupied, or otherwise used,²⁸⁰ the right to determine their own economic development priorities,²⁸¹ the right to be consulted and to participate in decisions regarding development projects that may affect them,²⁸² the right to the secure enjoyment of their means of subsistence,²⁸³ and the right to the conservation of their environment and of the productive capacity of their lands.²⁸⁴ Similar rights are guaranteed under the Inter-American human rights system.²⁸⁵ In addition, articles 10 and 8(j) of the Convention on Biological Diversity require states to respect the traditional practices of indigenous and local communities that are compatible with the conservation and sustainable use of biological diversity.²⁸⁶

Even if trade agreements contain a hierarchy of norms provision recognizing the primacy of human rights and environmental obligations, states may nevertheless be reluctant to adopt measures not *strictly required* by environmental or human rights treaties if these measures might expose them to retaliation

to indigenous peoples' rights that have been recognized at the international, regional, and national level).

²⁷⁹ See UNDRIP, *supra* note 277, art. 11 (recognizing indigenous peoples' right to practice their cultural traditions and customs); ILO Convention No. 169, *supra* note 276, art. 5 (protecting the integrity of indigenous peoples' social, religious, and spiritual values and practices).

²⁸⁰ See UNDRIP, *supra* note 277, art. 26 (protecting indigenous peoples' rights to lands, territories, and resources); ILO Convention No. 169, *supra* note 276, arts. 13–19 (protecting indigenous peoples' rights to lands and natural resources).

²⁸¹ See UNDRIP, *supra* note 277, art. 32 (recognizing indigenous peoples' rights to determine priorities and strategies for the development of their lands and resources); ILO Convention No. 169, *supra* note 276, art. 7 (recognizing indigenous peoples' rights to determine their own development priorities).

²⁸² See UNDRIP, *supra* note 277 arts. 18–19 (recognizing indigenous peoples' rights to participation, consultation, and free, prior and informed consent on matters that may affect them); ILO Convention No. 169, *supra* note 276, art. 6 (recognizing indigenous peoples' rights to be consulted on matters that may affect them).

²⁸³ See UNDRIP, *supra* note 277, art. 20 (recognizing the right of indigenous peoples to secure subsistence).

²⁸⁴ See *id.* art. 29 (recognizing the rights of indigenous peoples to the conservation of their environment); ILO Convention No. 169, *supra* note 276, art. 4 (recognizing indigenous peoples' rights to the safeguarding of their environment).

²⁸⁵ See generally Jo M. Pasqualucci, *The Evolution of International Indigenous Rights in the Inter-American Human Rights System*, 6 HUM. RTS. L. REV. 281 (2006).

²⁸⁶ See Convention on Biological Diversity, 31 I.L.M. 818, arts. 10, 8(j) (1992); *List of Parties, CONVENTION ON BIOLOGICAL DIVERSITY, available at* <http://www.cbd.int/convention/parties/list/> (last visited Jan. 26, 2011).

from trading partners for violating trade commitments.²⁸⁷ For example, as the NAFTA case study illustrates, one of the recurring risks faced by developing countries is that low-priced agricultural imports will drive small farmers off the land.²⁸⁸ For indigenous peoples, separation from their lands, resources, and lifeways poses a threat not only to their subsistence rights but also to their unique cultural identity.²⁸⁹ In the absence of provisions in trade agreements expressly authorizing states to raise tariffs or impose other import barriers in order to respect, protect, and fulfill the rights of indigenous peoples, developing countries may be unwilling to take such measures for fear of violating the terms of trade agreements.

If trade agreements are to advance rather than frustrate environmental justice, it is essential that they give developing countries ample flexibility to protect the lands, livelihoods, and resources of indigenous and rural communities. In the Doha Round of WTO negotiations, developing countries have sought greater latitude to utilize tariffs, import restrictions, and subsidies to promote food security and rural development as well as the right to exclude agricultural commodities of greatest importance to domestic nutritional needs and rural livelihoods (such as corn and beans in the case of Mexico) from trade liberalization commitments.²⁹⁰ Incorporating flexibility mechanisms into the substantive terms of trade agreements will promote environmental justice by giving developing countries greater “policy space” to address the structural inequities in agricultural trade that threaten

²⁸⁷ See De Schutter, *supra* note 255, at 21 (describing the risk inherent in trying to navigate the complicated relationship between human rights law and trade/investment treaty obligations).

²⁸⁸ See Olivier De Schutter, *International Trade in Agriculture and the Right to Food*, 46 *DIALOGUE ON GLOBALIZATION* 43 (2009) (describing the importance of retaining the freedom to take measures to protect domestic markets from international markets).

²⁸⁹ See Tsosie, *supra* note 17, at 1645 (noting the devastating impact of relocation on the cultures and lifeways of indigenous peoples due to the link between geographical location and indigenous identity).

²⁹⁰ See Tobias Reichert, *Agricultural Trade Liberalization in Multilateral and Bilateral Trade Negotiations*, in *THE GLOBAL FOOD CHALLENGE: TOWARDS A HUMAN RIGHTS APPROACH TO TRADE AND INVESTMENT POLICIES* 29, 34–36 (2009), available at <http://www.fian.org/resources/documents/others/the-global-food-challenge/pdf> (describing the proposals of developing countries during the Doha Round of WTO negotiations).

biological diversity as well as the economic and cultural survival of indigenous peoples.

In addition to flexible terms, trade agreements should also contain broad human rights and environmental exceptions and simplified waiver provisions.²⁹¹ For example, Article XX of the 1947 General Agreement on Tariffs and Trade ("GATT") contains a series of exceptions that permit derogations from GATT norms in order to protect public health, welfare, and the environment.²⁹² While these exceptions do not explicitly mention human rights and have been interpreted quite narrowly by some dispute resolution panels, they represent an important first step toward harmonizing trade, human rights, and environmental norms.²⁹³ Trade agreements should also contain simplified waiver procedures in the event that unanticipated circumstances require states to violate trade norms in ways that do not fall squarely within existing exceptions. Such waiver provisions have been used under the WTO framework, most recently to waive the obligations of least developed countries under the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS") in order to enable these countries to obtain medications needed to combat certain epidemics, particularly HIV.²⁹⁴

Finally, flexible terms and broad exceptions are useless if countries lack the political will to implement them. For example, Mexican policy-makers failed to avail themselves of the fifteen-year transition period for the phase-out of corn tariffs that had been negotiated to shield indigenous peasants from the devastating impacts of U.S. agro-export dumping.²⁹⁵ Even after the transition period expired in 2008, there were additional measures that Mexico might have implemented without running afoul of

²⁹¹ See De Schutter, *supra* note 255, at 22-23 (discussing the GATT exception clauses and flexibility mechanisms).

²⁹² See The General Agreement on Tariffs and Trade, art. XX, Oct. 30, 1947, G1 Stat. A-11, 55 U.N.T.S. 194 (articulating general exceptions to GATT obligations).

²⁹³ See HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 90-93, 95-98, 112-13 (discussing the interpretation of the GATT art. XX exceptions in dispute resolution proceedings).

²⁹⁴ See De Schutter, *supra* note 255, at 23 (providing examples of waivers under the GATT/WTO system).

²⁹⁵ See Nadal, *supra* note 81, at 149 (explaining that the Mexican government exempted U.S. corn imports from tariffs thirty months after the effective date of NAFTA despite the fact that NAFTA authorized a fifteen-year phase-out of corn tariffs).

NAFTA to protect the livelihoods of its indigenous rural population. Mexico could have imposed countervailing duties on U.S. corn to mitigate economic injury to domestic producers caused by U.S. agricultural subsidies.²⁹⁶ Likewise, Mexico could have provided greater government support for small farmers since Mexico's current subsidy levels remain billions of dollars below the country's WTO limits.²⁹⁷ Recognizing these omissions as violations of fundamental human rights to subsistence, self-determination, cultural integrity, and environmental health may deter misguided efforts to "modernize" the agricultural sector in accordance with the dictates of comparative advantage. Human rights declarations and covenants carry significant moral authority that can be marshaled by social movements to draw global attention to abuses and injustices.²⁹⁸ Moreover, regional and global human rights tribunals, while lacking the compliance record of trade and investment dispute settlement bodies, do generate definitive rulings on complaints, and these rulings carry significant normative authority.²⁹⁹ Indeed, indigenous activists in Mexico have consciously deployed the terminology of human rights, and have made use of international tribunals in order to strengthen the appeal of their demands and to influence the behavior of the Mexican state.³⁰⁰

²⁹⁶ See Timothy A. Wise, *Policy Space for Mexican Maize: Protecting Agrobiodiversity by Promoting Rural Livelihoods* 10–12 (Global Dev. & Env't Inst., Working Paper No. 07–01, 2007) (explaining that a subsidy that exceeds five percent of the value of the traded good is considered actionable and concluding, based on an analysis of U.S. corn subsidies, that Mexico can legitimately impose countervailing duties on U.S. corn).

²⁹⁷ See *id.* at 13–14 (comparing Mexico's actual agricultural subsidy levels to the levels authorized under the WTO framework and concluding that Mexico can increase agricultural subsidies by \$12 billion without running afoul of its WTO commitments).

²⁹⁸ See Conor Gearty, *Do Human Rights Help or Hinder Environmental Protection?*, 1 J. HUM. RTS & ENV'T. 7, 14, 17, 20 (2010) (providing examples of environmental movements' use of the moral authority of human rights discourse to promote environmental protection); JUNG, *supra* note 25, at 10–11 (discussing indigenous identity and indigenous rights as the basis of a powerful moral critique of neoliberal globalization).

²⁹⁹ See HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 87 (recognizing that while human rights enforcement mechanisms do not have the highest level of compliance, definitive rulings are issued in response to complaints).

³⁰⁰ See JUNG, *supra* note 25, at 188–90 (describing the use of human rights norms and institutions by the Mexican indigenous rights movement in order to challenge the policies of the Mexican government).

6.3. Responsibility for Extraterritorial Harm

An environmental justice approach to trade policy requires the recognition of the extraterritorial scope of human rights norms and of the duty to provide reparations for human rights abuses. States are legally obligated to respect, protect, and fulfill the human rights of persons located within their borders, but the duty to respect human rights also extends extraterritorially.³⁰¹ As Olivier de Schutter, the U.N. Special Rapporteur on the Right to Food, explains:

States are bound to contribute to the aims of the UN Charter, and to respect human rights either as customary international law or as general principles of law, in all their activities, whether these activities affect the human rights of their own population or whether they affect the enjoyment of human rights abroad.³⁰²

The extraterritorial nature of human rights obligations is derived from the customary international law principle articulated in the *Trail Smelter Arbitration*³⁰³ that prohibits states from using or permitting the use of their territory so as to cause harm to property or persons located in the territory of another state.³⁰⁴ In that case, an arbitration panel awarded damages and injunctive relief against Canada for damages to crops and forests in the United States caused by air pollution from a Canadian smelter located in Trail, British Columbia.³⁰⁵ The duty to refrain from causing extraterritorial harm, reaffirmed in Principle 2 of the Rio Declaration³⁰⁶ and Principle 21 of the Stockholm Declaration,³⁰⁷

³⁰¹ See De Schutter, *supra* note 255, at 16–18 (explaining that human rights law imposes obligations on states not just toward persons residing within national borders but also toward persons located outside the nation's territory); HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 286–88 (discussing the extraterritorial scope of human rights obligations).

³⁰² De Schutter, *supra* note 255, at 18.

³⁰³ *Trail Smelter Arbitration* (U.S. v. Can.), 3 R.I.A.A. 1905, 1963–81 (Perm. Ct. Arb. 1941).

³⁰⁴ See HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 287 (explaining the implications of the *Trail Smelter* case for human rights law).

³⁰⁵ *Trail Smelter Arbitration* (U.S. v. Can.), 3 R.I.A.A. at 1907.

³⁰⁶ The Rio Declaration on Environment and Development noted that:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental

applies not only to environmental damage, but also to human rights violations arising from trade and investment agreements.³⁰⁸

In the context of international economic relations, the power of affluent nations to determine the domestic policy of less prosperous states justifies the imposition of extraterritorial human rights obligations. Created after World War II at the behest of the major powers, the IMF, the World Bank, and the GATT/WTO exercise no less control over civil society in every state than states exercise over their own populations.³⁰⁹ Regrettably, the policies of these institutions have had devastating consequences in the Global South, including harmful impacts on wages, prices, employment, social services, migration, human health, and access to basic environmental necessities such as food, land, and water.³¹⁰ As Professors Hernandez-Truyol and Powell point out:

By perpetuating a global order whose foreseeable effects are widespread human rights harms and whose ramifications are avoidable because viable alternatives exist that do not cause these human rights harms, affluent states have caused harm to others—have in fact committed human rights violations. For these reasons, the major trade powers have a negative duty to ameliorate the human

policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 13–14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), Annex I, Principle 2 (Aug. 12, 1992) [hereinafter *Rio Declaration*].

³⁰⁷ United Nations Conference on the Human Environment, Stockholm, Swed., June 5–16, 1972, *Stockholm Declaration*, U.N. Doc. A/CONF.48/14/Rev.1, Ch. 1, Principle 21 (June 16, 1972).

³⁰⁸ See De Schutter, *supra* note 255, at 17–19 (explaining that the duty to refrain from causing transboundary harm articulated in the *Trail Smelter* case is not limited to environmental damage, but applies with equal force to extraterritorial human rights violations aided or abetted by states through trade and investment agreements); HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 287 (stating that the *Trail Smelter* principle extends beyond environmental harm to human rights violations).

³⁰⁹ See HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 288–89 (discussing the origin, purpose, and impact of the IMF, the World Bank and the GATT/WTO).

³¹⁰ See Gonzalez, *supra* note 49, at 457–69 (discussing specific ways in which these institutions' policies have negatively affected developing countries).

rights harm that their global institutional order has caused.³¹¹

Applying these insights to NAFTA, one of the ways that the United States can mitigate the human rights violations caused by its trade policies and by the structural adjustment policies of the IMF and the World Bank is to promote regional integration with Mexico on mutually beneficial terms through a program of adjustment assistance. Indeed, this is precisely the approach to regional integration pioneered by the European Union. The European Union invests billions of euros to raise living standards and improve infrastructure in countries awaiting EU membership in order to create the social and political foundation for EU accession.³¹² The EU's regional aid program may be regarded as financial compensation for the dislocations arising from economic integration.³¹³ EU investment in Europe's poorer regions has created jobs, funded local development projects, retrained displaced workers, and provided aid to farmers.³¹⁴ Notwithstanding the post-2009 economic downturn, the EU's regional aid program has been remarkably successful, and has reduced incentives to migrate in search of better economic opportunities.³¹⁵

Adjustment assistance from the United States would enable the Mexican government to reinvest in the agricultural sector, to target resources toward local and indigenous communities, and to protect the natural resource base necessary for food production. Because the neoliberal economic policies of recent decades have deprived rural communities in Mexico and throughout the Global South of social safety nets, input subsidies, price supports, infrastructure, education, credit, insurance, and marketing assistance,³¹⁶

³¹¹ HERNANDEZ-TRUYOL & POWELL, *supra* note 253, at 288.

³¹² See Canova, *supra* note 7, at 364–65 (describing the European Union's Regional Assistance Program for countries awaiting EU membership).

³¹³ See *id.* at 366 ("One way to look at the EU regional aid program is as fiscal compensation to members for the dislocations arising from trade liberalization and a unified monetary policy and interest rate.").

³¹⁴ See *id.* at 365 (describing the EU's investments in poorer regions of Europe).

³¹⁵ See *id.* at 366 (discussing the impact of EU investment on Irish migration).

³¹⁶ See Ha-Joon Chang, *Rethinking Public Policy in Agriculture: Lessons from History, Distant and Recent*, 36 J. PEASANT STUD. 477, 480–81 (2009) (describing how the structural adjustment programs imposed by the IMF and the World Bank led to the elimination or drastic reduction of state support for the agricultural sector);

investment in the agricultural sector must be a top priority. Indeed, a recent multi-stakeholder and multidisciplinary assessment of the agricultural sector initiated by the World Bank and by the U.N. Food and Agriculture Organization specifically recommended the redirection of investment toward the needs of small farmers as a means of reducing poverty, promoting food security, and protecting the environment.³¹⁷

Adjustment assistance would benefit Mexicans living in urban areas by providing financing for infrastructure projects and for small and medium-sized enterprises, and would improve environmental quality by providing financing for environmental protection. Like the European Union member states, the United States and Mexico could work toward the development of a common environmental policy; U.S. adjustment assistance could finance the harmonization and improvement of environmental standards and the strengthening of the institutions that implement and enforce environmental legislation.³¹⁸

The provision of adjustment assistance to Mexico would benefit the United States by promoting long-term prosperity in Mexico, improving environmental quality, reducing economic incentives to migrate, and decreasing social unrest and illegal business activities. Instead of criminalizing immigrants and militarizing the border, the United States would do well to emulate the European Union's approach.

6.4. *Transparency and Participation in Trade Negotiations*

As the NAFTA case study illustrates, trade liberalization based on comparative advantage often results in serious human rights violations and environmental harm because market prices fail to

Anuradha Mittal, *The 2008 Food Price Crisis: Rethinking Food Security Policies*, U.N. Conference on Trade and Development, G-24 Discussion Paper, No. 56, UNCTAD/GDS/MDP/G24/2009/3, at 9-11 (June 2009) (explaining how structural adjustment in the developing world resulted in the under-investment in agriculture and rural development, particularly in Africa).

³¹⁷ INT'L ASSESSMENT OF AGRIC. KNOWLEDGE, SCI. & TECH. FOR DEV., AGRICULTURE AT A CROSSROADS: GLOBAL REPORT 379, 411, 497 (Hans R. Herren et al. eds., 2009).

³¹⁸ See Patrick J. Kapios, *Environmental Enlargement in the European Union: Approximation of the Acquis Communautaire and the Challenges that it Presents for the Applicant Countries*, 2 SUSTAINABLE DEV. L. & POL'Y 1, 4-5 (2002) (explaining the European Union's requirement that new members harmonize their environmental legislation with that of the EU).

reflect environmental and social externalities and because the communities most affected by trade reforms are not consulted. One legal reform that would facilitate the early identification and mitigation of such externalities is legislation requiring *ex ante* environmental and human rights impact assessment of all trade agreements. This assessment should take place as early as possible in the negotiation process, and should be conducted in a transparent manner that involves extensive public participation and consultation.

Environmental impact assessment emerged as a regulatory tool in the United States with the passage of the National Environmental Policy Act of 1969,³¹⁹ and has since been adopted by most countries and by international organizations.³²⁰ The objectives of the assessment process are two-fold: to ensure that the possible impacts of a proposed project are assessed *before* a final decision is made; and to inform the public and solicit meaningful public input on the costs and benefits of proceeding with the project.³²¹

In the United States, Executive Order 13,141 (1999) already requires the environmental review of trade agreements.³²² However, the executive order falls short of achieving environmental justice in numerous respects. First, while review of environmental impacts in the United States is mandatory, review of global and transboundary impacts is discretionary.³²³ Second, the executive order does not require the review of the human rights impact of trade agreements.³²⁴ Third, the executive order does not provide for the periodic assessment of trade agreements already in place.³²⁵ Fourth, the executive order fails to prescribe the timing of the environmental review and does not require the

³¹⁹ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-70 (1970). NEPA regulations are set forth at 40 C.F.R. §§ 1500.1-1517.6 (1985).

³²⁰ See DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 533 (3d. ed. 2007).

³²¹ See *id.* at 531-34.

³²² See Exec. Order No. 13,141, 64 Fed. Reg. 63,169 (Nov. 16, 1999) (requiring environmental review for "(i) comprehensive multilateral trade rounds; (ii) bilateral or free trade agreements; and (iii) major new trade liberalization agreements in natural resource sectors").

³²³ See *id.* § 5(b) (providing that "[a]s appropriate and prudent, reviews may also examine global and transboundary impacts").

³²⁴ *Id.*

³²⁵ *Id.*

release of information to the public beyond the draft environmental review and the scope of the negotiation.³²⁶ Without access to draft negotiating texts, meaningful public participation is difficult to achieve. Moreover, in the absence of specific guidance on the timing of the review, there is a danger that the review will be performed too late in the process to permit significant public input and consideration of alternatives, including the no-action alternative.³²⁷ Fifth, while the executive order does require that environmental reviews be “made available in draft form for public comment,”³²⁸ there is no mechanism to ensure that public comments are taken into account—such as requiring agency response to public comments.³²⁹ Sixth, the executive order does not require the disaggregation of impacts according to race, gender, ethnic origin, geographic region, or other variables. In order to determine whether trade agreements will impose a disproportionate burden on specific segments of the population, disaggregation of data is essential. Seventh, the executive order does not create a private right of action in case its terms are violated.³³⁰ Finally, the executive order does not make reference to Executive Order 12,898, issued five years earlier, which requires all federal agencies to make environmental justice part of their missions.³³¹ Executive Order 12,898 inexplicably excludes the United States Trade Representative and the State Department from the interagency working group charged with its implementation.³³² In order to foster environmental justice at the international level, it

³²⁶ See James Salzman, *Executive Order 13,141 and the Environmental Review of Trade Agreements*, 95 AM. J. INT’L L. 366, 372–73 (2001) (discussing the limits of Executive Order 13,141).

³²⁷ See *id.* at 373–74 (“If NEPA is a guide, it should be early enough for meaningful consideration of alternatives to the negotiating objectives, including a no-action decision.”).

³²⁸ See Exec. Order No. 13,141, *supra* note 322, § 5(a) (outlining the requirements for an environmental review).

³²⁹ See Salzman, *supra* note 326, at 373 (noting that Executive Order 13,141 does not require a response to public comments).

³³⁰ See Exec. Order No. 13,141, *supra* note 322, § 7 (“This order is intended only to improve the internal management of the executive branch and does not create any right, benefit, trust, or responsibility, substantive or procedural, enforceable at law or equity . . .”).

³³¹ See Exec. Order 12,898, 59 Fed. Reg. 7,629, § 1-101 (Feb. 11, 1994) (“[E]ach Federal agency shall make achieving environmental justice part of its mission . . .”).

³³² See *id.* § 1-102 (discussing the creation of the Interagency Working Group).

is essential to include environmental justice in the mission of these government agencies and to involve them in the interagency dialogue over the implementation of this mission.

Despite the limitations of Executive Order 13,141, *ex ante* environmental and human rights impact assessments, if properly designed, have the potential to provide decision-makers and the public with valuable information about the environmental and human rights impacts of trade agreements, to prevent the "capture" of the negotiation process by commercial interests, to enhance government accountability, to create a forum for public input, and to democratize trade policy by fostering informed and reasoned debate.³³³ The participation of rural and indigenous communities in the impact assessment process is vitally important so that the assessment will be informed by the knowledge and experience of those most affected by agricultural trade policy. Such participation also yields trade agreements that are perceived as more legitimate because they are the product of an inclusive political process.

In addition, it would be advisable to require periodic *ex post* environmental and human rights impact assessments of trade agreements several years after their entry into force and to include "sunset clauses" in trade agreements akin to Article 20 of the WTO Agreement on Agriculture³³⁴ so as to require renegotiation of trade agreements in light of these *ex post* impact assessments.³³⁵ The periodic assessment and revision of trade agreements will enable decision-makers and the public to identify the long-term and indirect impacts of trade agreements and to make sure that these agreements are continuously revised and improved in order to promote human rights and environmental protection.

In the case of NAFTA, for example, analysis and public disclosure of the negative externalities associated with industrial

³³³ See Carmen G. Gonzalez, *Environmental Impact Assessment in Post-Colonial Societies: Reflections on the Proposed Expansion of the Panama Canal*, 4 TENN. J. L. & POL'Y 303, 353 (2008) (enumerating the benefits of the environmental impact assessment process).

³³⁴ See Agreement on Agriculture, art. 20, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, 1867 U.N.T.S. 410 ("Recognizing that the long-term objective of substantial progressive reductions in support and protection resulting in fundamental reform is an ongoing process, Members agree that negotiations for continuing the process will be initiated one year before the end of the implementation period . . .").

³³⁵ See De Schutter, *supra* note 255, at 25 (discussing the importance of *ex post* assessments of trade and investment agreements).

corn production in the United States and of the positive externalities associated with traditional corn cultivation in Mexico might generate public pressure for regulatory reform or some form of financial compensation. Industrial corn production in the United States contributes to a wide range of environmental and human health problems, including water pollution, water scarcity, biodiversity loss, climate change, pesticide poisoning, and a growing epidemic of obesity and Type II diabetes due to the presence of high fructose corn syrup in numerous food products.³³⁶ In Mexico, by contrast, the biodiverse cultivation techniques of indigenous and rural communities provide positive environmental and social externalities. If these issues are discussed in public hearings in Mexico and the United States, it may be possible to create the interest convergence necessary to overcome the economic power of agribusiness and to achieve genuine reform.

Regulatory reform in the United States could involve amending the statutes that currently exempt all but the largest farms from the nation's environmental laws or redirecting subsidies away from industrial agriculture and toward healthier and more sustainable farming practices.³³⁷ Regulatory reform in Mexico might involve rewarding small farmers for the positive social and environmental contributions of traditional corn production by providing payments for ecosystem services. These payments could be funded by tariffs on U.S. corn or by direct payments from the United States for the protection of rural livelihoods and for the conservation of a public good of global significance—Mexico's genetic diversity.³³⁸

³³⁶ See generally Mary Jane Angelo, *Corn, Carbon and Conservation: Rethinking U.S. Agricultural Policy in a Changing Global Environment*, 17 GEO. MASON L. REV. 593, 595–614 (2010) (discussing the environmental and human health impacts of industrial corn production in the United States); George A. Bray et al., *Consumption of High-Fructose Corn Syrup in Beverages May Play a Role in the Epidemic of Obesity*, 79 AM. J. CLINICAL NUTRITION 537, 537–43 (2004).

³³⁷ See Angelo, *supra* note 336, at 642–55 (providing recommendations for regulatory changes); William S. Eubanks II, *A Rotten System: Subsidizing Environmental Degradation and Poor Public Health with Our Nation's Tax Dollars*, 28 STAN. ENVTL. L.J. 213, 248–51, 300–08 (2009) (proposing environmental and farm bill reforms to address the deleterious environmental and human health consequences of industrial agriculture and to promote healthier and more environmentally friendly alternatives).

³³⁸ While a discussion of the benefits and drawbacks of payments for ecosystem services is beyond the scope of this paper, it is important to emphasize the critical role of participation by small farmers and indigenous communities in the design and implementation of any payment scheme to ensure that these

6.5. *Reducing North-South Inequality: Policy Space for Development*

An environmental justice approach to trade policy seeks to reduce the structural inequities in global economic relations that impose a disproportionate share of the burdens of globalization on developing countries and on vulnerable populations within those countries.³³⁹ As the NAFTA case study illustrates, trade liberalization based on comparative advantage has often relegated developing countries to poverty by locking them into economically and ecologically disadvantageous specialization in agro-export production or low-wage, low-skill assembly plants and by precluding them from *creating* comparative advantage in more dynamic economic sectors. Even if small farmers in Mexico are compensated for providing ecosystem services and if the most egregious inequities in the agricultural chapter of NAFTA and in the WTO Agreement on Agriculture are moderated, the current WTO framework constrains the ability of developing countries to utilize many of the protectionist development strategies historically deployed by wealthy countries to achieve a stable, prosperous and diversified economic base.³⁴⁰

An environmental justice approach to trade policy must recognize and give effect to the right to development articulated by the U.N. General Assembly in its 1986 Declaration on the Right to Development³⁴¹ and subsequently reaffirmed in Principle 3 of the Rio Declaration.³⁴² The Declaration on the Right to Development proclaims the right to development as an "inalienable human right," and imposes on states "the duty to co-operate with each

payments achieve both poverty alleviation and natural resource conservation. For an analysis of the conflicting objectives and priorities of Mexico's existing payment for ecosystem services programs, see Kathleen McAfee & Elizabeth N. Shapiro, *Payments for Ecosystem Services in Mexico: Nature, Neoliberalism, Social Movements, and the State*, 100 ANNALS ASS'N AM. GEOGRAPHERS 579 (2010).

³³⁹ See Gonzalez, *supra* note 246, at 628-36 (stating that mitigation of North-South inequality is one of the goals of environmental justice at the international level and analyzing the legal doctrines available to achieve this objective).

³⁴⁰ See YONG-SHIK LEE, RECLAIMING DEVELOPMENT IN THE WORLD TRADING SYSTEM 9-13, 156-65 (2006) (stating that the current international trade framework has "put roadblocks on the path of development for many, if not most, developing countries" and proposing a more development-friendly approach to the regulation of international trade).

³⁴¹ See G.A. Res. 41/128, Annex, UN GAOR, 41st Sess., U.N. Doc. A/RES/41/128, art. 1 (Dec. 4, 1986) [hereinafter Declaration on the Right to Development].

³⁴² See Rio Declaration, *supra* note 306, princ. 3.

other in ensuring development and eliminating obstacles to development” as well as “the duty to take steps, individually and collectively, to formulate international development policies with a view to facilitating the full realization of the right to development.”³⁴³

As Professors Ruth Gordon and Jon Sylvester point out, acknowledging a right to development implies conceding the obligation to provide financial assistance to effectuate this right—an obligation that wealthy countries have consistently rejected.³⁴⁴ Despite the Global North’s disavowal of an explicit financial obligation, development has always been and continues to be the central objective of the Global South in the international trade regime.³⁴⁵

The 1947 GATT was widely perceived to favor wealthy countries over poor ones because it required reduction of tariffs on manufactured goods while permitting industrialized countries to limit or exclude textiles, clothing, and agricultural products from developing countries.³⁴⁶ In response to these inequities, developing countries banded together to demand trade preferences in favor of Third World nations, including preferential market access and non-reciprocal tariff concessions, most of which proved ineffective because they were voluntary and could be withdrawn

³⁴³ Declaration on the Right to Development, *supra* note 341, arts. 1(1), 3(3), 4(1).

³⁴⁴ Ruth E. Gordon & Jon H. Sylvester, *Deconstructing Development*, 22 WISC. INT’L L.J. 1, 63–64 (2004).

³⁴⁵ See Ruth Gordon, *Contemplating the WTO from the Margins*, 17 BERKELEY LA RAZA L.J. 95, 99 (2006) (explaining that poor nations joined the WTO “because they have been convinced, or forced to believe, that trade will be the answer to their development woes and that being outside of this regime will be economically fatal”).

³⁴⁶ See LEE, *supra* note 340, at 107–11 (concluding that “the GATT made consistent efforts to reduce both tariff and non-tariff barriers to the manufactured products in which developed countries tend to have a competitive advantage but not those products in which developing countries have this advantage, such as agricultural products and textiles”); Gonzalez, *supra* note 67, at 441–45 (describing the various protectionist trade policies utilized by developed countries under the pre-Uruguay Round GATT, including tariffs, quantitative restrictions, agricultural export subsidies, and domestic agricultural subsidies); Faizel Ismail, *Rediscovering the Role of Developing Countries in GATT Before the Doha Round*, 1 L. & DEV. REV. 49, 58–59 (2008) (discussing the impediments to developing country participation in the early GATT negotiation rounds and the ways in which the resulting trade rules disfavored developing countries).

at whim by developed countries.³⁴⁷ Despite several attempts to make the GATT more development-friendly by imposing asymmetrical obligations on developed and developing countries pursuant to the principle of special and differential treatment, the GATT failed to open up industrialized country markets to developing country products (clothing, textiles, and agricultural products) or to give developing countries sufficient flexibility to promote industrialization.³⁴⁸

The WTO, which succeeded the 1947 GATT, did not improve matters. In exchange for enhanced market access for developing country textiles and agricultural products, developing countries agreed to the curtailment of asymmetrical obligations and undertook new obligations in a variety of areas that were of particular interest to industrialized countries (including intellectual property, services, and investment).³⁴⁹ Like its predecessor, the WTO did not eliminate the trade barriers that excluded developing country products from industrialized country markets.³⁵⁰ However, the WTO did succeed in restricting the ability of developing countries to use tariffs and subsidies to promote potentially dynamic industries and to protect these industries from more technologically advanced foreign competitors;³⁵¹ it also imposed a host of new and costly obligations on developing countries in the areas of intellectual property, services, and

³⁴⁷ See Ruth Gordon, *Sub-Saharan Africa and the Brave New World of the WTO Multilateral Trade Regime*, 8 BERKELEY J. AFR.-AM. L. & POL'Y 79, 89-91 (2006) (discussing the role of the United Nations Conference on Trade and Development as the voice of Third World nations in international trade).

³⁴⁸ See LEE, *supra* note 340, at 26-39 (analyzing the shortcomings of the GATT provisions designed to facilitate development); Gonzalez, *supra* note 246, at 634-35 (discussing the failure of special and differential treatment under the 1947 GATT to advance the developmental aspirations of developing countries; Ismail, *supra* note 346, at 65-67 (describing GATT's failure during its first eight rounds to balance reciprocity and the most favored nation principle with the special development needs of developing countries).

³⁴⁹ See Frank J. Garcia, *Beyond Special and Differential Treatment*, 27 B.C. INT'L & COMP. L. REV. 291, 297 (2004) ("Developing countries lost the option of maintaining different levels of obligation and instead were granted additional periods of time to *adjust* to the burdens of fully implemented WTO obligations.").

³⁵⁰ See *id.* at 298 (noting that developed countries have maintained trade barriers in the sectors such as agriculture and textiles, which are of greatest importance to developing countries).

³⁵¹ See *id.* (explaining how the WTO deprived developing countries of market protections and of the flexibility to pursue development-oriented policies).

investment.³⁵² At the end of the day, most developing countries came to regard the WTO as a bad bargain.³⁵³

In response to developing countries' dissatisfaction with the WTO, the ministerial declaration that launched the Doha Round of WTO negotiations re-affirmed the commitment to special and differential treatment, and called for the review and strengthening of these provisions in order to make them "more precise, effective, and operational."³⁵⁴

Multilateral and bilateral trade agreements must expressly adopt and reinvigorate the principle of special and differential treatment by giving developing countries the "policy space" to utilize a variety of protectionist mechanisms to facilitate the transition from agro-export specialization and export processing to a more diversified economic base capable of generating reliable revenue streams.³⁵⁵ Only an asymmetrical set of trading rules that require relative market openness in wealthy countries while permitting certain forms of protectionism in poor countries can begin to alter the inequitable patterns of trade and production that foster environmental injustice in the Global South.

³⁵² See *id.* (arguing that developing countries undertook new obligations with clear and immediate costs in exchange for vague and unenforceable promises by developed countries to grant market access to developing country products); LEE, *supra* note 340, at 41–42 (explaining that "compliance with some of the WTO requirements . . . is costly and puts considerable burden on developing countries by requiring developing countries to divert scarce resources that should be invested elsewhere to meet more immediate economic needs").

³⁵³ See Garcia, *supra* note 349, at 297–98, 310 (concluding that the WTO was a bad bargain and explaining that "developing countries grew increasingly frustrated, judging that they had been tricked with respect to the extent of what they had been promised in the Uruguay Round").

³⁵⁴ See World Trade Organization, Ministerial Declaration of 14 November 2001, para. 44, WT/MIN(01)/DEC/1, 41 I.L.M. 746 (2002) (reaffirming the commitment to special and differential treatment and agreeing that "all special and differential treatment provisions shall be reviewed with a view to strengthening them and making them more precise, effective and operational").

³⁵⁵ See LEE, *supra* note 340, at 156–60 (calling for special and differential treatment in accordance with each country's level of development); Carmen G. Gonzalez, *Deconstructing the Mythology of Free Trade: Critical Reflections on Comparative Advantage*, 17 BERKELEY LA RAZA L.J. 65, 69 (2006) (arguing that developing countries must be permitted to "utilize the protectionist tools historically used by [industrialized countries] to achieve economic diversification and industrialization"). See generally PUTTING DEVELOPMENT FIRST: THE IMPORTANCE OF POLICY SPACE IN THE WTO AND INTERNATIONAL FINANCIAL INSTITUTIONS (Kevin P. Gallagher ed., 2005) (suggesting strategies that developing countries might deploy to maximize the "policy space" for development).

6.6. *Re-conceptualizing Development*

In addition to enhancing the ability of Third World nations to determine their own economic priorities, an environmental justice approach to trade policy must also question the development paradigm that undergirds the international trade regime³⁵⁶ and embrace alternative conceptions of a just and sustainable society.

At the heart of virtually all development theories is the notion that the Third World should abandon traditional lifestyles and beliefs and adopt First World norms and values.³⁵⁷ In its most recent incarnation, development is linked to privatization, export-led growth, and trade liberalization in accordance with the dictates of comparative advantage.³⁵⁸ Development presupposes the inferiority of non-Western peoples and prescribes "modernization" as the only path to a better life.³⁵⁹ In so doing, the contemporary development discourse represents a natural extension of its colonial predecessor that undertook the paternalistic task of "civilizing" the "natives."³⁶⁰

Indigenous peoples have long resisted misguided development projects that threaten their livelihoods, beliefs, traditions, and ways of life.³⁶¹ Indigenous organizations have denounced globalization as a "second conquest" whereby Northern and Southern states, in

³⁵⁶ See Gordon, *supra* note 345, at 99 (discussing the centrality of the development paradigm to economic globalization).

³⁵⁷ See Gordon & Sylvester, *supra* note 344, at 15-17 (critiquing development theories because at their core they push Third World countries to abandon traditions and follow in the footsteps of the West).

³⁵⁸ See *id.* at 44-48 (explaining that development became synonymous with economic liberalization, privatization, and the free market system after the demise of the Soviet Union); Gordon, *supra* note 345, at 99-100 (describing the firm link between trade liberalization based on comparative advantage and the contemporary development discourse).

³⁵⁹ See Gordon, *supra* note 345, at 107 (pointing out that "development supposes some deficiency that must be corrected" and "assumes that a particular kind of modernization is the inevitable course that all nations and peoples must pursue").

³⁶⁰ See Gordon & Sylvester, *supra* note 344, at 77-78 (concluding that the assumptions underlying the contemporary development discourse represent "a natural extension of a colonial discourse that emphasized Third World cultural, political, social and racial inferiority and justified itself, in part, by a paternalistic mission to uplift and civilize the natives").

³⁶¹ See JUNG, *supra* note 25, at 208 (arguing that "[f]rom the indigenous perspective, globalization is represented as a threat to the livelihood of indigenous communities, as well as to the preservation of their traditions, beliefs, and ways of life").

collaboration with the WTO, the IMF, and other economic organizations, continue to displace indigenous peoples in order to appropriate their lands, resources, and knowledge.³⁶² Indigenous peoples, as a matter of self-determination, demand to determine their own economic, social, environmental, and cultural priorities rather than being forced to "develop" in ways dictated by the dominant society.³⁶³

A post-development paradigm grounded in environmental justice must recognize the duty of states to respect, protect, and fulfill the rights of indigenous peoples to self-determination and to prevent the destruction or dispossession of indigenous lands whether by market forces, climate change, or other factors.³⁶⁴ Relocating indigenous communities to urban areas or to other countries in order to help them "adjust" to trade liberalization is not an acceptable option. As Professor Rebecca Tsosie points out, "[h]istory has demonstrated time and again that the forcible removal of indigenous communities from their traditional lands, resources, and lifeways results in immeasurable harm."³⁶⁵ Rather than attempting to relocate or compensate indigenous peoples for potentially irreparable harm to their lands, livelihoods, and ways of life, states entering into trade agreements must be mindful of the rights of indigenous nations within their border, and must ensure that these agreements do not undermine these rights.³⁶⁶

Recognizing alternative development paradigms is the first step toward re-conceptualizing development more generally. The promise of globalization is premised on the possibility of unlimited

³⁶² See *id.* at 208–09 (discussing the view of some indigenous activists that globalization constitutes a new form of colonialism "in which heavily indebted developing countries were powerless to prevent exploitation of their natural resources, to insist on favorable terms of trade for their export products or to protect the rights of their citizens"); LAURA WESTRA, ENVIRONMENTAL JUSTICE AND THE RIGHTS OF INDIGENOUS PEOPLES: INTERNATIONAL AND DOMESTIC LEGAL PERSPECTIVES 64–65 (2008) (arguing that globalization represents a "second conquest" of indigenous peoples "whereby states and trade and economic organizations form an almost unbeatable 'holy alliance'").

³⁶³ See, e.g., WESTRA, *supra* note 362, at 89 (discussing the struggles of indigenous communities in Guatemala to resist World Bank-financed mining projects).

³⁶⁴ See Tsosie, *supra* note 17, at 1633–43 (discussing the ways in which climate change threatens indigenous self-determination).

³⁶⁵ *Id.* at 1645.

³⁶⁶ See *id.* at 1663 (discussing the duty of nation-states to respect the rights of indigenous peoples in developing environmental policy).

economic growth.³⁶⁷ However, the resource-intensive, growth-at-any-cost economic model pioneered by the Global North and exported with missionary zeal to the rest of the world threatens to overwhelm the carrying capacity of the planet's ecosystems and to provoke global environmental catastrophe.³⁶⁸ While climate change is perhaps the most well-known example of economic activity exceeding ecological limits, there are countless additional examples, including unprecedented extinction of species; widespread chemical contamination of land, air, water, and human bodies; grave shortages of freshwater; and rapid degradation and desertification of agricultural lands.³⁶⁹ Even if ecosystem limits were not being exceeded, persistent poverty and widening social inequality raise serious questions about the benefits of the trade-based development paradigm for the world's poorest nations.³⁷⁰

A post-development paradigm must recognize the urgent need for creativity and local experimentation if we are to develop alternative approaches that integrate social, economic, and environmental justice. The current development paradigm is being contested by social movements such as the Zapatistas and by scholars writing in a variety of disciplines.³⁷¹ It is essential to acknowledge the harm that this paradigm has inflicted on indigenous peoples, on the world's poorest nations, and on the global environment if we are to promote alternatives that respect human life, human dignity, and the health of the planet.

6.7. *Mitigating the Power of Transnational Corporations*

An environmental justice approach to trade policy must acknowledge the fallacy of perfect competition in international agricultural trade, and must take steps to discipline the

³⁶⁷ See Gordon, *supra* note 345, at 110 (“[U]nderlying the promise of globalization is an unquestioned belief in unlimited growth.”).

³⁶⁸ See Gonzalez, *supra* note 24, at 1002–04 (discussing the ways in which global economic activity has exceeded ecological limits).

³⁶⁹ See JAMES GUSTAVE SPETH, *THE BRIDGE AT THE EDGE OF THE WORLD: CAPITALISM, THE ENVIRONMENT, AND CROSSING FROM CRISIS TO SUSTAINABILITY* 1–9 (2008) (describing the many ways that the global economy is “undermining the planet’s ability to sustain life”).

³⁷⁰ See Gordon, *supra* note 345, at 109 (challenging the view that if developing nations adhere to the neoliberal paradigm, development will follow).

³⁷¹ See Gordon & Sylvester, *supra* note 344, at 73–98 (discussing the social movements and the critical scholars who are contesting the development paradigm).

oligopolistic behavior of transnational agribusiness. Supported by decades of government subsidies, the multinational grain traders, seed manufacturers, agrochemical companies, and supermarket chains utilize their unprecedented market power to manipulate market prices to their advantage at the expense of small farmers and consumers in both affluent and poor nations.³⁷² These agribusiness giants increase rural poverty by placing downward pressure on the prices paid to farmers for their agricultural output while simultaneously charging high prices to consumers.³⁷³ They also use their considerable political and economic clout to persuade policy-makers in the Global North to demand greater access to developing country markets in trade negotiations while maintaining lavish agricultural subsidies at home.³⁷⁴

Aggressive enforcement of antitrust legislation is necessary to mitigate the economic power of transnational agribusiness. The United States Department of Justice has taken an important first step by launching an antitrust investigation of the seed industry and examining lack of competition in agricultural markets more generally.³⁷⁵ The European Parliament recently followed suit by adopting a declaration asking the European Commission to address the abuse of market power by large supermarket chains.³⁷⁶

³⁷² See Report of the Special Rapporteur on the Right to Food, *supra* note 234, para. 9 (concluding that the power imbalances in the food chain are detrimental to both consumers and producers and must be corrected); MURPHY, *supra* note 234, at 21-29, 32 (providing an overview of the rapidly changing commercial context of agricultural production); PATEL & MEMARSADEGHI, *supra* note 94, at 34-36 (discussing the negative impact of integrated food systems under corporate control on small farmers); ROSSET, *supra* note 234, at 45-51 (arguing that corporate domination of the food supply is harmful to farmers and consumers).

³⁷³ See Olivier De Schutter, Special Rapporteur on the Right to Food, *Addressing Concentration in Food Supply Chains: The Role of Competition Law in Tackling the Abuse of Buyer Power*, 2-3, Briefing Note 03 (Dec. 2010), available at <http://www.srfood.org/index.php/en/component/content/article/1-latest-news/1024-briefing-note-addressing-concentration-in-food-supply-chain> [hereinafter *Addressing Concentration in Food Supply Chains*] (examining the adverse effects of buying power on producer prices).

³⁷⁴ See ROSSET, *supra* note 234, at 41-51 (discussing how subsidies and market concentration aggravate the problem of export dumping).

³⁷⁵ See William Neumann, *A Growing Dissent: Rapid Rise in Seed Prices Draws Government Scrutiny*, N.Y. TIMES, Mar. 12, 2010, at B1 (discussing the Justice Department's antitrust investigation of the seed industry).

³⁷⁶ See *Addressing Concentration in Food Supply Chains*, *supra* note 373, at 1 ("[T]he European Parliament recently adopted a declaration requesting the European Commission to address 'the abuse of power by large supermarkets operating in the European Union.'").

However, given the global scope of the problem, it is imperative that states collaborate in the development and implementation of human rights-sensitive competition regimes. Competition law generally focuses on maximizing consumer welfare and fails to address the impact of market concentration on small producers.³⁷⁷ However, those most affected by corporate abuse of market power are often small farmers in the Global South whose subsistence rights are jeopardized.³⁷⁸ In order to effectively regulate anti-competitive conduct and to protect the human rights of indigenous and local rural communities, competition regimes must protect producers as well as consumers from the concentrated market power of commodity buyers, food processors, and retailers.³⁷⁹ Furthermore, the globalization of food markets requires the development of transnational legal regimes commensurate in geographic reach with the economic activities that they regulate.³⁸⁰ These legal regimes must be enforced by competent and independent competition authorities.³⁸¹ North-South collaboration is essential in order to challenge the dominance of corporate agribusiness in the world food system.

7. CONCLUSION

The NAFTA case study illustrates the importance of grounding trade policy in social, economic, and ecological reality and being mindful of the limitations of the theory of comparative advantage. The agricultural sector in the Global South is in severe crisis, and is producing a flood of migrants—initially to urban areas ill-equipped to provide jobs, housing, and other necessities and, ultimately, to the United States and other wealthy countries. This rural exodus is fracturing families, exacerbating urban poverty, producing social unrest, and threatening the physical, cultural, and

³⁷⁷ See *id.* at 3–4 (arguing that the consumer welfare standard does not take into account the potential harms suffered by small farmers despite the fact that they are most affected by excessive concentration in global food chains).

³⁷⁸ See *id.* at 4 (arguing that corporate abuses of market power lead to few alternatives for poor farming populations).

³⁷⁹ See *id.* at 4–5 (arguing that it is necessary for developing countries to put in place human rights-sensitive competition regimes).

³⁸⁰ See *id.* at 4 (“The globalization of the food supply chains requires that competition law regimes be given extraterritorial reach, commensurate with the scope of activities of the market actors concerned.”).

³⁸¹ See *id.* at 5 (examining the ways in which the creation and abuse of market power by global agribusiness firms can be addressed in competition law).

spiritual survival of indigenous peoples. It is also jeopardizing the world's genetic diversity, and facilitating the replacement of environmentally friendly farming systems with cultivation techniques that deplete aquifers, contaminate water supplies, expose humans and wildlife to toxic agrochemicals, exacerbate global warming, and encroach upon forests and ecological reserves. Instead of criminalizing immigrants and calling for increased militarization of the U.S.-Mexican border, it is important to recognize the relationship between international trade and migration, and to develop just and humane policy alternatives that will support the livelihoods of the world's local and indigenous rural populations and protect the planet's finite natural resources.

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