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The Maquiladora Problem in the Age of NAFTA: Where Will We Find Solutions?

David Voigt

Mexico's maquiladora industry¹ has led to a tremendous amount of industrial development along the Mexican border with the United States in the last 25 years.² This manufacturing corridor has provided a much needed boost to the Mexican economy, and has created hundreds of thousands of jobs.³ The development of the maquiladora industry, however, has not come without costs. When the industry began, Mexico had little environmental regulation. As the industry grew, the improper disposal of hazardous waste by maquiladoras turned much of the border between Mexico and the United States into an environmental disaster zone.⁴ This phenomenon of environmental degradation will be referred to as the "maquiladora problem."

The recent signing of the North American Free Trade Agreement (NAFTA)⁵ and the increase in economic interaction

1. A maquiladora is a foreign owned production plant in Mexico in which raw materials and component parts are imported duty-free, and finished products are exported back to the country from which the raw materials originated, with duties charged only on the value added in Mexico. See *infra* part I.A. The "maquiladora industry" refers to Mexico's in-bond industry. See *infra* note 14 and accompanying text.

2. Since 1983, the maquiladora industry has grown at a phenomenal rate. Abelardo L. Valdez, *Expanding the Concept of Coproduction Beyond the Maquiladora: Toward a More Effective Partnership Between the United States and Mexico, and the Caribbean Based Countries*, 22 INT'L LAW. 393, 394 (1988). For several years now, the maquiladora industry has been Mexico's second largest source of foreign exchange, following only the petroleum/hydrocarbons industry. *Id.* at 397 n.18.

3. As of November 1991, 379,772 people were employed at 1,739 maquiladoras along the U.S.-Mexico border. ENVIRONMENTAL PROTECTION AGENCY, SUMMARY - ENVIRONMENTAL PLAN FOR THE MEXICAN-U.S. BORDER AREA 9 (1992) [hereinafter EPA BORDER PLAN SUMMARY]. This is an increase of 52% and 117% respectively over the figures from just 5 years earlier. As of 1986, the maquiladora industry employed almost 250,000 workers in 800 maquiladoras. Valdez, *supra* note 2, at 398.

4. See *infra* note 24 and accompanying text.

5. The North American Free Trade Agreement, the parties to which are the United States, Mexico, and Canada, was completed on September 6, 1992 and was signed on December 17, 1992 by U.S. President Bush, Canadian Prime Minister Mulroney, and Mexican President Salinas. The Agreement has not yet been approved by the U.S. Congress. North American Free Trade Agree-

between the United States and Mexico have drawn a great deal of attention to the maquiladora problem. Environmentalists fear that the problem will worsen if immediate remedial action is not taken.⁶ Many had hoped that NAFTA would specifically address the problem and offer tangible solutions. Others argue that the economic benefits NAFTA generates will facilitate environmental clean-up and protection along the border.⁷

This Note explores the degree to which NAFTA offers solutions to the maquiladora problem, and assesses the feasibility of alternative solutions. Part I examines the history and future of the maquiladora program, and the significance of the pollution problem. Part II provides a background of the legal and regulatory structure governing the maquiladora industry. Part III provides an analysis of NAFTA's environmental provisions and how they may affect the maquiladora problem. Finally, Part IV explores non-NAFTA solutions to the problem. This Note concludes that, although NAFTA does not offer adequate solutions to the maquiladora problem, it may help facilitate the successful implementation of other solutions.

I. THE MAQUILADORA PROGRAM

A. HISTORY

Maquiladoras are manufacturing plants in Mexico that import raw materials or component parts duty free, process or assemble them, export the finished products back to the country of origin, and pay tariffs only on the value added in Mexico.⁸ Maquiladoras are foreign owned and managed,⁹ allowing the

ment, Dec. 17, 1992, U.S.-Mexico-Canada, (Draft of Sept. 6, 1992) [hereinafter NAFTA].

6. Critics of NAFTA fear that the treaty will turn Mexico into a "pollution haven" as Mexico attempts to attract foreign investment. Malissa H. McKeith & Mary Hall, *Environmental Compromise: Striking the Balance Between Trade and Ecology*, 15 Int'l Env'tl. Rep. (BNA) 724 (Nov. 4, 1992).

7. This proposition has divided environmentalists. Some believe that to get rich first, and then clean up later, is a fundamentally flawed concept, see *infra* text accompanying note 198; while others believe the economic benefits NAFTA will generate are the only hope for environmental improvement, see *infra* note 200.

8. These reduced tariffs are defined in Tariff Schedules of the United States, 19 U.S.C. § 1202. Their purpose is to facilitate and encourage the participation of U.S. companies in this type of foreign manufacturing program. These incentives make manufacturing programs such as that offered by the maquiladora industry especially attractive to U.S. corporations. Valdez, *supra* note 2, at 396.

9. Foreign ownership under the maquiladora program is permitted as an exception to Mexican law. Under Mexico's Foreign Investment Law, majority

owners to take advantage of Mexico's relatively inexpensive labor costs.¹⁰ This type of operation can be described as a system of coproduction, whereby two or more countries combine the human resources of one country with the natural resources or raw materials of another to develop a single product.¹¹ Most maquiladoras are American owned, and are principally located on the Mexican side of the region running along the U.S.-Mexico border from Tijuana to Matamoros.¹² Under the maquiladora program, Mexico does not impose tariffs and customs duties on input materials, equipment, and machinery designated for production in a maquiladora.¹³ This duty-free status is subject to a guarantee by the company that the finished product will eventually be exported back to the country from which the parts and components originated.¹⁴ Upon export back to the United

foreign ownership in Mexican companies is prohibited. *Ley para Promover la Inversión Mexicana y Regular la Inversión Extranjera*, D.O., Mar. 19, 1973, cited in Cheryl Schechter & David Brill, Jr., *Maquiladoras: Will the Program Continue?* 23 ST. MARY'S L.J. 697, 702 n.23 (1992). Prior to the passage of the Foreign Investment Law in 1973, the Mexican government restricted foreign investment under Art. 27 of the Mexican Constitution. MEX. CONST. art. 27, cited in Schechter & Brill, *supra*, at 702.

10. Mexican labor costs are substantially lower than those in the United States. Malissa H. McKeith, *Environmental Provisions Affecting Businesses on the U.S./Mexico Border*, 15 Int'l Env'tl. Rep. (BNA) 245 (Apr. 22, 1992) [hereinafter *BNA Environmental Provisions*].

11. Coproduction systems essentially split the manufacturing process between two or more countries. This creates a more efficient and economical means of manufacturing by minimizing the cost of each resource. By combining each country's human, natural, and technical resources, coproduction systems allow transnational companies to expand profit margins and compete more effectively in global markets. Valdez, *supra* note 2, at 393-94.

12. Most maquiladoras are located within 14 Mexican Cities. Each of these cities is one of a pair of sister cities, with one city on each side of the U.S.-Mexico border. These sister cities include: Tijuana, Baja California and San Diego, California; Mexicali, Baja California and Calixico, California; San Luis Rio Colorado, Sonora and Yuma, Arizona; Nogales, Sonora and Nogales, Arizona; Agua Prieta, Sonora and Douglas, Arizona; Naco, Sonora and Naco, Arizona; Las Palomas, Chihuahua and Columbus, New Mexico; Ciudad Juarez, Chihuahua and El Paso, Texas; Ojinaga, Chihuahua and Presidio, Texas; Ciudad Acuna, Coahuila and Del Rio, Texas; Piedras Negras, Coahuila and Eagle Pass, Texas; Nuevo Laredo, Tamaulipas and Laredo, Texas; Reynosa, Tamaulipas and McAllen, Texas; and Matamoros, Tamaulipas and Brownsville, Texas. EPA BORDER PLAN SUMMARY, *supra* note 3, at 7.

13. This is a direct incentive provided by the Government of Mexico to encourage continued growth in the maquiladora industry. Recognizing the economic advantages that come with further development, Mexico has employed a variety of such incentives to encourage U.S. investment in co-production activities. Valdez, *supra* note 2, at 394, 399-400.

14. Schechter & Brill, *supra* note 9, at 698. Companies must also post a bond as part of the guarantee that finished products will be exported. Malissa

States, the U.S. government applies a duty only to the value added in Mexico, and not to the U.S.-source content.¹⁵

The maquiladora program was originally conceived in Customs Code interpretations by the Mexican Secretaries of Commerce and Treasury in 1965.¹⁶ The maquiladora industry has been economically successful since its conception, and has especially thrived in the past ten years. Much of the industry's recent success can be attributed to the Mexican economy's shift toward export-oriented manufacturing during the late 1970s and early 1980s.¹⁷ Several presidential decrees have modified the nature, scope, and objectives of the maquiladora program.¹⁸ The 1989 Decree, currently in effect, emphasizes the following objectives: generating employment and attracting foreign currency, fostering regional development and industrial decentralization, and facilitating the transfer and development of technology.¹⁹

B. FUTURE OF THE PROGRAM

As NAFTA eliminates tariffs and foreign ownership restrictions,²⁰ American owned manufacturing plants in Mexico will

H. McKeith, *The Environment and Free Trade: Meeting Halfway at the Mexican Border*, 10 PAC. BASIN L.J. 183, 185 (1991). Due to the bond requirement, the maquiladora industry is often referred to as Mexico's "In-Bond Industry."

15. 19 U.S.C. § 1202 (item numbers 806.30 and 807.00). Item Number 807.00 provides that tariffs are to be assessed in accordance with "the full value of the imported articles less the cost or value of such products of the U.S." *Id.* Value added typically consists of labor, rent, utilities, and any additional raw materials. Schechter & Brill, *supra* note 9, at 699 n.5.

16. Schechter & Brill, *supra* note 9, at 701. The original program focused specifically on border development. It required that a Mexican company be formed to operate individual plants, but allowed full ownership of the Mexican corporation by foreigners. *Id.* at 702.

17. During this period, Mexico experienced an economic crises precipitated by an extreme drop in the international oil market. Realizing that it could no longer depend on oil exports as the primary source of foreign currency, Mexico encouraged greater integration of the maquiladora industry into its national economy. The ensuing reconstruction of the Mexican economy resulted in the expansion of manufacturing for export. *Id.* at 698.

18. *Id.* at 702-04. Since the original 1965 decree, the maquiladora program has been modified by additional decrees in 1972 (eliminating geographic limitations), 1977 (expanding the program's application by altering national content restrictions), 1983 (encouraging greater integration into the national economy), and 1989 (facilitating the development of a domestic supplier and subcontractor network). *Id.*

19. Decreto para el Fomento y Operación de la Industria Maquiladora de Exportación, D.O., Dec. 20, 1989, *cited in* Schechter & Brill, *supra* note 9, at 704 n.36.

20. NAFTA provides for the elimination of customs duties in Article 302(2), and for equal treatment of foreign investment in Article 1102.

no longer benefit from the duty-free importation of raw materials that is accorded by the maquiladora program.²¹ The tariff phase-out period for NAFTA will be gradual, however, with full duty elimination for certain tariff items scheduled as late as January 1, 2008.²² During the initial periods of tariff elimination, it will be profitable for maquiladora owners to continue to take advantage of the reduced tariff rates charged when re-importing finished products into the United States. As a result, the maquiladora program will remain advantageous to transnational companies for a number of years. This will be true so long as the duties charged on value added remain lower than the duties prescribed by the NAFTA's phase-out schedule.

After tariffs are completely phased-out, the foreign manufacturing industry in Mexico is likely to continue to expand as more companies move production facilities to Mexico.²³ The economic incentives for American manufacturers to locate in Mexico will endure so long as Mexican labor remains relatively inexpensive.

C. THE MAQUILADORA PROBLEM

Recently, the maquiladora industry has received substantial attention from environmentalists because the border area, where most maquiladoras are located, has been plagued by environmental problems.²⁴ The illegal disposal of hazardous waste

21. In addition to American owned maquiladoras, there are a significant number of Japanese, Korean, Taiwanese, and German owned maquiladoras. NAFTA will have no direct effect on the maquiladora program as it relates to these and other non-party maquiladoras. Telephone Interview with Jaime Palafox, Assistant of the Environmental Office of the Embassy of Mexico, Washington, D.C. (Oct. 22, 1992). Even if non-party maquiladora owners were to reap incidental benefits from NAFTA Rules of Origin changes, ownership and exportation requirements will remain the same. *Id.* Because these restrictions will continue to exist for non-party maquiladoras, the full implementation of NAFTA does not signal the end of the maquiladora program in Mexico.

22. NAFTA, Tariff Schedules, Phase-Out Schedule, Staging Category C15. NAFTA provides for the gradual reduction and eventual phase-out of tariffs for goods travelling between the United States, Mexico, and Canada. NAFTA addresses approximately 9,000 tariff items, with about 50% to be eliminated immediately, 15% to be phased out over a five year period, and the remaining items to be eliminated over a six to 15 year period. *President Bush Announces NAFTA Accord, but Labor, Others Promise Renewed Attack*, 9 Int'l Trade Rep. (BNA) 1375 (Aug. 12, 1992).

23. Michael Scott Feeley & Elizabeth Knier, *Environmental Considerations of the Emerging United States-Mexico Free Trade Agreement*, 2 DUKE J. COMP. & INT'L L. 259, 276 (1992).

24. Among the environmental problems attributed to the maquiladora industry are steadily worsening air quality in the border region, and contamina-

from maquiladoras has become commonplace,²⁵ and has resulted in dangerous living conditions in Mexican towns where maquiladoras are located, and in American colonias.²⁶ One commonly cited horror story tells of large numbers of babies being born with missing or incomplete brains near maquiladoras.²⁷ This is allegedly caused by mothers' consumption of untreated water coming from sources near the maquiladoras.²⁸

As many urban areas along the border developed rapidly, centralized wastewater collection and treatment systems were never built.²⁹ This has resulted in the vast discharge of untreated or inadequately treated wastewater into rivers, canals, arroyos,³⁰ the Gulf of Mexico, and the Pacific Ocean.³¹ An American Medical Association report, released in 1990, characterized the border region as a "virtual cesspool and breeding ground for infectious disease," and warned that "[u]ncontrolled air and water pollution is rapidly deteriorating and seriously affecting the health and future economic vitality on both sides of

tion of water supplies due to improper and illegal disposal of hazardous wastes. *Id.* at 274-75.

25. See, e.g., *U.S.-Mexico Border: Thousands of Hazardous Waste Drums Prompt Investigation*, 15 Int'l Env'tl. Rep. (BNA) 569 (Sept. 9, 1992).

26. Colonias are small American border towns located immediately across the border from maquiladoras. Because environmental conditions in most colonias are as poor as those across the border in Mexico, these conditions constitute a significant part of the maquiladora problem.

27. *Special Report: North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, Int'l Trade Daily (BNA) Sept. 10, 1992, at *29-30, available in WESTLAW, BNA-BTD Database [hereinafter *BNA NAFTA Report*]. This phenomenon is known as anencephaly, and has been occurring with alarming frequency in Matamoros, Tamaulipas and Brownsville, Texas. *Non-environmental Causes Investigated in Anencephaly Outbreak on Border*, Int'l Env'tl. Daily (BNA) Oct. 15, 1992, at *2, available in WESTLAW, BNA-IED Database [hereinafter *BNA Anencephaly Report*].

28. *Lawyers Say Opposition to Fast Track Mounts in U.S. Congress*, NO-TIMEX Mexican News Service, May 10, 1992, at *3, available in LEXIS, Nexis Library, Omni File. This is only a theory, however, and studies to detect non-environmental causes of the anencephaly outbreak are currently being conducted. *BNA Anencephaly Report*, *supra* note 27, at *2.

29. EPA BORDER PLAN SUMMARY, *supra* note 3, at 11. Currently, Mexico's urban areas (particularly those along the border) lack adequate sewage systems, waste disposal facilities, pollution control equipment, and other basic structural components. Feeley & Knier, *supra* note 23, at 272.

30. An arroyo is a small stream, or brook.

31. EPA BORDER PLAN SUMMARY, *supra* note 3, at 12. While much of this pollution may be attributed directly to the border plants themselves, a significant portion may be attributed only indirectly, as the results of the rapid urbanization that has accompanied the growth of the maquiladora industry. "Waste . . . generated by humans is a formidable component of the pollution stream." Feeley & Knier, *supra* note 23, at 273.

the border."³² In addition, industrial facilities, most of which are maquiladoras, currently release a range of toxic air pollutants into the atmosphere, further contributing to deteriorating air quality along the border.³³

The environmental problems among the maquiladoras can be attributed to several causes such as non-compliance with existing environmental regulations,³⁴ lax enforcement by Mexican authorities,³⁵ and the lack of an adequate infrastructure necessary to treat and dispose of hazardous waste.³⁶ While these problems are complex and diverse, they can all be traced to a common source: the lack of economic resources available in Mexico to adequately control the environmental effects of development in the border region.³⁷

II. LEGAL BACKGROUND AND REGULATORY SCHEME

A comprehensive environmental regulatory structure exists in Mexico in the form of domestic laws, agency regulation, and international agreements. As serious as the maquiladora problem is, it does not result from a lack of regulation. The Mexican government has particularly shown an increasing commitment to the environment in the past ten years.

A. THE GENERAL LAW OF ECOLOGICAL EQUILIBRIUM AND ENVIRONMENTAL PROTECTION

The General Law of Ecological Equilibrium and Environ-

32. Michael Satchell, *Poisoning the Border*, U.S. NEWS & WORLD REPORT, May 6, 1991, at 34, cited in Michael Conner, *Maquiladoras and the Border Environment: Prospects for Moving from Agreements to Solutions*, 3 COLO. J. INT'L ENVTL. L. & POL'Y 683, 683 (1992).

33. EPA BORDER PLAN SUMMARY, *supra* note 3, at 12. The air quality problems along the border can also be attributed to a number of other factors in addition to the maquiladoras. The sister cities are subject to many of the same air quality problems typical of densely populated urban areas. *Id.*

34. Strong environmental laws and adequate enforcement are necessary to prevent companies from migrating to Mexico to avoid environmental compliance costs. *NAFTA: Reilly Says NAFTA May Be First Trade Pact with Sustainable Development as a Goal*, 9 Int'l Trade Rep. (BNA) 1386 (Aug. 13, 1992).

35. *Id.*

36. *NAFTA May Bring 'Import' of Pollution to Mexico*, J. Com. (Reuter) Aug. 20, 1992, at *2, available in WESTLAW, JOC Database.

37. "Lack of funding is the root of Mexican and United States environmental concerns." Feeley & Knier, *supra* note 23, at 292. See also Conner, *supra* note 32, at 699.

mental Protection (the General Ecology Law),³⁸ passed in 1988, is a comprehensive environmental law that provides the primary structure of environmental regulation and enforcement in Mexico.³⁹ The law is patterned after U.S. environmental legislation in both substance and structure, and is effectuated through a decentralized system in which local authorities have the responsibility to ensure compliance.⁴⁰ The General Ecology Law regulates air, water, soil, and natural resources; requires prior authorization for any activity that causes ecological disequilibrium; and is enforced through a series of technical ecological norms.⁴¹

Preventing and controlling water, air, and soil pollution is a fundamental goal of the General Ecology Law,⁴² and this makes it particularly relevant to problems in the border region and among the maquiladoras. This law requires each facility to comply with a variety of guidelines regarding the generation, storage, transportation and disposal of hazardous waste.⁴³ In particular, it requires that all hazardous waste generated by maquiladoras be returned to the country of origin.⁴⁴

38. General Law of Ecological Equilibrium and Environmental Protection, D.O. Jan. 28, 1988 cited in Conner, *supra* note 32, at 691 n.54.

39. UNITED STATES GENERAL ACCOUNTING OFFICE, REPORT TO THE CHAIRMAN, COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION, U.S. SENATE, U.S.-MEXICO TRADE: ASSESSMENT OF MEXICO'S ENVIRONMENTAL CONTROLS FOR NEW COMPAINES 2 (Aug. 1992) [hereinafter GAO REPORT].

40. Edward M. Ranger, Jr., *Environmental Regulation and Enforcement in Mexico*, at 2, reprinted from Maquiladora Industry Annual Review (Seguros de Mexico 1991) (on file with the *Minnesota Journal of Global Trade*). The General Ecology Law itself is federal in scope, with federal authorities empowered to apply and enforce regulations. The intent, however, is to rely on local authorities to monitor compliance. In addition, the General Ecology Law allows state and municipal regulations to exist within its field of application. *Id.*

41. *BNA Environmental Provisions*, *supra* note 10, at 245.

42. Other fundamental goals include the prevention of the over-exploitation of non-renewable resources, and the prevention of noise, vibration, and thermal pollution. EMBASSY OF MEXICO, MEXICO ENVIRONMENTAL ISSUES - FACT SHEETS 9 (Sept. 1992) (on file with the *Minnesota Journal of Global Trade*).

43. McKeith, *supra* note 14, at 189-92. These requirements mandate that each facility: (1) obtain an environmental operating license; (2) file an Environmental Impact Statement (if one is required); (3) register residual wastewater discharge; (4) register the generation of hazardous waste; (5) obtain Ecological Manifests (tracking forms) for the transportation of hazardous materials; (6) store hazardous materials in approved facilities; and (7) follow a series of reporting and record-keeping requirements. *Id.*

44. Conner, *supra* note 32, at 692. This requirement is also referred to in the La Paz Agreement. See also note 74, *infra*, and accompanying text.

B. AGENCY REGULATION

The General Ecology Law of 1988 delegates the responsibility for the formulation and enforcement of environmental policy to the recently created Secretariat of Social Development (SEDESOL).⁴⁵ The Mexican Congress approved the creation of SEDESOL in May 1992 as part of an initiative to concentrate the responsibilities of several social institutions in one agency.⁴⁶ In addition to policymaking, monitoring, and enforcement, SEDESOL performs administrative functions such as channeling funds for the development of infrastructure projects.⁴⁷

Two agencies which focus exclusively on the environment fall under SEDESOL's authority.⁴⁸ The National Institute of Ecology is primarily responsible for analyzing and formulating Mexico's environmental policy.⁴⁹ The Office of the Attorney General for Protection of the Environment is responsible for the enforcement of environmental regulations formulated by the National Institute of Ecology, the investigation and punishment of non-compliance with environmental regulations, and the facilitation of public participation in environmental measures.⁵⁰ SEDESOL grants these agencies a degree of technical and operative autonomy to aid them in fulfilling their functions.⁵¹

The General Ecology Law requires prospective owners and operators of new companies, or existing companies planning significant changes, to receive advance authorization from SEDESOL. Authorization is obtained first by submitting a

45. Originally, this responsibility was given to the Secretariat of Urban Development and Ecology (SEDUE). On May 26, 1992, however, SEDESOL was formed with the intent that it perform all environmental functions previously handled by SEDUE. GAO REPORT, *supra* note 39, at 2. SEDESOL has now completely replaced SEDUE.

46. SECRETARIA DE DESARROLLO SOCIAL, SEDESOL 1 (1992) (pamphlet on file with the *Minnesota Journal of Global Trade*) [hereinafter SEDESOL Pamphlet]. This reorganization was the result of an initiative by the Federal Executive. *Id.*

47. GAO REPORT, *supra* note 39, at 2.

48. EMBASSY OF MEXICO, SEDESOL'S FIRST 100 DAYS: A RECORD OF ENVIRONMENTAL ENFORCEMENT 1 (1992) (pamphlet distributed by the Embassy of Mexico) [hereinafter SEDESOL'S FIRST 100 DAYS].

49. *Id.* These responsibilities fall within the categories of ecological planning, environmental standards, ecological exploitation of natural resources, and technological research and development. SEDESOL Pamphlet, *supra* note 46, at 2.

50. SEDESOL'S FIRST 100 DAYS, *supra* note 48, at 1.

51. SEDESOL Pamphlet, *supra* note 46, at 2. This type of autonomy serves the purpose of preventing bureaucratic stagnation, political corruption, and other potential problems associated with the political capture of government agencies.

“Dictamen de Viabilidad” (feasibility assessment),⁵² and then submitting an Environmental Impact Appraisal (EIA) if SEDESOL determines that the project’s environmental risk warrants one.⁵³ If an EIA is required, it must be conducted by a registered environmental consultant.⁵⁴

Maquiladoras are also specifically regulated by the Secretariat of Commerce and Industrial Promotion (SECOFI), a coordinating agency for the maquiladora program. SECOFI is responsible for ensuring that maquiladoras initiate the EIA process and comply with other SEDESOL requirements.⁵⁵ In order to participate in the maquiladora program, a company must receive a license from SECOFI.⁵⁶ This license is conditioned upon compliance with applicable environmental legislation.⁵⁷

C. THE LA PAZ AGREEMENT

In addition to traditional forms of regulation by domestic legislation and agency supervision, the maquiladora industry is significantly affected by international environmental agreements. The most important of these, the Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area⁵⁸ (the La Paz Agreement) was signed by President Ronald Reagan and President Miguel de la Madrid on August 14, 1983, in the City of La Paz, Baja California, Mexico. This agreement sets forth general goals for environmental protection along the border and provides a foundation for the cooperative fulfillment of those goals. In the La Paz Agreement, the “border area” is defined as any territory

52. A Dictamen de Viabilidad is a summary describing the planned location and operation of the company. GAO REPORT, *supra* note 39, at 11.

53. This determination is based upon information contained in the Dictamen de Viabilidad. *Id.* If SEDESOL determines that a project will not substantially affect the environment, the company will be requested to submit an “Informe Preventivo” (preventative report). *Id.*

54. McKeith, *supra* note 14, at 190.

55. GAO REPORT, *supra* note 39, at 12.

56. To obtain this license, the company must provide SECOFI with a copy of the EIA, Dictamen de Viabilidad, or Informe Preventivo with a stamp showing that it has been received by SEDESOL. This ensures that a license will not be issued without initiating SEDESOL’s authorization procedures. *Id.*

57. *Environmental Regulation and Enforcement in Mexico*, *supra* note 40, at 6.

58. Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, Aug. 14, 1983, U.S.-Mex., T.I.A.S. No. 10827, reprinted in 22 I.L.M. 1025 (1983) [hereinafter La Paz Agreement].

within 100 kilometers of the inland and maritime boundaries between the United States and Mexico.⁵⁹

The provisions of the La Paz Agreement are general in nature and primarily outline the administration of cooperative efforts. Article 8 designates the Environmental Protection Agency (EPA) as the national coordinator for the United States, and SEDESOL as the national coordinator for Mexico.⁶⁰ As national coordinators, these agencies have the responsibility to "coordinate and monitor implementation of this agreement, make recommendations to the Parties, and organize the annual meetings."⁶¹

Specific arrangements for the solutions of environmental problems are to be added to the La Paz Agreement through formal annexes as the need arises.⁶² To date, the agreement has been supplemented with five annexes relating to specific problems.

Annex I, Agreement of Cooperation for Solution of the Border Sanitation Problem at San Diego, California - Tijuana, Baja California, was signed on July 18, 1985.⁶³ This Annex addresses sanitation problems at the border between San Diego and Tijuana, and provides for consultations between the U.S. and Mexican governments regarding a proposed waste-water treatment facility.⁶⁴

Annex II, Agreement of Cooperation Regarding Pollution of the Environment Along the Inland International Boundary by Discharges of Hazardous Substances, was also signed on July

59. *Id.* art. 4.

60. *Id.* art. 8. The agreement actually designates SEDUE as the Mexican National Coordinator, but SEDESOL has since taken over all functions of SEDUE. *See supra* note 45.

61. *Id.* art. 8. Additional responsibilities are to be determined by agreement in subsequent annexes to the La Paz Agreement. *Id.*

62. *Id.* art. 3, which states as follows: "Pursuant to this Agreement, the Parties may conclude specific arrangements for the solution of common problems in the border area, which may be annexed thereto. Similarly, the Parties may also agree upon annexes to this Agreement on technical matters."

63. Annex I to the Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area — Agreement of Cooperation for Solution of the Border Sanitation Problem at San Diego, California-Tijuana, Baja California, July 18, 1985, U.S.-Mex., 26 I.L.M. 18 (1987) [hereinafter Annex I].

64. This treatment facility has only recently received U.S. funding approval. A proposed bill provides \$32.5 million for its construction in 1992. *EPA, Congress Sends EPA Funding Bill to the President Hill Aide Says*, Daily Rep. for Execs. (BNA) Sept. 30, 1992, at *7, available in LEXIS, Nexis Library, Omni File.

18, 1985.⁶⁵ This annex provides working definitions of the concepts of "polluting incidents," "environment" and "hazardous substances."⁶⁶ It establishes a "Joint Contingency Plan" to deal with polluting incidents,⁶⁷ and a "Joint Response Team" to advise, evaluate, and make recommendations regarding specific polluting incidents.⁶⁸ The goal of this annex is to improve detection and response measures to polluting incidents.⁶⁹

65. Annex II to the Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area — Agreement Between the United States of America and the United Mexican States Regarding Pollution of the Environment Along the Inland International Boundary by Discharges of Hazardous Substances, July 18, 1985, U.S.-Mex., 26 I.L.M. 19 (1987) [hereinafter Annex II].

66. *Id.* art. I provides in pertinent part:

For the purposes of this Agreement:

(a) "A polluting incident" means a discharge or the threat of a discharge of any hazardous substance on one side of the inland international boundary of a magnitude which causes, or threatens to cause imminent and substantial adverse effects on the public health, welfare, or the environment.

(b) "Environment" means the atmosphere, land, and surface and ground water, including the natural resources therein, such as fish, wildlife, forests, crop and rangeland, rivers, streams, aquifers and all other components of the ecosystem.

(c) "Hazardous substances" means elements and compounds which if discharged present or may present an imminent and substantial danger to the public health, welfare or the environment according to the laws of each party and the determination of the Joint Response Team (JRT). The JRT and its responsibilities are defined in Appendix II.

67. The purpose of this plan is to devise workable cooperative measures to effectively respond to polluting incidents. *Id.* art. II.

68. *Id.* art. II, appendix II, 2.6 provides in pertinent part:

When the two Parties have agreed to initiate a joint response to a polluting incident, the functions and responsibilities of the JRT will be the following:

(a) Based on the OSC's [on scene coordinator] initial notification, advise the OSC . . . about measures needed to respond to the incident and what resources . . . are available to carry out those measures.

(b) To evaluate and make recommendations concerning the measures taken by the OSC.

(c) To provide continuing advice to the OSC.

(d) To consider the journal and reports of the OSC and recommend to the National Coordinators improvements needed in the Plan.

(e) Based on the reports of the OSC, to assess the possible impacts of the polluting incident and to recommend measures necessary to mitigate the adverse effects of such incident.

(f) To take measures to coordinate and use to the maximum the resources which agencies or persons of the United States of America, or of the United Mexican States, or of a third party can contribute.

69. McKeith, *supra* note 14, at 193. Annex II is particularly relevant to the regulation of maquiladoras because certain incidents of illegal disposal or accidental discharge of hazardous wastes by maquiladoras in the border area qualify as "polluting incidents" within the meaning of this Annex.

Annex III, Agreement of Cooperation Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, was signed on November 12, 1986.⁷⁰ This annex provides a legal and procedural framework for the transborder shipment of hazardous substances, and monitors and regulates these shipments in a manner designed not to interfere with bilateral trade.⁷¹ Specifically, it provides for notifications regarding the shipment of hazardous substances,⁷² and notifications regarding restrictive regulatory actions.⁷³ Maquiladoras are specifically addressed in Article XI, which provides that "[h]azardous waste generated in the processes of economic production, manufacturing, processing or repair, for which raw materials were utilized and temporarily admitted, shall continue to be readmitted by the country of origin of the raw materials in accordance with applicable national policies, laws and regulations."⁷⁴

Annex IV, Agreement of Cooperation Regarding Transboundary Air Pollution Caused by Copper Smelters Along [the] Common Border, was signed on January 29, 1987.⁷⁵ This annex

70. Annex III to the Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area — Agreement of Cooperation Between the United States of America and the United Mexican States Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, Nov. 12, 1986, U.S.-Mex., 26 I.L.M. 25 (1987) [hereinafter Annex III].

71. *Environmental Regulation and Enforcement in Mexico*, *supra* note 40, at 7. Annex III is the only part of the La Paz Agreement that expressly links environmental regulation with trade obligations. In its preamble, Annex III recognizes that "the close trading relationship and the long common border between the Parties make it necessary to cooperate regarding transboundary shipments of hazardous waste and hazardous substances without unreasonably affecting the trade of goods and services." Annex III, *supra* note 70.

72. Annex III, *supra* note 70, art. VI. This notification contains the name of the hazardous substance, the approximate date(s) of export, information regarding regulatory action, and the name and address of the contact point. *Id.* art. VI, 3.

73. *Id.* art. V. This notification contains the name of the substance that has been regulated, a summary of the regulatory action, a summary of the reason for the regulatory action, information regarding any alternative substances, and the name and address of the contact point. *Id.* art. V: 2.

74. *Id.* art. XI. Because Annex III, Article XI addresses readmission into the country of origin of raw materials, rather than shipment from the maquiladoras, it is unclear whether it mandates that all hazardous wastes from maquiladoras be returned to the country of origin. The maquiladoras themselves had not taken this as a mandate. Conner, *supra* note 32, at 689-90. The General Ecology Law, however, has subsequently clarified this ambiguity by expressly requiring that each plant return all hazardous wastes to the country in which the materials originated. See *supra* note 44 and accompanying text.

75. Annex IV to the Agreement Between the United States of America and

limits sulphur dioxide emissions of specific smelters,⁷⁶ and coordinates a monitoring, recordkeeping and reporting system for the smelters.⁷⁷

Annex V, Agreement of Cooperation Regarding International Transport of Urban Air Pollution, was signed on October 3, 1989.⁷⁸ This annex calls for each party to initiate studies to identify and manage emissions of pollutants from specific stationary sources.⁷⁹ In addition, Annex V calls on each party to jointly explore ways to harmonize air pollution control standards and ambient air quality standards.⁸⁰

In Mexico, the La Paz Agreement has been ineffective in improving the monitoring and enforcement of regulations governing the disposal of hazardous wastes. Despite the regulatory scheme outlined in Annex III, Mexico has made little headway in pursuance of this goal.⁸¹ A major reason for this lack of progress is the deficiency of tracking procedures.⁸² A common prac-

the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area — Agreement of Cooperation Between the United States of America and the United Mexican States Regarding Transboundary Air Pollution Caused by Copper Smelters Along Their Common Border, July 29, 1987, U.S.-Mex., 26 I.L.M. 33 (1987) [hereinafter Annex IV]. As a remedial measure aimed at two specific copper smelters, Annex IV has no regulatory effect on the maquiladora industry.

76. The smelters are the Phelps Dodge copper smelter in Douglas, Arizona and the Mexicana de Cobre la Caridad copper smelter in Nacozari, Sonora. *Id.* art. I(1),(3).

77. *Id.* art. II.

78. Annex V to the Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area — Agreement of Cooperation Between the Government of the United States of America and the Government of the United Mexican States Regarding International Transport of Urban Air Pollution, Oct. 3, 1989, U.S.-Mex., 29 I.L.M. 29 (1990) [hereinafter Annex V]. Annex V may ultimately have a great deal of effect on the maquiladora industry, because maquiladoras are the type of emission sources that the Annex addresses. *Id.*

79. *Id.* Article II outlines the general obligations of each party to identify the location, magnitude and type of pollutants in their respective territories. Articles III and IV create obligations regarding the compiling of information and monitoring of emissions.

80. *Id.* art. V provides in pertinent part: "In order to make more effective the implementation of this Annex, the Parties shall jointly explore ways to harmonize, as appropriate, their air pollution control standards and ambient air quality standards in accordance with their respective legal procedures."

81. Elizabeth C. Rose, *Transboundary Harm: Hazardous Waste Management Problems and Mexico's Maquiladoras*, 23 INT'L LAW. 223, 240 (1989).

82. After raw materials are initially shipped from the United States, proving that they reach their proper destination and that the wastes subsequently generated are properly managed is virtually impossible. *Id.* at 241.

tice of local waste disposal companies has been to simply remove waste-filled drums from maquiladoras and dump them into municipal or private landfills, or directly into urban sewage systems.⁸³ One particularly horrifying report alleges that recycled hazardous waste drums are being sold to Mexican citizens, who use them for the storage of drinking water.⁸⁴

While the La Paz Agreement and its annexes have addressed a significant number of environmental problems in the border area, they have also been criticized for their failure to effectively deter maquiladoras from blatantly disregarding environmental regulations.⁸⁵ In response to this criticism, EPA officials have pointed to insufficient funding.⁸⁶ A second deficiency with the La Paz Agreement is the conspicuous absence of enforcement provisions. While the goals of the agreement are ambitious, its terms are often qualified with language such as "to the fullest extent practical."⁸⁷ In addition, the agreement explicitly states that "[a]ctivities under this agreement shall be subject to the availability of funds and other resources to each Party and to the applicable laws and regulations in each country."⁸⁸ These passages indicate that the La Paz Agreement is merely a cooperative attempt to solve environmental problems, and has little binding force. As the continued existence of the maquiladora problem demonstrates, the La Paz Agreement and its annexes are a disappointing precedent among cooperative environmental efforts between the United States and Mexico.

III. NAFTA AS A SOLUTION TO THE MAQUILADORA PROBLEM

During preliminary negotiations leading up to NAFTA, en-

83. H. Jeffrey Leonard, *Confronting Industrial Pollution in Rapidly Industrializing Countries: Myths, Pitfalls and Opportunities*, 12 *ECOLOGY L.Q.* 779, 799 (1985). Few company officials candidly admit that this type of disposal occurs. Most of these companies, however, are unable to account for the final destinations of waste drums that are taken from their plants. *Id.*

84. Jane Juffer, *Dump at the Border*, *PROGRESSIVE*, Oct. 1988, at 24, 28.

85. McKeith, *supra* note 14, at 194. In addition, the practical effectiveness of the La Paz Agreement and its Annexes has been the subject of doubt. *Id.* n.50.

86. This response came from Enrique Manzanilla, U.S.-Mexico Border Coordinator, Water Management Division, EPA Region IX, and is cited in McKeith, *supra* note 14, at 194.

87. See, for example, La Paz Agreement, Article 2: "The Parties undertake, to the fullest extent practical, to adopt the appropriate measures to prevent, reduce and eliminate sources of pollution . . ." La Paz Agreement, *supra* note 58, art. 2 (emphasis added).

88. *Id.* art. 18.

vironmentalists hoped that the agreement would directly address the maquiladora problem.⁸⁹ In particular, environmentalists had hoped that NAFTA would consider lax environmental regulations and enforcement to be unfair trade practices, and provide enforcement mechanisms to compel a party to take measures to protect the environment.⁹⁰

Two concerns explain the interest of the U.S. government and American citizens in compelling Mexico to protect and improve its domestic environmental conditions. The first concern is economic - U.S. business interests have expressed concern that manufacturers will relocate to Mexico in order to avoid high compliance costs with domestic environmental regulations.⁹¹ If lower environmental compliance costs actually do play a role in decisions to relocate,⁹² encouraging investment through non-enforcement of environmental regulations may constitute an unfair trade advantage for Mexico.⁹³

89. Even after NAFTA has been signed, the governments of the United States, Mexico, and Canada continue to receive criticism for the perceived failure to consult environmental organizations during NAFTA negotiations. *NAFTA — Mexican Groups Gear up for Talks on Environmental Issues Related to Pact*, Int'l Envtl. Daily (BNA), Feb. 23, 1993, at *9, available in WESTLAW, BNA-IED Database.

90. AMERICAN CETACEAN SOCIETY, ET AL., RESPONSE OF ENVIRONMENTAL AND CONSUMER ORGANIZATIONS TO THE SEPTEMBER 6, 1992 TEXT OF NAFTA 4 (Alex Hittle & Scott Nilson eds., Oct. 6, 1992) [hereinafter ENVIRONMENTAL REPORT].

91. *NAFTA Provides Wrong Business Incentives, Witnesses Tell House Small Business Panel*, Int'l Trade Daily (BNA) Sept. 22, 1992, at *18-19, available in WESTLAW, BNA-BTD Database.

92. There is considerable disagreement as to whether or not environmental compliance costs are high enough to become an influential factor in a company's decision to relocate. *Id.* According to the Bush Administration summary of NAFTA:

Compliance costs play a minimal role in relocation decisions because they represent a small share of total costs for most industries. Indeed, 86 percent of U.S. industries have abatement costs of 2 percent or less. Moreover, most U.S. industries with high compliance costs already have low tariffs, so NAFTA would give them little incentive to relocate to Mexico.

UNITED STATES TRADE REPRESENTATIVE, DESCRIPTION OF THE NORTH AMERICAN FREE TRADE AGREEMENT, (Aug. 12, 1992) [hereinafter NAFTA Summary].

Even if compliance costs are not high enough to influence an existing manufacturer's decision to relocate, however, they may be significant enough to influence the decision of where a new manufacturing plant should be located. If this is true, a trade advantage exists for countries that do not enforce environmental regulations.

93. Industries in developed countries have commonly complained that they are at a disadvantage when competing with industries with less stringent environmental regulations. Geoffrey W. Levin, *The Environment and Trade - A Multilateral Imperative*, 1 MINN. J. GLOBAL TRADE 231, 234 (1992).

The second concern is environmental — beyond the immediate concern that environmentally dangerous conditions at the border will spill over into the United States, modern environmental theory has a global rather than a national focus. As a concept, environmentalism transcends national boundaries. Accordingly, environmentalists throughout the world are as concerned about environmental problems in Mexico as they are about those in the United States.⁹⁴ If the Mexican government is unwilling or unable to protect the environment within its own territory, public and private environmental organizations will naturally look elsewhere to find solutions to environmental problems. If, under NAFTA, the U.S. government has the power to compel action by Mexican authorities, environmentalists will certainly pressure it to do so.⁹⁵

Although NAFTA does not go this far, it does recognize environmental concerns in several provisions. NAFTA has been hailed by the Bush Administration as “the greenest ever” among free trade agreements.⁹⁶ This is not a very strong statement, however, given that previous trade agreements have rarely addressed environmental issues.⁹⁷ In fact, the nature of NAFTA’s environmental provisions is limited, and NAFTA offers little that will lead to solutions to the maquiladora problem.

A. ARTICULATED GOALS

The preamble of NAFTA, which lists the general results

94. Because environmental problems are oblivious to national boundaries, it matters little whether the environmental problems caused by the maquiladoras are in Mexico or the United States. “Nature’s writs are ubiquitous and universal. The laws of Nature give rise to identical bio-physical reactions in Los Angeles, Birmingham, Dusseldorf, Oslo, or Auckland. When discharges of wastes or residuals lead to pollution, common bio-physical reactions take place regardless of where in the world the environment is abused.” Lakshman Guruswamy, *Integrating Pollution Control: The Way Forward*, 7 ARIZ. J. INT’L & COMP. L. 173, 185 (1990).

95. When environmental protection is at stake, it matters little to environmental organizations what the source of that protection may be. Throughout the NAFTA negotiations, for example, environmental organizations pressured the Bush Administration to include provisions that would affect environmental conditions within Mexico. See, e.g., *NAFTA - Public Citizen Says NAFTA Summary is ‘Little More Than Greenwash’*, Int’l Trade Daily (BNA) Aug. 24, 1992, at *15, available in WESTLAW, BNA-BTD Database.

96. Linda Fisher, EPA Assistant Administrator for Prevention, Pesticides, and Toxic Substances, described NAFTA as “perhaps the greenest trade agreement ever negotiated in the world.” *NAFTA: U.S.-Mexico Environmental Accord Expected to Be Signed Soon, Fisher Says*, Int’l Env’tl. Daily (BNA) Sept. 14, 1992, at *9, available in WESTLAW, BNA-IED Database.

97. ENVIRONMENTAL REPORT, *supra* note 90, at 1.

that the parties to the agreement hope to achieve, contains specific references to environmental safety. These references include the resolve to:

- “UNDERTAKE each of the [other goals] in a manner consistent with environmental protection and conservation”;
- “PROMOTE sustainable development”; and
- “STRENGTHEN the development and enforcement of environmental laws and regulations.”⁹⁸

As declarations in a preamble, these provisions are merely general statements and have little, if any, regulatory force.⁹⁹ NAFTA supporters have consistently referred to these statements, however, as reflecting a strong commitment to environmental safety.¹⁰⁰ Whether or not such a commitment exists, its existence does not necessarily mean that affirmative steps will be taken to realize articulated goals.

B. REINFORCEMENT OF EXISTING AGREEMENTS

Article 104 of NAFTA lists certain currently existing international environmental agreements that will take precedence over NAFTA should a conflict between NAFTA and the provisions of the respective agreements arise.¹⁰¹ The agreements that may affect the maquiladoras include:

- 1) The Montreal Protocol on Substances that Deplete the Ozone Layer,¹⁰²
- 2) The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal,¹⁰³ and

98. NAFTA, pmbi.

99. Although statements in a preamble are not normally binding, they do have a degree of interpretive force. According to Art. 31 of the Vienna Convention on the Law of Treaties, the preamble of a treaty is relevant in determining the context and purpose of the agreement should a dispute regarding the interpretation of terms arise. Vienna Conventions on the Law of Treaties, art. 31, U.N. Doc. A/Conf.39/27, May 23, 1969.

100. See, for example, *NAFTA Summary*, *supra* note 92, at 44: “The three NAFTA countries have committed in the NAFTA to implementing the Agreement in a manner consistent with environmental protection and to promoting sustainable development. Specific provisions throughout the Agreement build upon these commitments.”

101. NAFTA, art. 104.

102. Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, *reprinted in* 26 I.L.M. 1541 (entered into force Jan. 1, 1989) [hereinafter Montreal Protocol]. This agreement establishes specific obligations to limit the use of chlorofluorocarbons and other chemicals that deplete the ozone layer. It affects the maquiladoras only indirectly, in that it limits the manufacture of certain substances.

103. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, UNEP Doc. IG 80/3, 28 I.L.M.

3) The Agreement Between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area (The La Paz Agreement).¹⁰⁴

Although it allows these agreements to remain undisturbed as part of the environmental regulatory scheme that applies to the maquiladoras,¹⁰⁵ NAFTA incorporates few, if any of these agreements' specific environmental obligations.¹⁰⁶ Incorporation of environmental obligations is important because it would allow those obligations to be enforced under NAFTA. However, because provisions of the environmental agreements that take precedence over NAFTA are limited to "specific trade obligations" set forth in those agreements,¹⁰⁷ very few provisions will be implicated.¹⁰⁸

C. INVESTMENT PROVISIONS

Chapter 11 of NAFTA contains the investment provisions that will govern all foreign investment between the parties. Specifically, this chapter applies to measures adopted or maintained by the government of a party, relating to investors and investments of another party.¹⁰⁹

NAFTA's investment provisions attempt to protect each party's existing environmental regulations by allowing a country

657 (1989). This agreement creates obligations regarding the shipment of hazardous wastes between countries. It is relevant to the maquiladoras because maquiladoras are required to ship hazardous wastes back to the country of origin. See *supra* note 44 and accompanying text. The Basel Convention is of limited applicability with respect to incorporating environmental obligations under NAFTA, however, because it allows individual countries to set their own environmental standards and procedures regarding the shipment of wastes, rather than creating multilateral standards. Feeley & Knier, *supra* note 23, at 278.

104. See La Paz Agreement, *supra* note 58. Because this agreement already directly regulates maquiladoras, obligations under this agreement are the most relevant in this context.

105. The rest of the regulatory scheme is composed of Mexican law and parallel initiatives between the U.S. and Mexican governments. See *supra* part II. See also *infra* part IV.

106. See *infra* part III.D.

107. NAFTA, art. 104(1).

108. Because the agreements listed in Article 104 of NAFTA are all environmental agreements, they contain very few "specific trade obligations." The Montreal Protocol on Substances that Deplete the Ozone Layer contains obligations to limit trade to non-parties to the agreement. Montreal Protocol, art. 4, *supra* note 102, at 1554-55. This obligation is irrelevant with respect to the maquiladora problem, however, because it addresses types of manufacturing, rather than the conduct of manufacturers.

109. NAFTA, art. 1101, 1(a),(b).

to impose any standard it deems appropriate, so long as those standards are applied equally to domestically-owned enterprises.¹¹⁰ These provisions emphasize each country's right to choose its own level of environmental protection without outside interference.¹¹¹

This chapter also echoes the general sentiments set forth in the preamble by providing that a party may adopt, maintain, or enforce any measure it considers appropriate to ensure that investment "is undertaken in a manner sensitive to environmental concerns."¹¹² The generality of this statement, however, suggests that this investment provision will probably have little practical effect on environmental regulation and enforcement.

Finally, this chapter explicitly recognizes that "it is inappropriate to encourage investment by relaxing domestic . . . environmental measures."¹¹³ This language is weak, however, because it merely states that parties *should not* waive standards to encourage or retain investment, not that they *shall not* do so.¹¹⁴ If a party believes that another party has relaxed standards to encourage investment, NAFTA provides no remedy apart from consultations to resolve the dispute.¹¹⁵ If the dispute is not resolved through these consultations, it is unclear whether formal (Chapter 20) dispute resolution procedures¹¹⁶ are available to the complaining party in order to compel the offending party to rectify the situation.¹¹⁷

110. NAFTA, arts. 1102(1) and 1106(2). These provisions are analogous to the national treatment obligations contained in the General Agreement on Tariffs and Trade (GATT), which provide, *inter alia*, that "[t]he products of the territory of any contracting party . . . shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements . . ." General Agreement on Tariffs and Trade, art. III(4), opened for signature Oct. 30, 1947, 61 Stat. pts 5,6, T.I.A.S. No. 1700, 55 U.N.T.S. 187 [hereinafter GATT].

111. NAFTA does not impose environmental standards, but only requires that any domestic standard imposed by a party be applied in a non-discriminatory manner. This right of self-determination is articulated by Article 904(1), which asserts that: "[e]ach Party may, in accordance with this Agreement, adopt, maintain and apply standards-related measures, including those relating to . . . the environment . . . and measures to ensure their enforcement or implementation."

112. NAFTA, art. 1114(1).

113. NAFTA, art. 1114(2).

114. *Id.* Article 1114(2) states in part: "A Party should not waive or otherwise derogate from . . . such measures as an encouragement for the establishment, acquisition, expansion, or retention in its territory of an investment."

115. *Id.*

116. *See infra* part III.D.

117. *See infra* note 157 and accompanying text.

While Chapter 11 directly addresses potential environmental problems that NAFTA may create or amplify, it does not go far enough to assuage the worst fears of NAFTA's environmental critics. The most immediate environmental problem along the border today is the lax enforcement of existing laws, rather than the lowering of standards to attract investment.¹¹⁸ Moreover, the non-obligatory nature of the language of Chapter 11 environmental provisions¹¹⁹ may render it impossible to use these provisions as the basis for a claim under NAFTA's dispute resolution chapter.¹²⁰

D. DISPUTE RESOLUTION

At best, NAFTA's dispute resolution procedures provide only a glimmer of hope for affirmative solutions to the maquiladora problem. Theoretically, these procedures could serve as an enforcement mechanism that would allow the United States to compel Mexican enforcement of environmental regulation in limited situations. Although the text itself makes no reference to this type of use, the dispute resolution procedures in NAFTA may be able to trigger provisions of other environmental agreements which previously have been ineffective or unenforceable.¹²¹ If this actually happened, the merger of NAFTA with these agreements would effectively produce a dynamic and enforceable — albeit limited — scheme of environmental regulation among the United States, Mexico, and Canada.

Chapter 20 of NAFTA defines the institutions and procedures to be utilized in resolving disputes among parties. These procedures apply with respect to all disputes regarding the interpretation or application of NAFTA, or "wherever a Party considers that an actual or proposed measure of another party is or would be inconsistent with the obligations of this agreement."¹²² To the extent that "obligations of this Agreement" include the

118. Although NAFTA Article 1114(2) addresses enforcement problems to a limited degree, "[i]t misses the main current problem which is lax enforcement of existing laws, rather than the lowering of standards to attract investment." ENVIRONMENTAL REPORT, *supra* note 90, at 4.

119. See *supra* notes 113-14 and accompanying text.

120. See *infra* text accompanying notes 150-51.

121. See *supra* part III.B. The La Paz Agreement and its annexes, for example, contain specific environmental obligations, but they are legally unenforceable because the La Paz Agreement has no dispute resolution procedures or enforcement provisions.

122. NAFTA, art. 2004.

general propositions set forth in the preamble¹²³ and the investment provisions,¹²⁴ and the obligations of the environmental agreements that take precedence over NAFTA, dispute resolution procedures may be applied to environmental obligations that are not explicitly stated in the text of NAFTA.

A complaining party initiates dispute resolution under NAFTA by requesting consultations with another party regarding the disputed measure.¹²⁵ The only requirement at this stage is that “[t]he consulting Parties shall make every attempt to arrive at a mutually satisfactory resolution of any matter through consultations.”¹²⁶

If the parties fail to resolve the dispute through consultations within a specified time period, any party may request a meeting of the Free Trade Commission (the Commission).¹²⁷ At this meeting, the Commission may “call on such technical advisers or create such working groups or expert groups as it deems necessary.”¹²⁸ At this stage, the only mandate is that the Commission help the parties “to reach a mutually satisfactory resolution of the dispute.”¹²⁹

If the Commission does not resolve the matter within a specified period of time, any party may request that the Commission establish an arbitral panel.¹³⁰ This panel consists of individuals appointed by a selection process in which each party selects citizens of the other disputing party.¹³¹ After hearing the dispute, the panel submits a report to the disputing parties and

123. Generally, preambles of international agreements are relevant only to matters of interpretation. *See supra* note 99.

124. *See supra* notes 109-13 and accompanying text.

125. NAFTA, art. 2006(1).

126. *Id.* art. 2006(5).

127. *Id.* art. 2007(1). The Free Trade Commission is a board specifically created to resolve disputes regarding the interpretation and application of NAFTA. *Id.* art. 2001(2)(c). A meeting of the Commission may be requested under Art. 2007 only after consultations under Art. 2006 have taken place. *Id.* art. 2007(1).

128. *Id.* art. 2007(5)(a).

129. *Id.* art. 2007(5).

130. *Id.* art. 2008(1). The establishment of an arbitral panel may not be requested unless the Commission has previously convened, and the matter has not been resolved. *Id.*

131. *Id.* art. 2011(1)(c). The panel consists of one chair, and two panelists from each country. *Id.* art. 2011(1). The chair is chosen by consensus of each party. *Id.* art. 2011(1)(b). If the parties are unable to agree on a chair within a specified time period, a disputing party chosen by lot selects a chair who is not a citizen of that party. *Id.* Panelists and the chair are chosen from a roster of up to 30 individuals maintained by each party. *Id.* art. 2009(1). These individuals may be scientists, experts, industry leaders, or anyone else with the relevant knowledge to serve on the panel. *Id.* art. 2009(2)(a).

to the Commission.¹³² At this point, there is a mandate that "the disputing parties shall agree on the resolution of the dispute, which normally shall conform with the determinations and recommendations of the panel."¹³³

If the report of the arbitral panel determines that a measure is inconsistent with the terms of NAFTA, and no agreement has been reached, the complaining party may suspend the application of "benefits of equivalent effect" until an agreement is reached.¹³⁴ This provision provides the teeth to the dispute resolution procedures. Its potential force is significant because both the decision of whether to suspend benefits, and the determination of which benefits to suspend are the responsibilities of the complaining party, not of the arbitral panel or the Free Trade Commission.¹³⁵ While the party affected by the suspension may request that the Commission establish a panel to determine whether the level of benefits that have been suspended is "manifestly excessive,"¹³⁶ the *initial* power to determine which benefits to suspend lies with the complaining party.

Theoretically, a country may use NAFTA's dispute resolution procedures to compel enforcement of domestic environmental laws through the provisions of the Agreements listed in Article 104 of NAFTA.¹³⁷ Annex III to the La Paz Agreement, for example, provides that hazardous wastes from maquiladoras shall be returned to the country in which the raw materials originated: "[h]azardous waste generated in the process[] of . . . manufacturing . . . for which raw materials were utilized and temporarily admitted, shall continue to be readmitted by the

132. *Id.* arts. 2017(1) and 2017(3).

133. *Id.* art. 2018(1).

134. *Id.* art. 2019(1). This suspension may be initiated 30 days after the parties receive the final report. *Id.*

135. "[C]omplaining party may suspend the application to the Party complained against of benefits of equivalent effect . . ." *Id.* (emphasis added). "In considering what benefits to suspend . . . a *complaining party* should first seek to suspend benefits in the same sector or sectors . . ." *Id.* art. 2019(2)(a). (emphasis added).

The significance of this becomes clear when compared to the seldom used enforcement mechanism of the dispute resolution procedure in the GATT. In the GATT mechanism, only the Contracting Parties (collective parties to the agreement) may make the decision to allow a party to suspend concessions or obligations under GATT. GATT, art. XXIII; 2. Under this provision of the GATT, only one dispute has resulted in the suspension of concessions. JOHN H. JACKSON, *THE WORLD TRADING SYSTEM* 96 (1989); JOHN H. JACKSON, *WORLD TRADE AND THE LAW OF GATT* 185 (1969). For further discussion of GATT dispute resolution procedures, see *id.* at 178-87.

136. NAFTA, art. 2019(3).

137. See *supra* part III.B.

country of origin of the raw materials . . . ”¹³⁸ In addition, Annex III provides that each party should enforce its domestic laws applying to transboundary shipment of hazardous wastes: “[e]ach party shall ensure . . . that its domestic laws and regulations are enforced with respect to transboundary shipments of hazardous waste and hazardous substances . . . that pose dangers to public health, property and the environment.”¹³⁹

Taken together, these provisions of the La Paz Agreement constitute “specific trade obligations” within the meaning of NAFTA Article 104.¹⁴⁰ According to the terms of Article 104, if La Paz Agreement obligations conflict with NAFTA provisions, the La Paz Agreement “shall prevail to the extent of the inconsistency.”¹⁴¹ In this situation, it is “inconsistent with the obligations of [NAFTA]”¹⁴² for a party to disregard La Paz Agreement obligations in observance of conflicting NAFTA provisions.

As an example, consider a hypothetical situation in which Mexican authorities allow maquiladoras in Reynosa, Tamaulipas, to dump untreated liquid waste directly into the Rio Grande, in blatant disregard of Mexican law,¹⁴³ La Paz Agree-

138. La Paz Agreement, *supra* note 58, Annex III, art. XI. This interpretation assumes that article XI is indeed a mandate to maquiladoras, and not merely an obligation of the country where the raw materials originated. See *supra* note 74. Although this issue was rendered moot by Mexico’s General Ecology Law, it would require a reconsidered interpretation in this context. This is because Article 104 of NAFTA refers to obligations in trade agreements, and not to obligations of domestic law.

139. La Paz Agreement, *supra* note 58, Annex III, art. II(2). Although the Annexes to the La Paz Agreement are not expressly included within Article 104(1) of NAFTA, the Annexes existing at the time of the signing of NAFTA will most likely be interpreted as part of the La Paz Agreement. Any future Annexes to the La Paz Agreement will probably have to be agreed upon in accordance with Article 104(2) of NAFTA: “The Parties may agree in writing to modify Annex 104.1 to include any amendment to the agreements listed in paragraph 1, and any other environmental or conservation agreement.”

140. Because maquiladoras are plants that manufacture for export, obligations in international agreements concerning the operation of maquiladoras must be considered “trade obligations.” The obligation to ensure that hazardous wastes are disposed of in a specific manner, especially considering that disposal involves transboundary shipments between the parties to the La Paz Agreement, must certainly be considered a “specific trade obligation” within the meaning of Article 104 of NAFTA. The corresponding obligation to enforce domestic laws with respect to shipments of hazardous wastes from maquiladoras, referred to in the La Paz Agreement, Annex III, Article II(2), is a necessary component of the obligation to dispose of hazardous wastes in a specified manner. Enforcement is therefore part of the “specific trade obligation” that has been created in the La Paz Agreement, Annex III, Articles II(2) and XI.

141. NAFTA, art. 104(1).

142. NAFTA, art. 2004. See *supra* note 122 and accompanying text.

143. Mexico’s General Ecology Law regulates the disposal of hazardous

ment obligations,¹⁴⁴ and U.S. EPA objections. In response, the United States, fearing that this indiscriminate disposal will create dangerous environmental conditions in McAllen, Texas, and other communities down river, initiates NAFTA's dispute resolution procedures in an attempt to compel Mexican authorities to enforce applicable regulations. The United States charges that Mexican authorities in Reynosa have relaxed environmental standards in order to encourage investment, in violation of Article 1114 of NAFTA.¹⁴⁵ The United States further argues that hazardous wastes from maquiladoras should be returned to the United States in accordance with La Paz Agreement obligations. Mexico responds by arguing that they are simply applying environmental standards in accordance with Articles 904 and 1102 of NAFTA, which allow them to choose their own standards of environmental regulation, so long as it is done on a non-discriminatory basis.¹⁴⁶

In this situation, the text of NAFTA supports the U.S. position because specific trade obligations in the La Paz Agreement — the obligations to ensure that hazardous wastes from maquiladoras are disposed of in a specific manner¹⁴⁷ — are inconsistent with NAFTA provisions allowing Mexico to determine their own standards of environmental regulation.¹⁴⁸ According to Article 104 of NAFTA, the obligations of the La Paz Agreement “shall prevail to the extent of the inconsistency.” Accordingly, the dispute may be the subject of NAFTA's Chapter 20 dispute resolution procedures because it addresses “the application of this Agreement,” and concerns “an actual . . . measure of another Party . . . [that] is . . . inconsistent with the obligations of this Agreement.”¹⁴⁹ The non-enforcement of environmental regulations among the maquiladoras is inconsistent with the obligation not to derogate from environmental measures in order to acquire or retain investment.

wastes, and requires that all hazardous wastes from maquiladoras be returned to the country of origin of raw materials. See *supra* notes 43-44 and accompanying text.

144. See *supra* notes 138-39 and accompanying text.

145. See *supra* note 113 and accompanying text.

146. See *supra* notes 110-11 and accompanying text.

147. See *supra* notes 138-40 and accompanying text.

148. See *supra* notes 110-11 and accompanying text.

149. NAFTA, art. 2004. It is not clear whether non-enforcement of domestic law will be considered a “measure” within the meaning of Article 2004 of NAFTA. Even if it is not, however, the dispute involves “the application of [NAFTA].” *Id.* This is enough to place it within the authority of Chapter 20 dispute resolution procedures.

While the preceding hypothetical may appear to present a plausible situation in which NAFTA could be useful in addressing environmental concerns, several practical difficulties preclude the NAFTA from effectively protecting the environment in this manner. First and foremost, it is not at all clear that Article 1114 of NAFTA, in discouraging the attraction of investment by relaxing environmental standards, constitutes the type of obligation which may be the subject of Chapter 20 dispute resolution procedures.

As mentioned previously, the language of Article 1114 phrases the obligation to maintain environmental standards using the word "should" rather than "shall."¹⁵⁰ Because the word "should" does not normally imply binding legal force, Article 1114 might be interpreted as imposing no obligation at all. In order to successfully assert that Article 1114 does impose a legal obligation, a complaining party must resort to arguments of good faith and general purpose,¹⁵¹ rather than relying on the strength of the text. As the only provision of NAFTA with which non-enforcement of environmental regulations may be inconsistent, the interpretation of Article 1114's obligatory nature is crucial to its role in dispute resolution procedures. If Article 1114 is not interpreted as a legal obligation, disputes over non-enforcement of environmental regulations would not be redressible under NAFTA's dispute resolution procedures.¹⁵²

A second problem with the language of Article 1114 is that it refers to actual standards, and not to enforcement of those standards.¹⁵³ In order to allege a violation of this provision, relaxing *enforcement* of environmental measures must be interpreted as relaxing the environmental measures themselves. This is not entirely implausible, for the word "measures" may

150. See *supra* note 114 and accompanying text.

151. An argument in support of interpreting Article 1114 as carrying at least a degree of legally binding force might be based upon the lack of good faith of the offending party. Even if the obligation not to relax environmental standards is not mandatory, the inclusion of the non-mandatory provision imposes the obligation to at least make a good faith attempt to comply with that provision. Furthermore, even without mandatory language, the general purpose of the provision is clear, and the parties are obligated to make good faith efforts to effectuate that purpose.

152. In this situation, non-enforcement of environmental regulations would not be redressible under NAFTA because non-enforcement would not be "inconsistent with the obligations of [NAFTA]." NAFTA, art. 2004. See *supra* note 149 and accompanying text.

153. NAFTA, art. 1114(2) states in pertinent part: "it is inappropriate to encourage investment by relaxing . . . *environmental measures* . . ." (emphasis added).

encompass standards of enforcement as well as standards of regulation. Furthermore, a party must establish that non-enforcement of those standards promotes investment.¹⁵⁴ Whether this has occurred requires a case by case determination, and is not amenable to generalization over a wide range of situations.

In addition to employing non-obligatory and somewhat ambiguous language, Article 1114 independently provides for consultations.¹⁵⁵ Should a dispute between parties arise under Article 1114, non-binding consultations mandate only that "the two Parties shall consult with a view to avoiding any such encouragement."¹⁵⁶ The existence of these consultations as a separate dispute resolution procedure may preclude the Chapter 20 general dispute resolution mechanism because a more specific one is provided in Article 1114. Although there is no language in either Article 1114 or Chapter 20 that explicitly precludes the initiation of Chapter 20 dispute resolution procedures if Article 1114 consultations fail to resolve the dispute,¹⁵⁷ Article 1114 consultations may have been intended to replace any other forms of dispute resolution involving this provision. If this is the case, the non-binding consultations of Article 1114, rather than a dispute resolution procedure that may ultimately allow the "suspension of benefits" to the offending party,¹⁵⁸ are the only means by which problems of non-enforcement of environmental regulations may be redressed under NAFTA.

Using Article 104 references to environmental treaties as a basis for finding obligations under NAFTA is problematic as well, because the Agreements listed in Article 104 take precedence over NAFTA only to the extent of the inconsistency be-

154. Whether such non-enforcement must be explicitly for the purpose of promoting investment, or may simply have the effect of promoting investment is unclear. This is a matter of interpretation that will probably not be decided until the question is directly addressed in an actual dispute. The complaining party would argue that the effect of promoting investment is enough to constitute a violation under Article 1114.

155. See *supra* note 115 and accompanying text.

156. NAFTA, art. 1114(2).

157. The inclusion of a provision for consultations in Article 1114 indicates that these consultations must be resorted to before initiating formal dispute resolution procedures under Chapter 20. NAFTA Article 2004 provides that "[e]xcept as otherwise provided in this Agreement, the dispute settlement provisions of this Chapter shall apply" This does not seem to exclude disputes over Article 1114 from these procedures. Moreover, the reference to "other consultative provisions of this Agreement" in Article 2006(5) seems to suggest that dispute resolution procedures apply equally to provisions outside of Chapter 20 that require consultations.

158. See *supra* notes 134-136 and accompanying text.

tween NAFTA and the specific obligations of the conflicting agreement.¹⁵⁹ Obligations under the La Paz Agreement, for example, would only be implicated if a party's failure to enforce domestic environmental laws were somehow linked to provisions of NAFTA.¹⁶⁰ It is more likely, however, that the failure to enforce these laws would result from factors unrelated to NAFTA.¹⁶¹ In this case, although a party has failed to meet the obligations in the La Paz Agreement, no inconsistency exists. The provisions of NAFTA are not implicated, and the dispute resolution procedures are therefore unavailable.

Another problem with the use of Article 104 in dispute resolution procedures is that it requires a "specific trade obligation" of an environmental agreement to conflict with NAFTA obligations before the outside agreement will be given precedence.¹⁶² General environmental obligations contained in those agreements will therefore never take precedence over NAFTA. Given that the agreements currently listed in Article 104 contain very few "specific trade obligations,"¹⁶³ situations which require deference to these agreements will seldom arise in the context of NAFTA.

IV. OTHER SOLUTIONS

As it becomes clear that NAFTA's solutions to the maquiladora problem are limited at best, a more fundamental question must be addressed. Is a free trade agreement the best place to find solutions to environmental problems? Environmentalists argue that it is unconscionable to remove trade barriers without ensuring that we do not create a pollution haven along our southern border.¹⁶⁴ If the United States had complete control to

159. NAFTA, art. 104(1). *See supra* text accompanying note 141.

160. In the preceding hypothetical, for example, Mexico had justified non-enforcement of environmental regulations with Articles 904 and 1102 of NAFTA. *See supra* text accompanying note 146.

161. The lack of economic resources, for example, is a much more plausible reason for non-enforcement of environmental regulations than is the desire to attract investment, or to autonomously control domestic environmental standards. *See supra* note 37 and accompanying text.

162. NAFTA, art. 104. *See also supra* note 107 and accompanying text.

163. In fact, the provisions listed *supra* at notes 138-39 are most likely the only parts of the La Paz Agreement that might be interpreted as "specific trade obligations." *See also supra* note 108 and accompanying text.

164. Michael Fischer, *Safeguard the Environment When Increasing Trade*, S.F. CHRON., Aug. 28, 1992, at A29. Michael Fischer is executive director of the Sierra Club in Washington, D.C. Fischer argues that by endorsing NAFTA without mandating U.S. companies in Mexico to comply with U.S. environmen-

avoid such a possibility, perhaps these arguments would be more compelling. An ideal trade agreement would allow the removal of trade barriers while mandating that environmental standards would be maintained, harmonized, and rigorously enforced. It is unrealistic, however, to expect NAFTA to live up to these aspirations.¹⁶⁵

Historically, Mexico has been resistant to U.S. efforts to control Mexican domestic policies.¹⁶⁶ In the political context in which NAFTA was negotiated, historical distrust generated a great deal of Mexican resistance to creating such a permanent relationship with the United States.¹⁶⁷ As a result, the Mexican government has taken the firm position that environmental problems along the border should be addressed through cooperative efforts of the United States and Mexico,¹⁶⁸ rather than by U.S. interference or coercion. The Bush Administration also advanced this position, and it is the assumption under which the NAFTA negotiations were conducted.¹⁶⁹ Realistically, there-

tal law, the Bush Administration is sacrificing environmental safety and public health standards. *Id.*

165. In testimony before the International Trade Subcommittee of the Senate Finance Committee, William Reilly, the former Administrator of the Environmental Protection Agency commented that NAFTA cannot, and should not, be asked to carry the amount of "environmental freight" that many people are suggesting it should. Although Mr. Reilly's terminology might have been more artfully chosen, his point is that as a trade agreement, and not an environmental agreement, NAFTA is not the appropriate forum in which to address the full spectrum of environmental problems in Mexico and the United States. *International Trade Subcommittee of the Senate Finance Committee*, FEDERAL NEWS SERVICE, Sept. 16, 1992, at *40, available in LEXIS, Nexis Library, Omni File.

166. This historic antipathy is one reason that attempts to impose U.S. environmental standards on Mexico would probably be counterproductive and offensive to the Mexican government. Feeley & Knier, *supra* note 23, at 287.

167. Jesus Silva & Richard K. Dunn, *A Free Trade Agreement Between the United States and Mexico: The Right Choice?*, 27 SAN DIEGO L. REV. 937, 945 (1990). For further discussion on historical Mexican attitudes towards foreign investment, see *id.* at 945-53.

168. Louis Donaldo Colosio, *Environment and Development in Mexico*, (remarks at the U.S.-Mexico Border Environment Assembly and Colloquy, June 25, 1992) (on file with the *Minnesota Journal of Global Trade*). Colosio asserted that "effective solutions will be reached only by strengthening cooperation, sharing technological advances and articulating efforts from all environmental agencies." In addition, Colosio proposed the idea that Canada also participate in these cooperative efforts. *Id.*

169. William K. Reilly, *Pollution Won't Be a Byproduct*, L.A. TIMES, Aug. 2, 1992, at M5. William Reilly was the administrator of the U.S. Environmental Protection Agency during the Bush Administration. Reilly argues that NAFTA is an environmentally responsible agreement, but refers mainly to cooperative efforts between the United States and Mexico that "complement the environmental provisions of the agreement." *Id.*

fore, the most hope in solving the maquiladora problem lies in cooperative efforts between the governments of the United States and Mexico.¹⁷⁰

The most promising of these such efforts has been underway for over a year. The Environmental Plan for the Mexican-U.S. Border (The Border Plan), signed by President Bush and President Salinas de Gortari in March of 1992, is a comprehensive agreement designed to address current environmental problems on the border in a cooperative manner.¹⁷¹ This plan coordinates joint U.S.-Mexican enforcement projects, outlines training programs, and provides a plan for infrastructure development at the border.¹⁷² The Border Plan will potentially be the primary vehicle through which international environmental provisions affecting the border region will be developed and enforced.¹⁷³

Under the Border Plan, bilateral efforts between the EPA and SEDESOL will come in four different forms. First, a bi-national working group has been formed to serve as a formal mechanism for shaping cooperative enforcement efforts, and developing a strategy to enhance these efforts.¹⁷⁴ Second, the EPA and SEDESOL will attempt to build enforcement capacity by conducting cooperative training visits to facilities on both sides of the border, and having inspectors and other enforcement personnel of both agencies meet regularly in workshops, seminars,

170. Another suggested solution to the maquiladora problem is for the United States to require American companies operating in Mexico to comply with U.S. environmental standards. See *supra* note 164. While this type of solution may produce short-term results, it is limited because it does nothing to help Mexico deal with an essentially Mexican problem. As future border development includes Mexican and non-American foreign companies, U.S. legislation will be unable to reach these companies. Moreover, enforcement of U.S. legislation in Mexico would require infringement on Mexico's national sovereignty, a subject of historic sensitivity. See *supra* note 166 and accompanying text. For further discussion on this type of proposal, see Feeley & Knier, *supra* note 23, at 291-92.

171. EPA BORDER PLAN SUMMARY, *supra* note 3, at 20. The general goal of the Border Plan is to provide long-term environmental protection to the border area. Four specific objectives of the border plan are to: (1) strengthen enforcement of existing laws; (2) reduce pollution through new initiatives; (3) increase cooperative planning, training, and education; and (4) improve understanding of the border environment. *Id.*

172. *BNA Environmental Provisions*, *supra* note 10, at 245.

173. The Border Plan is a long-term plan intended to guide environmental efforts along the border into the 21st century. EPA BORDER PLAN SUMMARY, *supra* note 3, at 20. See also Reilly, *supra* note 169 and accompanying text.

174. EPA BORDER PLAN SUMMARY, *supra* note 3, at 21.

and field exercises.¹⁷⁵ Third, enforcement information will be shared between the two agencies through a coordinated and computerized system of tracking hazardous waste shipments crossing the border.¹⁷⁶ Finally, cooperative enforcement actions will be undertaken in which personnel from SEDESOL and the EPA will work together to achieve stated environmental goals.¹⁷⁷

Cooperative training and educational programs under the Border Plan will target emergency preparedness and response personnel, government officials, the private sector, and the general public.¹⁷⁸ The goals of these programs will be to increase public safety and to involve the public in protecting the border environment.¹⁷⁹ While environmentalists have criticized NAFTA for failing to provide for public involvement in the enforcement of environmental laws,¹⁸⁰ the Border Plan reflects this type of commitment. The Mexican government has also emphasized social participation as essential to the success of solving environmental challenges.¹⁸¹

The Border Plan provides plans for infrastructure development through several new initiatives that will be undertaken

175. *Id.* These efforts reflect the belief that an understanding of the other's legal system, regulatory approaches, and enforcement methods are essential to success in improving enforcement capacity. *Id.*

176. *Id.* at 22.

177. *Id.* These activities may include practical measures such as unannounced, high visibility inspection at border crossings, as well as planning measures, such as the targeting of geographic areas of mutual interest and concern for extra protection. *Id.*

178. *Id.* at 28.

179. *Id.* Educational programs are the primary method with which the Border Plan hopes to initiate public participation in environmental efforts. The EPA's participation in educational efforts will be governed by the National Environmental Education Act, 20 U.S.C. §§ 5501-5510, which calls for joint efforts with Mexico and Canada to develop environmental education initiatives. EPA BORDER PLAN SUMMARY, *supra* note 3, at 28-29.

180. ENVIRONMENTAL REPORT, *supra* note 90, at 4-5. In NAFTA's dispute resolution procedures in particular, environmental groups had hoped that public participation would be incorporated. They argue that public participation is important as a means of ensuring accountability, and for the purpose of illuminating broader social concerns. *Id.*

181. In an interview with the National Wildlife Foundation, Mexican President Carlos Salinas de Gortari asserted that:

There is no way to solve the environmental challenges without social participation. It's not only a governmental responsibility, which it is, but it also requires a very strong social participation and I'm very satisfied with the growing movement of nongovernmental organizations in Mexico. I welcome them and they are participating more and more.

"We Are Talking About Our Children": A Conversation with Mexico's President, INTERNATIONAL WILDLIFE, Sept./Oct. 1992, at 50.

during its first stage. In order to protect drinking water supplies, for example, funds will be made available for the construction and improvement of drinking water systems in colonias.¹⁸² In order to improve the disposal of solid and hazardous wastes, the Border Plan calls for approximately \$25 million in Mexican investment to expand solid waste collection capacity and construct new landfills in several border cities.¹⁸³ In an effort to improve urban air quality, Mexico also plans to invest approximately \$168 million for the improvement of border area roads, bridges, traffic circulation and public transportation systems during the first stage of the Border Plan.¹⁸⁴ The lack of specific project proposals and funding plans, something that NAFTA has been criticized for,¹⁸⁵ is less of a problem with the Border Plan.

The Border Plan has been criticized, however, for lacking practical mechanisms to implement many of its ultimate goals.¹⁸⁶ Indeed, the Border Plan is still in its evolutionary stages, and only addresses the three year period from 1992 to 1994.¹⁸⁷ The second stage, covering the period from 1995 to 2000, will use information obtained from current studies to continue combatting environmental problems.¹⁸⁸ Future activities will likely focus on air and water quality, hazardous waste controls,

182. EPA BORDER PLAN SUMMARY, *supra* note 3, at 24. These funds will be available in the form of loans from the State of Texas, the EPA, and the Rural Development Administration of the U.S. Department of Agriculture. *Id.*

183. *Id.* at 25. These plans include the purchase of containers, collection vehicles, and heavy equipment for landfills; the purchase of waste collection equipment; and the construction of landfills. *Id.*

184. *Id.* This part of the plan does not affect air pollution caused by direct emissions from maquiladoras. Air pollution caused by urbanization that has resulted from the development of the maquiladora industry, however, is as much a part of the maquiladora problem as air pollution directly emitted from plants. *See supra* note 33 and accompanying text.

185. ENVIRONMENTAL REPORT, *supra* note 90, at 2. Environmental groups criticize NAFTA for lacking a funding mechanism for infrastructure development, and environmental enforcement and clean-up. *Id.*

186. Feeley & Knier, *supra* note 23, at 265. The lack of specificity of the Border Plan has prompted critics to characterize it as nothing more than a set of "plans to plan." *Economist Proposes That NAFTA Include Trinational Superfund for Environment*, Daily Rep. for Execs. (BNA) Nov. 1, 1991, at A2 (cited in Feeley & Knier, *supra* note 23, at 265 n.46).

187. *Region IV - Regional Administrator Wynne Focuses on Cleaning up U.S.-Mexico Border Area*, Int'l Env'tl Daily (BNA) Aug. 17, 1992, at *6, available in WESTLAW, BNA-IED Database. The Border Plan is an evolutionary initiative, in which future projects will depend upon the success and knowledge gained from previous experience within the plan. *Id.*

188. EPA BORDER PLAN SUMMARY, *supra* note 3, at 30. The activities undertaken during the second stage of the Border Plan will be defined by the information collected during the first stage. *Id.*

information exchanges, and assessments of environmental impact of new and existing companies.¹⁸⁹ Although it is now impossible to measure the degree of success that the Border Plan will ultimately achieve, the fact that it aggressively addresses current environmental problems along the border should be viewed optimistically.

While the Border Plan provides hope for the productive resolution of the maquiladora problem, the political reality is that it is not mandated by the La Paz Agreement, NAFTA, or any other binding international agreement.¹⁹⁰ The implementation of its programs depends upon funding by both the U.S. and Mexican governments. The Bush Administration's fiscal year 1993 budget request included over \$240 million for the protection of the border environment.¹⁹¹ Although Congress did not approve the entire request,¹⁹² it is reasonably certain that significant funding will be available from the United States.¹⁹³ The pivotal issue is whether Mexico will be able to appropriate sufficient funding to support the Border Plan, and otherwise provide adequate environmental protection for the border area.

Economic benefits generated by NAFTA are likely to provide a significant increase in technical and human resources in

189. *New Rules - The NAFTA Adds an International Dimension to Environmental Regulation*, Business Mexico, Oct. 1992, at *5-6, available in LEXIS, Nexis Library, Omni File.

190. Increasingly, however, both critics and supporters of NAFTA have called for a supplemental environmental side agreement to accompany NAFTA. See, e.g., Memorandum from C. Ford Runge and Raymond Mikesell, *Recommendations for Meeting Environmental Concerns Regarding North American Free Trade Agreement Without Renegotiating the Agreement (NAFTA)* (Jan. 29, 1993) (on file with *The Minnesota Journal of Global Trade*). Such an agreement would likely apply a degree of legally binding force to cooperative initiatives such as the Border Plan. In addition, environmental officials in the United States, Mexico, and Canada have proposed the formation of a North American Commission on the Environment, a trilateral group to oversee the environmental aspects of NAFTA. *NAFTA: Focus on Side Deals, Legislation, NWF Official Advises Environmentalists*, Int'l Env'tl. Daily (BNA) Feb. 8, 1993, at *3, available in WESTLAW, BNA-IED Database.

191. EPA BORDER PLAN SUMMARY, *supra* note 3, at 33. This request included, inter alia, \$30 million for water-related facilities, \$2 million for public health projects, and \$5.4 million for credit and loan guarantees for environmental projects. *Id.* at 32-33.

192. News Release, Office of the Press Secretary, Statement by the President, Aug. 12, 1992, at *3, available in WESTLAW, NAFTA Database.

193. While the Environmental Report complains that "funds for these necessary expenditures would be subject to the vagaries of the appropriations process in the U.S.," the contention is that funding levels will not be appropriately high, not that they will not be significant. ENVIRONMENTAL REPORT, *supra* note 90, at 3.

Mexico.¹⁹⁴ This expectation has been fueled by several studies which have suggested that NAFTA will most likely lead to improvement of Mexican environmental problems.¹⁹⁵ An extensively cited study by Gene Grossman and Alan Krueger of Princeton University, for example, found that with the increase of per capita income, more resources become available to prevent environmental damage. When a country's per capita income reaches about \$4,000 to \$5,000 U.S. dollars, economic growth tends to correspond with the alleviation of pollution problems.¹⁹⁶ With a per capita GDP of about \$5,000, Mexico is currently at a point where further economic growth is likely to be accompanied by improving environmental conditions.¹⁹⁷

The concept of using wealth generated by NAFTA to address pre-existing environmental problems has been criticized by certain environmental groups as "environmental deficit financing."¹⁹⁸ The concept, however, has received widespread support by economists¹⁹⁹ and many environmentalists.²⁰⁰ Because it is well known that environmental clean-up and prevention requires economic resources, the idea makes intuitive sense. As the Los Angeles Times editorial board asserts:

194. *Mexico: Foreign Investors Will Not Be Able to Pollute Environment*, *Top Official Says*, 15 Int'l Envtl Rep. (BNA) 527 (Aug. 17, 1992).

195. See, e.g., G.M. Grossman & A.B. Krueger, *Environmental Impacts of a North American Free Trade Agreement*, paper prepared for a conference on the U.S.-Mexico Free Trade Agreement, Princeton University, Oct. 1991 (linking economic growth with the alleviation of pollution problems); Linda Trocki, *Science, Technology, Environment, and Competitiveness in a North American Context*, paper presented at a meeting of the North American Institute, Nov. 8-9, 1991 (examining economically efficient implementation of environmental regulation); and Adalberto Garcia Rocha & Marco Antonio Michel Diaz, *An Estimate of the Environmental Impact of Free Trade with Mexico*, paper delivered at a conference at the Pacific Research Institute for Public Policy, Dec. 1991 ("A free trade area will have a major positive impact on the environment through the widening of technological alternatives, both in processes and in products . . .").

196. Grossman & Krueger, *supra* note 195, at 19.

197. *Id.* at 20.

198. ENVIRONMENTAL REPORT, *supra* note 90, at 1.

199. See *supra* note 195 and accompanying text.

200. According to Jay Hair, president of the National Wildlife Federation:

The job ahead is to forge environmentally sound free-trade agreements, beginning with Mexico. We should not obstruct a path that can lead to significant international benefits . . . The means of addressing environmental concerns are directly tied to economic development. If environmental progress is not to remain solely the property of affluent nations, developing nations must have their fair shot at progress. Free Trade incorporating sound environmental principles enhances that prospect of advancement.

Jay Hair, *Nature Can Live with Free Trade*, N.Y. TIMES, May 19, 1991, § 4 at 17.

Arguing for strict environmental controls in Mexico *before* a free-trade pact is in place is akin to putting the proverbial cart before the horse. The political will to clean up pollution exists; the question is not whether Mexico wants to clean up its act, but how. A free-trade pact is part of the answer.²⁰¹

V. CONCLUSION

Given the expectation of further increase in development in the border area in the wake of NAFTA, the maquiladora problem assumes a great sense of urgency. Solutions require both a commitment to correct the problem, and the resources to do so. While concerns that NAFTA may exacerbate the maquiladora problem are not unfounded, this does not mean that solutions to the problem must be found solely in NAFTA itself. NAFTA does not offer, nor does it purport to offer, solutions to such serious environmental problems. As a trade agreement, rather than an environmental agreement, it has only limited tools to address environmental problems. The success of solutions such as those contained in the Border Plan, however, may well depend on the financial resources which NAFTA promises to bring. If these resources are applied effectively, cooperative initiatives such as the Border Plan offer realistic and effective solutions to the maquiladora problem.

201. *It Costs Money to be Clean*, L.A. TIMES, Nov. 29, 1991, at B4 (emphasis in original).

