

## **Environmental Considerations in the FTAA and Other Trade Liberalization Agreements**

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**Abstract:** The environment has become an important and controversial issue in trade agreement negotiations. The draft agreement for the Free Trade Area of the Americas does not specifically address environmental concerns, except for provisions prohibiting the use environmental regulations to attract business by member countries, allowing conservation payments for agriculture, and those addressing a few other, relatively minor, issues. Most participants prefer to leave environmental considerations to the WTO, where it also has become a controversial issue. Strong support for inclusion may force FTAA negotiators to give greater consideration to the environment to obtain sufficient support of its approval.

**Keywords:** International trade, trade agreements, agricultural trade, environment, trade and environment, FTAA, NAFTA, WTO

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Trade and the environment have become increasingly interrelated, in the effects that each has on the other, in the way that society perceives their consequences, and, consequently, the ways the issues they raise are negotiated and resolved in international trade and international environmental agreements. The issues of the interrelatedness of the two sets of issues came to a head largely as a result of the 1991 U.S. loss in its dispute with Mexico over the U.S. ban on tuna fish that were caught in ways that harmed dolphins (Eglin 1999, Estey 1994).<sup>1</sup> This loss of a hard won environmental protection to the General Agreement on Trade and Tariffs (GATT) dispute settlement process produced a strong backlash that resulted in environmentalists protesting about and becoming more involved in the trade negotiation process; one result included participation in the protests at the WTO meetings in Seattle in 1999 (Irwin 2002). It also contributed to the insistence on obtaining the environmental side agreement for the North American Free Trade Agreement (NAFTA) and to GATT activating its Group on Environmental Measures and International Trade, which had been established in 1971 but had never met (Eglin 1999, pp. 252-253; Nordström and Vaughan 1999). This resulted in environmental measures being included in the Uruguay Round Agreement, although they were not explicitly labeled as such in some instances. A further result was the issuance of Executive Order 13141 by President Clinton requiring environmental reviews of trade agreements, and reaffirmed by the Bush administration (USTR 2001a, USTR and CEQ 2000).

Issues of trade and the environment, however, remain controversial with widely varying disagreements between economists and other analysts about the effects of trade liberalization on the environment and/or the effects of environmental regulations on trade. Support for freer trade is based largely on the view that trade leads to improvements in income and economic welfare for both trading

parties (see, e.g., Weinstein and Charnovitz 2001). Opposition to trade liberalization includes, among several factors, a belief that free trade is detrimental to the environment and will result in a “race to the bottom,” i.e., that dirty industries will migrate to those countries with less restrictive environmental regulations as a way to reduce their costs and enhance their competitiveness (Rosenberg 2000). Consequently, it is argued, other countries will reduce or eliminate onerous environmental controls as a way to attract new industries or prevent their current industries from migrating. There also is support for the use of trade measures to induce environmental protection due to the failure of alternative measures, but this also is a controversial issue (see, e.g., Grote and Kirchoff 2001, pp. 28ff, for a discussion of this aspect of trade and the environment). Although tending to support a positive view of trade in respect to the environment, findings about the environmental effects from trade have been mixed, from both theoretical and empirical studies that have been made to determine such effects (see Huang and Labys, 2001, for a review of the literature, and, e.g., Xu, 2000 or Eliste 2002,<sup>2</sup> for empirical analyses).

This paper examines environmental and trade issues in the context of the Free Trade Area of the Americas (FTAA). It includes a brief background discussion of general trade and environmental interactions, reviews the issue of combining trade and environmental agreements *versus* keeping them as separate processes, reports on analyses of the environmental effects of NAFTA (both from the viewpoint of how the increase in trade has affected the environment and the impacts/effects of including environmental issues as part of the agreement), examines the environmental-trade nexus in the broader context of the FTAA negotiations, and briefly relates this issue to proposed revisions in U.S. domestic farm legislation in the context of replacing the 1996 legislation.

## Trade Agreements and the Environment

The inclusion of environmental provisions in trade agreements is a contentious issue (see, e.g., Hoekman and Anderson 2000). One side (mainly economists) argues that the two issues should not be mixed, that trade and environmental agreements should be kept separate, as was typical prior to NAFTA (Bhagwati 2000).<sup>3</sup> The other side (mostly, but not exclusively, environmentalists) argues that trade has important environmental impacts and, therefore, it is appropriate to deal with both issues in the same agreement (Estey 1994, Repetto 2000).<sup>4</sup> The various positions surrounding this argument are contained in the October 2000 Policy Forum, based on the Bhagwati paper, in the journal *Environment and Development Economics*; see Perrings (2000) for a summary.<sup>5</sup> The basic view of many free trade proponents is that environmental regulations that inhibit or prohibit trade are non-tariff barriers, which are not justified and generally are or should be prohibited by free trade agreements (Mann 2000). They also see trade as promoting economic development and increased incomes which are, in their view, essential for implementing programs to improve the environment; this is based on the idea of an inverted Kuznets curve (see, e.g., Runge 1998, Grossman and Krueger 1995). However, some economists and others who generally support free trade also support including environmental issues in trade agreements, at least to a limited extent (see, e.g., Gray, Krissoff and Tsigas 1996). This latter position may be taken, in part, because its protagonists believe that it may be easier to get agreement on reducing trade barriers than on improving the environment. Some also think that it is essential to include environmental provisions, since procedures to protect the environment may lose in the trade dispute settlement process, e.g., the U.S. tuna (dolphin protection) and shrimp (sea turtle protection) disputes (Eglin 1999, Irwin 2002).<sup>6</sup>

Hoekman and Anderson (2000, p. 178; see, also, Ryan 2000) examine the issue from the viewpoint

of developing countries and conclude: “Undoubtedly, developing countries will have to continue to argue their views against import restrictions on products produced by methods not approved by importing countries.” Huff (2000, p. 6) indicates that developing countries were upset by attempts to bring environmental concerns into the WTO because “They fear that strict regulations regarding labour and the environment will allow developed countries to employ trade sanctions to restrict the flow of goods from developing countries into their markets.”

While there is no consensus on the treatment of environmental issues in trade agreements, the current relatively widespread anti-globalization and anti-trade liberalization movements, that include many environmentalists, will probably act to assure that trade negotiation processes cannot ignore environmental issues, even though they do not get the prominence that was attained by the NAFTA negotiation process. Thus, the Doha round of WTO negotiations initiated in November 2001 includes an environmental working group as part of its trade negotiations committee.

### **NAFTA’s Environmental Side Agreement<sup>7</sup>**

NAFTA was the first trade liberalization agreement to explicitly include environmental issues, although these were achieved primarily through one of two side agreements that the Clinton administration insisted on adding to NAFTA (Hauer and Runge 1999; Hufbauer and Orejas 2001). NAFTA, thus, provides a basis for evaluating the effects of combining the two types of agreements as a way to test some of the theoretical models and projections made prior to the agreements implementation. The results also can be used to evaluate the potential for environmental issues in the FTAA. Johnson (2001), for example, thinks that there are valuable lessons for FTAA from NAFTA especially with respect to the role of civil society, addressing sustainability issues, and establishing a broader environmental regime. Gallagher (2000, 2001), while not addressing agriculture and being

critical of the CEC, also sees valuable lessons for the FTAA, primarily with respect to the involvement of the public in the process.

The NAFTA environmental side agreement created a trilateral commission, the North American Agreement on Environmental Cooperation Commission (NAAEC), to address environmental issues. It operates through the Commission for Environmental Cooperation which is a three-member commission, with its secretariate seated in Montreal and the Joint Public Advisory Committee, which is a channel for NGO and public input (CEC 1999, de Janvry, Sadoulet and Davis 1997; Hufbauer, et al. 2000, pp. 17ff; Kotvis 1995). Its activities are based on three important principles: 1) the three countries agreed not to induce investment by becoming pollution havens; 2) they established rules about the use of regulations to protect consumer, plant, animal and environmental health; and 3) they gave priority to international treaties such as the WTO. A primary characteristic of the agreement is that each country should enforce its own environmental laws, although the CEC has some enforcement powers through investigation of citizen complaints that a country is not enforcing its environmental laws and regulations. The CEC functions include overseeing the implementation of the side agreement, providing a forum for discussing issues, cooperating in solving environmental problems, and adjudicating complaints about the failure of governments to enforce their environmental laws. It operates through both cooperation and contention. Cooperation involves the exchange of information, technical assistance, consultation, and coordination of environmental laws, while contention is based on provisions for observing/monitoring, receiving and evaluating complaints, and enforcement if the complaints are judged valid (de Janvry, Sadoulet and Davis 1997, p. 13; Kotvis 1995). Governments, organizations including NGOs, firms, and individuals can file complaints with the CEC when they believe environmental laws are not being enforced. The complaints are referred to the Evaluation Committee of Experts and then, if judged appropriate, to dispute resolution panels. Trade and/or

monetary sanctions may be used to enforce the findings although Canada is exempted since it did not agree to these provisions (Hufbauer et al. 2000, p 18).

### **The WTO and the Environment**

Article XX of GATT allows countries to apply for an exception to the requirement that national laws which conflict with GATT must be repealed or modified within a reasonable time to for environmentally related measures (UNEP 2000). Environmental issues had not been a major issue in the several rounds of GATT negotiations prior to the Uruguay Round and probably would not have become an issue then except for the Mexico-U.S. tuna dispute cited in the introduction, although GATT had established the Group on Environmental Measures and International Trade in 1971 to focus on issues of industrial pollution (Nordström and Vaughan 1999, p. 68). However, that group had not met until called together in response to the crisis provoked by the tuna decision and the threat it posed to an already contentious and tardy process (Eglin 1999, Estey 1994). Meetings of the group resulted in a Chairman's Report with four conclusions: 1) that its activities are to remain within its GATT mandate that it consider trade related aspects of environmental policies that affect trade; 2) that there need not be a contradiction between upholding the principles of multilateral trade and environmental protection; 3) that it is important that the multilateral rules should not present an unjustified obstacle to environmental policy making, and 4) that an open and secure trading system can facilitate environmental protection (Nordström and Vaughan 1999, p. 10).

With the formation of the WTO in 1995 environmental issues, at least to the extent that they affect trade, became an established part of the multilateral trading system. According to a note prepared by the WTO Secretariate: "At the end of the Uruguay Round, Trade Ministers adopted the Decision on Trade and the Environment which anchored environment and sustainable development in WTO work"

(Nordström and Vaughan, p. 67). With implementation of the WTO agreement, a Committee on Trade and Environment (CTE) was established and given a mandate that covered most aspects of the trade-environmental interface. However, environmental issues remain a major area of contention in the negotiations of the current round (Bridges 2001a).

The WTO's Special Studies Report 4 includes the following conclusions about the trade-environmental interface (Nordström and Vaughan 1999, pp. 2-7): 1) Environmental degradation is driven by market and policy failures.<sup>8</sup> 2) Trade would unambiguously raise welfare *if proper environmental policies were in place* (emphasis added). 3) Trade barriers generally make poor environmental policy. 4) Not all environmental standards should necessarily be harmonized across all countries. 5) The competitiveness effects of environmental regulations are minor *for most industries* (emphasis added). 6) A good environmental profile is often more of an asset than a liability for a firm ... 7) Little evidence bears out the claim that polluting industries tend to migrate ... 8) Environmental measures are sometimes defeated because of concerns about competitiveness. 9) Economic growth, driven by trade, may be part of the solution ... 10) Not all kinds of economic growth are equally benevolent for the environment. 11) Public accountability and good governance are essential to good environmental policy. 12) Effective international cooperation is essential to protect the environment. 13) The cooperative model of the WTO ... could potentially serve as a model for a new architecture of environmental cooperation. The press release that accompanied the report cautioned against making sweeping generalizations that are often heard in public debates on trade and the environment (WTO1999). However, both the report and press release make statements that can be interpreted as sweeping generalizations, e.g., "every WTO government supports open trade because it leads to higher living standards for working families which in turn leads to a cleaner environment" (WTO 1999, pp. 1-2).

The following is an indication of the conflicts that exist within the WTO with respect to the treatment of the environment:

Also deemed by many as a 'make-or-break' issue for the Ministerial talks, environment has emerged as a major area of contention between the EC -- supported to varying degrees by Norway, Switzerland, and Eastern European countries -- on one side, and most other Members on the other. The EC group is pushing to have negotiations on a range of environmental issues such as the precautionary principle and ecolabelling initiated at Doha, while the rest of the Membership remains opposed to these (Bridges 2001c, p. 3).

The Ministerial Declaration (WTO 2001, Bridges 2001d) from the Doha meeting gives some prominence to the environment in the round of negotiations announced in November 2001. This involves negotiations by the Committee on Trade and the Environment (CTE) in three areas:<sup>9</sup> 1) the relationship between WTO rules and multilateral environmental agreements (MEAs), 2) arrangements for exchanges between WTO committees and MEA secretariats, and 3) reductions in or elimination of tariffs and non-tariff barriers to trade in environmental goods and services. The provisions, however, have been criticized by some environmentalists as containing loopholes that water down the provisions (Bridges 2001d). The first of these, under paragraph 31(i) of the Doha agreement, seem especially contentious as discussed in the CTE meeting March 21-21, 2002 where the European Community, the primary group demanding that environmental issues be included in Doha negotiations, distributed a controversial paper with its thoughts on the issues (Bridges 2002).

### **Trade and Environmental Effects**

The effects of trade on the environment are often categorized as those due to scale, structure, and technology (Nordström and Vaughan 1999).<sup>10</sup> Others include product and policy or regulation effects (Krissoff et al. 1996; QAWG 2000; UNEP and IISD 2000) and some include a separate transportation effect (Vasavada and Nimon 2001). Scale or size effects from trade liberalization will tend to be environmentally detrimental since trade tends to cause increases in output to meet the increased

demand from new markets for one or both trading partners and increased production is accompanied by increases in waste products that must be disposed of and that affect the environment. However, increases in income can also lead to a demand for environmental protection and provide resources to invest in remedial action. Structural changes affect the composition of output as each country tends to specialize in the production of goods in which it has a comparative advantage; the change can be from production of more to less polluting products or *vice versa*. Thus, the structural effects are not determinable on an *a priori* basis; one country may be affected negatively and the other positively with the net effect depending on which is the stronger. Changes in technology often accompany changes in output, the shift to production of new products, or the attempt to become more competitive. Newer technologies in food processing, for example, may use improved techniques which reduce pollution, while productivity enhancing techniques in agriculture often involve intensified use of fertilizers and chemicals that can increase pollution. Product effects are those associated with the production of a particular commodity; broiler production, for example, creates environmental problems in many areas due the disposal of litter from the production facilities. Transportation effects result from the fact that products must be transported and that most forms of transportation result in air or water pollution. Regulation effects are the result of changes in policies, laws, and regulations affecting production and waste disposal activities that are induced by changes in trade regimes. If environmental issues are part of the trade liberalization agreement, regulation effects are apt to be positive, i.e., the environment will benefit. If they are not and there is no separate agreement on the environment (there seldom is for bilateral and smaller trading blocks), the trade agreement may result in the creation of pollution havens and possibly the weakening of enforcement within the country with the stricter environmental laws, although not predictable some empirical studies indicate that such a race to the bottom is not a necessary effect.

While the preceding paragraph outlines the effects of trade on the environment, it does not discuss how to analyze data to determine those effects. Most of the techniques included in economists' (and other social scientists) tool kit can be, and have been, used. Huang and Labys (2001) list and discuss applications of CGE, international trade, input-output, welfare, game theoretic, optimization, spatial GIS, and econometric models, with two or more variations under each category of model. These may be theoretical or empirical models; many of the theoretical models have consisted of simple two country scenarios under various simplifying assumptions. The Huang-Labys listing may be incomplete, depending on whether comparative statics, simulation, and other techniques are considered separate types or are assumed to be part of one of the listed types of models; simulation, for example may be used in combination with other types of models (see, e.g., Williams and Shumway 2000; Saunders, Moxey and Ronigen 2001).

The complex and messy situations of trade and the environment and a lack of adequate data have led some analysts to use other approaches to determining the impacts of trade on the environment. The CEC (1999) developed a framework for establishing trade and environmental linkages, but did not specify any specific technique or techniques to be used in quantifying the linkages. The QAWG (2000) recommends models such as CGE for determining scale, structure, and technology effects but indicates that a nonquantitative approach may be needed for evaluating policy/regulation effects. Harwell et al. (2000) developed what they called a scenario-consequence approach which they describe as "a flexible, easily adaptable template for exploring the environmental effects of free trade" (p. 9). Their purpose is to develop a trade/environmental impact assessment. Runge et al. (1997, p. 35) say "efforts should be made to develop, country by country, the type of qualitative but detailed sectoral analysis shown for Venezuela, pioneered by Hartwell [sic] et al."

Both theoretical and empirical models of trade and the environment have produced conflicting

results (see Huang and Labys, 2001, for a thorough review of such studies). In one analysis of agricultural trade and the environment, Runge (1992, pp. 21-22) cites the growth of imports of pesticides by developing countries and the human poisoning that often results from their imports as an impact of trade. He states (p. 22), "It has become popular in some circles to ascribe these adverse environmental effects to trade itself, and by implication to suggest that trade liberalization would cause further environmental damages in developing countries." But he cautions that "... careful evaluation of these claims suggests a different interpretation" and repeats the basic argument for free trade as being a process that increases incomes in developing countries which would then enable them to undertake expensive programs to improve their environmental conditions. However, in a later publication (Runge 1998, p. 2) he says "Sanguine interpretations of these findings, suggesting an automatic pollution-reducing response to income growth, are not supported."

### **Environmental Effects of NAFTA**

The largest environmental impact from NAFTA to date has probably been the regulation effect in Mexico as the controversies and discussions about including environmental issues in the agreement have led to a greater awareness of environmental issues, to improvements in enforcement of existing regulations, to passage of new legislation, and the creation of institutions with more direct and complete environmental responsibilities (Anderson 1994; Clinton 1997; Colyer 2002; de Janvry, Sadoulet and Davis 1997; Hufbauer and Orejas 2000; Kotvis 1995; McFadyen 1998).<sup>11</sup> NAFTA has resulted in increased trade in agricultural products as well as increased foreign direct investment (FDI) in agribusiness activities, especially in Mexico (Bolling, Elizalde and Handy 2000; Bolling, Neff and Handy 1998; Carpentier 2001; Colyer 1998, 2001). The changes include a shift toward horticultural products (fruits and vegetables) in Mexico for export to the U.S. and increased exports of grains to Mexico by the U.S. Both countries have increased agricultural production and there have

been shifts in what is being produced. The largest increase in agriculturally related FDI has been in food processing in Mexico, with lesser amounts directly in agricultural production (mostly in fruits and vegetables). Thus, it appears that there have been both positive and negative environmental effects in both the U.S. and Mexico. Determining the extent of these, however, is complicated since both countries have also instituted major new general agricultural policies which also have production and environmental consequences (Burfisher, Robinson and Theirfelder 1999; Davis 2000; Deininger and Brezciani 2001, Parris 2002). The policy changes in Mexico were related to the adoption of NAFTA and the requirements of a freer trading regime, but those of the U.S. were motivated by different causes, although the desire to maintain and enhance competitiveness was one factor in the types of changes made.

### **Environment and Trade in the FTAA**

The inclusion of environmental issues in NAFTA was relatively easy to accomplish, since it involved only three countries and the concern was that Mexico could be a pollution haven and result in a wholesale migration of manufacturing to that country (Ross Perot's huge whooshing sound). Since the U.S. economy dominates both the Mexican and Canadian, President Clinton's insistence on including labor and environmental side agreements was able to overcome resistance by both Mexico and Canada, as well as some opposition in the U.S. Congress. The large number and varied economic and environmental conditions of the several countries in the FTAA, tend to make it difficult to include meaningful environmental provisions in the agreement. However, the successful inclusion of such conditions in NAFTA may make it difficult to get approval of future agreements that do not contain arrangements to protect the environment or at least that guard against creating pollution havens that encourage laxness in environmental protection (Broder 2001). However, to date it has not been included in the proposed FTAA to any significant degree, largely due to opposition from a majority

of Latin American and Caribbean countries (Murillo Rodriguez 2000).

Environmental issues may, none-the-less, affect an important aspect in negotiating and getting Congressional approval of trade agreements. This is the fast track approach where Congress cannot amend an agreement but only vote for it on an up or down basis, a provision that was provided to Presidents for some 25 years before it expired in the 1990s. Republicans, then in control of Congress, would not extend the approval for President Clinton.<sup>12</sup> Currently President Bush is seeking this power under what is now termed “trade promotion authority.” However, this approval also faces an uphill battle in Congress since many, mostly Democrats, want to assure that labor and environmental interests are protected in such agreements and are not willing to grant the authority without such assurances (USA Today 2001, Broder 2001). The House passed the act on December 6, 2001, but by only one vote, 215-214, and while the act contains provisions on the environment, it has been criticized by some environmentalists as inadequate (Bridges 2001f). This legislation contains provisions for environmental protection as a U.S. negotiating objective (USTR 2001e). The Senate is currently (May 2002) debating the bill which it has combined with other trade measures and might write additional restrictions into the trade promotion authority bill that requires environmental protection provisions be included in future trade agreements negotiated under fast track authority, if it is willing to grant such authority at all (New York Times 2002b). A failure to achieve fast track authority will make it more difficult to obtain a meaningful FTAA and could make it difficult for the U.S. to play an effective role in those and other trade negotiations (see Hollings 2002, for an opposition view).

### **Agricultural and Trade Situation: Overview of FTAA Countries**

The proposed FTAA consists of 34 countries from North America, South America, Central America, and the Caribbean, with membership consisting of most of the large countries (except Cuba) and many of the smaller nations (mostly from the Caribbean) although not all are included. A common

characteristic, other than being from the Americas, is that all are democratic in form of government, which is sometimes cited as a reason for not including Cuba. The members vary extremely in size, stage of economic development, per capita income, and many other variables including environmental conditions and the strengths of their environmental laws and regulations. The U.S. is the dominant economy with only about one third of the area's population but more than three fourths of its GDP (Table 1, World Bank 2000). This contrasts with, for example, St. Kitts and Nevis with a minuscule 0.0005 percent of the area's population and 0.00027 percent of its income. Per capita GDP in 1999 varied from \$30,600 in the U.S. to \$430 in Nicaragua; population density varied from 620 per square kilometer in Barbados to three per square kilometer in Canada and Surinam. Canada is the largest country in terms of land area with 9,971 square kilometers (followed closely by the U.S. and Brazil) and St. Kitts and Nevis is the smallest with 261 square kilometers while Antigua-Barbuda at 442, Barbados, 430, and St. Vincent-Grenadines, 389, also are very small

Table 1. FTAA Countries: Basic Data for 1999

Country	Population (millions)	Area (1,000 km <sup>2</sup> )	Population Density	GDP/Cap. (1999 \$)	GDP (million \$)
Antigua and Barbuda*	0.067	0.4	144	8,200	549
Argentina	37	2780	13	7,500	277,500
Bahamas*	0.298	13.9	30	15,000	4,470
Barbados*	0.267	0.4	620	14,500	3,872
Belize	0.247	23	11	2,730	674
Bolivia	8	1099	8	1,010	8,080
Brazil	168	8547	20	4,420	742,560
Canada	42	9971	3	19,320	811,440
Colombia	15	1139	40	2,250	33,750
Chile	4	757	20	4,740	18,960
Costa Rica	0.073	51	70	2,740	200
Dominica	0.073	0.8	97	3,170	231
Dominican Republic	8	49	174	1,910	15,280
Ecuador	12	284	45	1,310	15,720
El Salvador	6	21	299	1,900	11,400
Grenada	0.097	0.3	285	3,450	335

Guatemala	11	109	102	1,660	18,260
Guyana	0.856	215	4	2,774	2,375
Haiti	8	28	283	460	3,680
Honduras	6	112	57	760	4,560
Jamaica	3	11	240	2,330	6,990
Mexico	97	1958	51	4,400	426,800
Nicaragua	5	130	41	430	2,150
Panama	3	76	38	3,070	9,210
Paraguay	5	407	13	1,580	7,900
Peru	25	1285	20	2,390	59,750
St. Kitts and Nevis*	0.041	0.4	114	7,000	287
St. Lucia*	0.154	0.6	253	3,770	581
St. Vincent & Grenadines*	0.114	0.4	293	2,700	308
Suriname	0.413	163.3	3	3,400	1,404
Trinidad and Tobago	1.293	5.1	252	4,390	5,676
United States	273	9364	30	30,600	8,353,800
Uruguay	3	177	19	5,900	17,700
Venezuela	24	912	27	3,670	88,080
Totals	766.993	39690.6	--	--	10,954,532
Means	22.6	1167.371	19	13,202	14,282

Sources: World Bank, 2000; \* CIA World Fact Book for GDP per capita

Table 2. Land and Agricultural Land in FTAA Countries (1,000 ha)

Country	Area	Ag. Land	Arable	Pasture	Perennials
Antigua and Barbuda	44	12	5	4	-
Argentina	273,669	169,200	25,000	142,000	2,200
Bahamas	1,001	12	6	2	4
Barbados	43	19	16	2	1
Belize	2,280	139	64	50	25
Bolivia	108,438	36,036	1,955	33,831	250
Brazil	845,651	250,200	53,200	185,000	12,000
Canada	922,097	74,700	45,560	29,000	140
Colombia	103,870	45,668	2,088	41,304	2,276
Chile	74,880	15,224	1,979	12,930	315
Costa Rica	5,106	2,845	225	2,340	280
Dominica	75	17	3	12	12
Dominican Republic	4,838	3,671	1,071	210	500
Ecuador	27,684	8,108	1,574	5,107	1,427
El Salvador	2,072	1,604	560	794	250
Grenada	34	12	1	1	10
Guatemala	10,846	4,507	1,360	2,602	545

Guyana	19,685	1,726	480	1,230	16
Haiti	2,756	1,400	560	490	350
Honduras	11,189	3,337	1,468	1,510	359
Jamaica	1,083	503	174	229	100
Mexico	190,869	107,200	24,800	79,900	2,500
Nicaragua	12,140	7,561	2,457	4,815	289
Panama	7,443	2,132	500	1,477	155
Paraguay	39,730	23,985	2,200	21,700	85
Peru	12,800	31,310	3,700	27,100	510
St. Kitts and Nevis	36	10	7	2	1
St. Lucia	61	19	3	2	14
St. Vincent & Grenadines	39	13	4	2	7
Suriname	15,600	88	57	21	10
Trinidad and Tobago	513	133	75	11	47
United States	915,896	418,250	176,950	239,250	2,050
Uruguay	17,502	14,827	1,260	13,520	47
Venezuela	88,205	21,730	2,640	18,240	850
Totals	3,718,175	1,246,198	352,002	864,688	27,625
Central America	241,942	129,325	31,434	31,434	4,403
South America	1,752,946	619,255	96,142	96,142	19,989
Caribbean	22,894	12,897	5,642	5,642	1,949

Source: WRI 2000

(CIA 2001). See, also, Krist (2002) for information on the FTAA members. The U.S. is also the largest agricultural producer in the region, although agriculture is not as dominant in the total size of its economy as it is in many of the other countries. While the U.S. has only about one fourth of the total land area of the Americas, it is agriculturally well endowed, with about one half of the arable land area (Table 2, WRI 2000). The U.S. accounts for about 49 percent of the agricultural trade of the FTAA, nearly twice as much as Canada, the next largest country in terms of agricultural trade. It is both the largest exporter and importer in the region. Brazil, Argentina, and Canada also have large agricultural sectors while most of the Caribbean nations have very small sectors (see Mattson and Koo, 2002, for additional trade data on the FTAA area).

Agricultural trade, however, is important to every member of the FTAA. Except for the Caribbean countries most FTAA members have positive agricultural balances of trade (Tables 3-4). Mexico and

Venezuela are exceptions as the two largest countries with negative agricultural trade balances. The South American countries as a group have a very large and positive agricultural trade balance, exporting nearly \$36 billion a year in agricultural products which is almost three times their combined level of agricultural imports. While tropical products such as coffee, cocoa and bananas account for a large share of the total exports, wheat and soybeans are also important, especially for Brazil and Argentina, while beef and poultry also are significant.

### **Environmental Conditions in FTAA Countries**

Some environmental indicators for the FTAA countries are reported in Tables 5-8 with fertilizer data in Table 5, pesticide data in Table 6, and land related environmental data in Tables 7 and 8. These data do not provide much guidance with respect to the environmental conditions except to indicate that there is wide variation in the use of potentially polluting inputs, fertilizers and

Table 3. FTAA Total Agricultural Trade, 1999 (\$1,000)

Country	Exports	Imports	Balance
Antigua and Barbuda	410	30,205	(29,795)
Argentina	10,885,160	1,330,069	9,555,091
Bahamas	83,321	224,305	(140,984)
Barbados	75,923	165,179	(89,256)
Belize	108,299	46,095	62,204
Bolivia	338,735	173,764	164,971
Brazil	13,824,400	4,105,743	9,718,657
Canada	14,683,030	10,844,150	3,838,880
Colombia	3,145,402	1,415,392	1,730,010
Chile	2,966,674	1,173,706	1,792,968
Costa Rica	1,700,632	338,846	1,361,786
Dominica	22,108	27,584	(5,476)
Dominican Republic	332,094	543,313	(211,219)
Ecuador	1,577,018	326,609	1,250,409
El Salvador	466,237	484,105	(17,868)
Grenada	20,459	30,766	(10,307)
Guatemala	1,431,210	570,704	860,506
Guyana	207,247	49,460	157,787
Haiti	22,575	297,393	(274,818)
Honduras	468,615	430,802	37,813
Jamaica	294,359	403,288	(108,929)
Mexico	7,066,363	8,752,287	(1,685,924)
Nicaragua	312,854	310,721	2,133
Panama	311,671	399,655	(87,984)
Paraguay	602,480	609,319	(6,839)
Peru	716,588	1,077,395	(360,807)
St. Kitts and Nevis	10,178	20,581	(10,403)
St. Lucia	34,114	66,887	(32,773)
St. Vincent & Grenadines	37,325	29,379	7,946
Suriname	75,374	129,465	(54,091)
Trinidad and Tobago	221,262	307,313	(86,051)
United States	52,704,800	43,251,430	9,453,370
Uruguay	1,084,615	382,081	702,534
Venezuela	41,692	1,427,749	(1,386,057)
Totals	115,873,224	79,775,740	36,097,484
Caribbean	1,187,363	2,475,511	(1,288,148)
Central America	11,805,880	11,333,020	472,860
South America	35,836,590	12,200,750	23,635,840

Source: FAOStat Database

Table 4. U.S. Agricultural Trade with FTAA Countries (\$1,000)

Country/Area	US Exports (\$1,000)		US Imports (\$1,000)		Balance
	1999	2000	1999	2000	2000
Canada	7,066,329	7,649,945	7,996,817	8,611,508	(961,563)
Mexico	5,633,694	6,545,071	4,882,840	5,078,606	1,466,465
NAFTA	12,700,023	14,195,016	12,879,657	13,690,114	504,902
Antigua and Barbuda	15,489	16,848	326	208	16,640
Bahamas	115,328	127,230	2,503	2,684	124,546
Barbados	100,461	105,588	648	601	104,987
Dominica	5,992	6,093	375	75	6,018
Dominican Republic	522,370	499,367	240,667	243,624	255,743
Grenada	44,924	40,822	2,147	2,575	38,247
Haiti	216,274	179,928	10,469	10,086	169,842
Jamaica	184,405	170,913	50,052	48,695	122,218
St. Kitts and Nevis	4,900	3,877	140	195	3,682
St. Lucia	9,800	9,059	132	123	8,936
St. Vincent & Grenadines	11,366	11,049	178	304	10,745
Trinidad and Tobago	103,211	98,798	12,755	15,950	82,848
Caribbean	1,334,520	1,269,572	320,392	325,120	944,452
Belize	16,411	20,588	23,469	32,679	(12,091)
Costa Rica	179,144	184,179	829,335	812,467	(628,288)
El Salvador	199,645	215,105	101,175	167,599	47,506
Guatemala	252,645	258,028	689,439	708,234	(450,206)
Honduras	183,265	195,184	133,614	250,801	(55,617)
Nicaragua	80,808	74,136	73,493	109,130	(34,994)
Panama	187,017	170,629	84,743	50,013	120,616
Central America	1,098,935	1,117,849	1,935,268	2,130,923	(1,013,074)
Argentina	144,898	151,719	675,930	672,386	(520,667)
Bolivia	19,908	13,461	14,699	16,285	(2,824)
Brazil	211,904	263,924	1,482,277	1,143,769	(879,845)
Chile	152,309	114,994	909,559	1,025,119	(910,125)
Colombia	437,560	418,854	1,189,320	1,124,342	(705,488)
Ecuador	106,278	100,936	568,791	451,065	(350,129)
Guyana	21,859	22,435	6,729	14,853	7,582
Paraguay	9,678	9,631	15,237	16,216	(6,585)
Peru	295,528	107,940	221,832	196,202	(88,262)
Suriname	16,274	16,394	70	147	16,247
Uruguay	12,248	16,198	60,897	64,512	(48,314)
Venezuela	417,882	405,922	105,506	54,699	351,223
South America	1,846,326	1,642,408	5,250,847	4,779,595	(3,137,187)
FTAA Totals	16,979,804	18,224,845	20,386,164	20,925,752	(2,700,907)

Source: USDA (FATUS) 2001b

pesticides. While varying considerably, fertilizer use is relatively light on a per unit of land area for most South American and many of the Central American countries, an indication of the potential for expanded use, possible increases in agricultural production, and, hence, greater pollution. Fertilizer use is relatively intense in Costa Rica, El Salvador, Chile, Colombia and Trinidad and Tobago, as well as in the U.S., but do not approach application rates used in Europe and Japan (Table 5). Pesticide use also tends to be relatively light but is very intense in a few countries including Belize, Costa Rica, Honduras, Trinidad and Tobago, Chile, Colombia, Suriname and the United States (Table 6). Pesticide data on some countries may be misleading; in Brazil, for example, the overall intensity of use per hectare is low, but in some areas and on export crops use tends to be intensive (Dasgupta, Mamingi and Meisner 2001). Except for the U.S., this mostly reflects the use of pesticides on tropical crops that are being produced mainly for export. Data from the 1990s indicate that for eleven South American countries, the value of herbicide imports increased by 309 percent while those for insecticides increased by 225 percent (Schaper and Parada 2001, p. 147).

Land use intensity, the amount of land per 1,000 population (column 2 of Table 7), also is moderate in most of the FTAA area although use is more intense in some of the Caribbean countries and much less in Canada, although this latter is mostly due to the large northern part of the country where few people live and does not reflect the intensity of use in Canada's main agricultural production areas. Relatively little land is irrigated in the FTAA area, although a few countries have substantial areas including the U.S., Mexico and Peru. Salinization of irrigated land is a problem in some areas, especially in Mexico, some highland irrigation systems, and other irrigated areas in South America (Runge et al. 1997, p. 28). Most of the FTAA countries have protected some of their land areas through national parks, preserves and other public land areas. Countries with relatively

Table 5. FTAA Fertilizer Production, Consumption and Trade (metric tons)

Country	Production	Consumption	Imports	Exports
Antigua and Barbuda	-	-	-	-
Argentina	64,000	823,400	845,229	700
Bahamas	0	300	1,774	0
Barbados	0	3,000	3,000	0
Belize	0	5,000	6,595	0
Bolivia	0	1,940	1,940	0
Brazil	2,553,228	5,856,100	3,385,040	84,035
Canada	12,484,200	2,583,000	646,228	9,963,130
Colombia	76,300	598,100	530,500	4,300
Chile	457,400	474,500	403,500	396,800
Costa Rica	35,000	172,800	146,610	8,000
Dominica	0	3,000	3,000	0
Dominican Republic	98,700	94,200	0	4,500
Ecuador	0	160,400	160,400	0
El Salvador	0	86,000	86,108	0
Grenada	-	-	-	-
Guatemala	0	181,100	181,100	0
Guyana	0	14,200	14,200	0
Haiti	0	8,716	9,075	0
Honduras	0	158,800	158,800	0
Jamaica	0	23,043	23,043	0
Mexico	1,463,300	181,493	1,007,759	585,645
Nicaragua	0	35,901	35,901	0
Panama	0	33,400	65,446	0
Paraguay	0	65,446	241,265	0
Peru	3,479	248,014	1,700	0
St. Kitts and Nevis	0	1,700	5,300	0
St. Lucia	0	5,300	3,900	0
St. Vincent & Grenadines	0	3,900	6,809	0
Suriname	0	6,809	1,200	0
Trinidad and Tobago	276,000	5,900	11,461,040	275,000
United States	22,004,310	19,867,550	132,870	9,100,030
Uruguay	9,533	135,210	82,000	7,200
Venezuela	45,022	226,800	82,000	319,900
Total FTAA	39,570,472	32,065,022	19,733,332	20,749,240
Caribbean	326,000	327,159	278,292	279,500
Central America	1,498,300	2,487,938	1,656,273	593,645
South America	3,614,140	8,612,119	5,870,412	812,935

Source: FAOStat Database, - indicates data not reported

Table 6. FTAA Pesticide Imports and Exports, 1999 (\$1,000)

Country	Imports	Exports	Net Imports	Consumption (1996 gm/ha)
Antigua and Barbuda	900	0	900	-
Argentina	205,822	121,880	83,942	1,296
Bahamas	5,100	40	5,060	-
Barbados	6,150	10,611	(4,461)	-
Belize	5,000	190	4,810	17,804
Bolivia	25,000	200	24,800	1,514
Brazil	296,150	153,685	142,465	836
Canada	879,072	143,626	735,446	644
Colombia	85,066	181,305	(96,239)	6,134
Chile	95,778	13,000	82,778	3,240
Costa Rica	100,000	30,000	70,000	18,726
Dominica	2,000	1,500	500	-
Dominican Republic	12,000	700	11,300	-
Ecuador	66,109	2,209	63,900	1,696
El Salvador	20,132	11,642	8,490	2,642
Grenada	900	15	885	-
Guatemala	55,000	35,000	20,000	574
Guyana	2,000	300	1,700	-
Haiti	1,500	0	1,500	23
Honduras	36,202	82	36,120	6,521
Jamaica	11,300	700	10,600	-
Mexico	253,947	66,044	187,903	-
Nicaragua	29,909	441	29,468	357
Panama	37,520	4	37,516	-
Paraguay	49,369	881	48,488	1,542
Peru	36,810	4,512	32,298	-
St. Kitts and Nevis	1,600	8	1,592	-
St. Lucia	4,000	200	3,800	-
St. Vincent & Grenadines	2,500	0	2,500	-
Suriname	10,000	150	9,850	4,877
Trinidad and Tobago	11,314	2,610	8,704	11,827
United States	493,910	1,577,927	(1,084,017)	1,599
Uruguay	42,026	5,396	36,630	1,316
Venezuela	34,399	17,437	16,962	1,403
Totals: FTAA	2,918,485	2,382,295	536,190	-
Caribbean	179,044	16,604	162,440	-
Central America	537,610	143,403	394,207	-
South America	951,469	500,920	450,549	-

Sources: Trade: FAOStat Database; Consumption: WRI 2000; - data not available

large amounts of protected land, more than 15 percent, include Ecuador (42.5 percent),<sup>13</sup> Venezuela (35.4 percent), Dominican Republic (31.1 percent), Belize (20.1 Percent), Chile (18.7 percent), Panama (18.7 percent), and Guatemala (16.8 percent). There is a substantial amount of land degradation throughout the FTAA and particularly in Latin America (Table 8). Land degradation in industrialized North America (the U.S. and Canada) is relatively small with only 4.9 percent of the world's degraded land while the area has nearly 14.5 percent of the world's land. Central America has relatively more degraded land, with 3.2 percent of the World total while the area has only 2.0 percent of the worlds land; more importantly the area has 5.0 percent of the world's moderate, severe and extreme erosion. South America contributes much of the degraded land in the FTAA area, with 243.4 million hectares out of the FTAA total of 401.7 million hectares. However, the South American percentage of the world total is only 12.4 percent while the continent has about 13.4 percent of the total land area. The FTAA's degraded area (excluding the Caribbean countries for which data were not included) was only 20.4 percent of the world total compared with a total land area of 29.9 percent, primarily due to the low percentage in North America.

Numerous studies of the environment in Latin America indicate that agricultural and forestry practices have contributed to environmental degradation and that substantial areas remain at risk of further degradation (see Runge et al. 1997 for a review several major studies). Trade has played a role in this process, although it probably is not the major contributor to the misuse and degradation of natural resources in the region which is due, at least in part, to the fragility of much of the areas natural resources as well as to policies, population growth and other factors. Fragile conditions exist due to the mountainous and hilly nature of much of the region including the Andean area in South American and much of Central America including Mexico. Growing populations and increased

Table 7. FTAA Land to Population Ratio, Protected and Irrigated Areas

Country	1997 Ha/1,000 Pop.	Protected Areas 1,000 hectares	Percent Protected	Irrigated Land 1,000 hectares
Antigua and Barbuda	119	0	-	-
Argentina	763	4,909	1.8	1,561
Bahamas	39	-	-	-
Barbados	64	-	-	1
Belize	397	479	20.1	3
Bolivia	270	15,601	14.2	130
Brazil	399	37,513	4.4	2,900
Canada	1,510	90,702	9.1	720
Colombia	111	9,363	5.5	850
Chile	157	14,142	18.7	1,800
Costa Rica	135	723	14.2	108
Dominica	93	-	-	-
Dominican Republic	185	1,523	31.1	269
Ecuador	251	12,077	42.5	865
El Salvador	138	5	0.2	40
Grenada	53	-	-	-
Guatemala	181	1,827	16.8	130
Guyana	588	59	0.2	150
Haiti	116	10	0.3	75
Honduras	342	673	6.0	78
Jamaica	109	2	0.2	25
Mexico	290	6,637	3.4	6,500
Nicaragua	587	908	7.0	88
Panama	244	1,422	18.7	35
Paraguay	449	1,401	3.4	67
Peru	172	3,463	2.7	1,159
St. Kitts and Nevis	139	-	-	-
St. Lucia	32	-	-	3
St. Vincent & Grenadines	34	-	-	1
Suriname	163	736	4.5	51
Trinidad and Tobago	96	31	6.1	3
United States	659	123,120	13.1	22,400
Uruguay	400	48	0.3	180
Venezuela	153	32,245	35.4	575
FTAA Total				40,767

Source: WRI 2000; \* estimated from CIA and Word Bank data; - not available

Table 8. Land Degradation in FTAA Area (1940-1990)

Region and Severity of Degradation	Total Land Area (million has.)	Percent of World's Total Degraded Land	Percent of Region's Land Area
World: Total Area Degraded	1,964.4	100.0	17.0
Moderate, Severe and Extreme	1,215.4	100.0	10.5
Light	749.0	100.0	6.5
North America: Total Area Degraded	95.5	4.9	5.3
Moderate, Severe and Extreme	78.7	6.5	4.4
Light	16.8	2.2	0.9
Central America*: Total Area Degraded	62.8	3.2	24.8
Moderate, Severe and Extreme	60.9	5.0	24.1
Light	1.9	0.3	0.7
South America: Total Area Degraded	243.4	12.4	14.0
Moderate, Severe and Extreme	138.5	11.4	8.0
Light	104.8	14.0	6.0
FTAA: Total Area Degraded	401.7	20.4	10.6
Moderate, Severe and Extreme	278.1	22.9	7.3
Light	123.5	16.5	3.2

Source: WRI 1992, p.112; \* Includes Mexico

mechanization have increased the pressures on agriculture in these areas with accompanying soil erosion and, often, the loss of productivity. Large areas of tropical forests in Central and South America (and the Caribbean) have been cleared for agricultural production, but the soils in many of these areas are not suited to intensive agriculture and suffer from tillage operations. Coastal mangroves and other coastal lands have been converted to aquaculture in extensive areas of South and Central America, causing harm to many species dependent on those resources.

A WRI study (Runge et al. 1997) summarized many studies of the FTAA area which, when combined with their own analyses, find grave environmental problems relating to the agricultural, forestry and fisheries sector, including such problems as nutrient depletion, salinization, erosion, deforestation of threatened habitats, vegetation degradation, water scarcity and conflicts, and

agrochemical pollution. Given the importance of agricultural trade in the region it is reasonable to conclude that trade is linked to some of this degradation. Some, such as agrochemical pollution from banana cultivation, is directly linked to production for trade since a large share of the bananas produced are exported, especially those produced using large amounts of fertilizers and pesticides. Harmful effects have been documented from production and processing of the coffee beans for export in many areas of Latin America for more than a century (Pendergast 2000).

A few studies have examined trade liberalization and the environment for individual countries of the FTAA region. Dasgupta, Mamingi and Meisner (2001) indicate that trade liberalization has caused adverse environmental effects from pesticide use in Brazil. They used both time series and cross-sectional data with an econometric model and found “...that Brazil’s agricultural growth in the era of trade liberalization has been clouded by serious human health problems and environmental damage caused by pesticide use” (p. 459). Appropriate policies and regulations, if enforced, could minimize these effects and, thus, the adverse effects could be labeled as policy failures, but since many of the products where pesticides used are produced primarily for export and, therefore, they could just as well be labeled trade failures.

Abler, Rodríguez and Shortle used a CGE model to test for environmental effects from liberalization for Costa Rica using 1985-89 data. They found that the “impacts of trade liberalization on the environmental indicators are generally negative in sign but small or moderate in magnitude, both when technology is and technology is not allowed to vary” (p. 357). The environmental effects include deforestation and increases in pesticide use, organic waste production, greenhouse gasses, and air pollution.

### **Environmental Regulations in the FTAA**

Environmental laws and regulations vary considerably among the members of the FTAA with generally strong laws, regulations, and enforcement in the U.S. and Canada and, typically, weaker situations in the other countries. This was viewed a problem during the NAFTA negotiations and was a primary reason for the development of the side agreement on the environment. It might be noted, however, that many countries have more adequate environmental laws and regulations than is apparent from the effects obtained in improving environmental conditions. This situation results from deficiencies in institutions, personnel, and resources for enforcement (see, for example, Recca and Echeverria 1998, pp. xxvii-xxix; Gligo 1998; Berjano Avila 1998; Runge et al. 1997). von Moltke and Ryan (2001, p. 36) indicate that the “institutional demands for environmental issues greatly exceed those for trade liberalization” (translation by author). Recca and Echverria, for example, say (p. xxvii): “In this decade, the environmental theme has been incorporated in the agendas of the governments, and the countries of the region have created environmental regulations, although they are still very far from having attained the ‘internal operationalization’ of these in their procedures and management and, above all, in the implementation of projects” (translation by author). Schaper (2000) reports improvements in environmental institutions and regulations, but with varied levels of progress in the nine Latin American countries of her analysis.

Preserving the environment is mentioned in the preamble to the Treaty of Asuncion which established MERCOSUR but is not otherwise a part of the agreement (von Moltke and Ryan 2001, pp.1-4). Subsequent meetings were held to develop an agreement on environmental issues and a draft was developed but was never approved due to opposition from Argentina. Gligo (1998) asserts that trade by countries in MERCOSUR has important effects on the environment due to increased production of agricultural products, but that the countries to the agreement do not take these into account despite its “declarations of environmental principles” (p. 169). He cites increases in soybean

and sunflower production in Argentina as an example of potential harm to the environment due to the technological package utilized in their production (p. 183). Berjano Avila (1998, p. 191) finds backwardness in the institutional structure for dealing with environmental issues to be a major deficiency in the MERCOSUR countries. He emphasizes the need of an adequate institutional framework for managing the environment, including regulation where market mechanisms cannot be used to internalize externalities. Green (1995) evaluated environmental issues in MERCOSUR and found that all the countries face similar environmental problems of “polluted waters, polluted atmosphere and soil, noise pollution, deforestation, illegal traffic in endangered species, oil spills, and inadequate toxic waste disposal” (p. 183). He also found that they tend to have strong environmental laws that are continually being strengthened, but that none-the-less vary substantially among the countries and finds enforcement to be a problem, although he expects it to improve with stricter environmental rules that will result in the development of a new industry, “the environmental technology industry” (p. 183).

Harwell et al. (1994 pp. 32-32) state that “Venezuela already has an extensive body of environmental legislation, based on high universal standards,” but find that the country has been criticized for lack of enforcement. Reasons for this include “technical and/or financial” deficiencies. In Ecuador, Southgate and Whitaker (1994) found that environmental degradation is due to an inappropriate set of policies that induce misuse of the nation’s natural resources, They recommend policy reforms and a redefinition of property rights to correct the situation. Chichilinisky (1994) also finds the lack of adequate property rights to be a factor in environmental degradation in the South as a result of North-South trade.

The draft environmental review for the proposed U.S.-Chile free trade agreement reviews Chilean environmental laws and enforcement procedures and finds that they have been improved since 1994

(USTR 2001d). The review does not foresee environmental problems with the agreement, in part, because Chile agreed to environmental conditions similar to those of NAFTA in its free trade agreement with Canada. Chile, while not required to do so, is also conducting an environmental impact review of the proposed agreement. While the impacts on U.S. agriculture would be minimal due to the relatively small amount of U.S. exports to Chile, they could be more dramatic in Chile due to the importance of the U.S. to Chilean agricultural exports.

### **Environmental Provisions in the FTAA Agreement**

The role of the environment that will prevail in the final FTAA agreement is uncertain, given the environmental views of the Bush administration and the existence of widespread opposition to including environmental provisions by many of other FTAA participants. Murillo Rodríguez (2000) indicates that while the U.S. and Canada have encouraged discussion of the environment, “the majority of Latin American and Caribbean countries have opposed its inclusion...” (p. 93). The draft FTAA agreement does not contain a separate section or chapter on the environment (FTAA 2001), but a U.S. position paper indicates that environmental provisions are important and that U.S. negotiators will seek to incorporate environmental concerns into specific chapters (USTR 2001b). Robert Zoellick (2001, p. 12), the USTR in the Bush Administration, has indicated that “we need to be cautious about infringing on others’ sovereignty by trying to compel their standards through trade agreements. Indeed, most environmental NGOs have told me they want to ensure that multilateral environmental agreements are independent from WTO.” This statement does not say, however, that NGOs think environmental issues should be excluded from trade agreements (see endnote 1). Furthermore, the administration reaffirmed the requirement for environmental reviews of trade agreements under Executive Order 13141 issued by President Clinton in 1999 (USTR 2001d). Canada also has a requirement for

environmental impact reviews of trade agreements and the preamble it proposed for the FTAA agreement contained a statement on protecting the environment (Canadian Department of Foreign Affairs and International Trade 2001a, 2001b).<sup>14</sup>

The investment chapter of the Draft Agreement contains the strongest environmentally related statement, i.e., that the parties agree to not relax environmental regulations to attract investment. It contains the following (FTAA 2001, p. 3.43):

**Article 19 COMMITMENT NOT TO RELAX DOMESTIC ENVIRONMENTAL LAWS TO ATTRACT INVESTMENT**

The Parties recognize that it is inappropriate to encourage investment by relaxing domestic environmental laws. Accordingly each Party shall strive to ensure that it does not waive or otherwise derogate from, or offer to waive or otherwise derogate from, such laws as encouragement to the establishment, acquisition, expansion or retention of an investment in its territory.

There seems to be a view within the FTAA to let the WTO negotiations and agreement prevail with respect to environmental regulations and provisions. However, the draft agreement refers to the environment in a number of its other chapters, such as agriculture, but these are relatively minor. The agricultural chapter has references in a couple of places, including one of the annexes. In the main part of the chapter a section dealing with risk indicates that “pertinent ecological and environmental conditions” (p. 20) should be considered when assessing risk. In the annex concerned with domestic support of agriculture, it is indicated that payments for research and infrastructure services for environmental programs should not be considered as subsidies to agriculture.

In preparing for the negotiations, a U.S. interagency task force was established to evaluate environmental issues and to explore approaches to analyzing the impacts of an FTAA agreement on the environment (QAWG 2000; USTR and CEQ 2000). The task force was established as a result of

Executive Order 13141, which requires that there be an assessment and consideration of environmental impacts of trade negotiations. The QAWG recommended a two pronged approach, a core quantitative approach to be accompanied by supplemental analyses of specific sectors, geographic areas of the U.S., and other relevant issues. However, to date, there have been no reports of such analyses being carried out, although the USTR's annual report to congress indicates that environmental analyses of the FTAA are continuing (USTR 2002). The U.S. and Canada are required to make an environmental assessment of the agreement on their markets, but this does not cover environmental impacts in the rest of the Americas.

Krist (2002), in an evaluation of the FTAA and the environment, examines the market access negotiations and their potential for affecting the environment. While he recommends that trade barriers should be eliminated by FTAA members, he indicates that this should be done in ways that do not weaken environmental protection. He also recommends that assessments be undertaken to evaluate the sustainability aspects of eliminating trade barriers—such as the environmental assessments being made by the U.S. and Canada—and that the FTAA agreement should make it clear that, as in the NAFTA agreement, its provisions defer to those of multilateral environmental agreements in situations where the two conflict. In addition, he thinks that separate negotiations to improve the environment should be initiated immediately and that these should parallel the market access negotiations. Finally, he recommends that the negotiations clearly indicate that trade sanctions are not an appropriate way to enforce environmental standards.

### **FTAA, the Environment and U.S. Farm Legislation**

The 1996 FAIR act expires in 2002 and will be replaced prior to the 2003 farm production season. The U.S. House of Representatives passed a new farm bill in 2001 that essentially extends

for ten years and expands the FAIR act, while the Senate passed a somewhat different version in February 2002 (New York Times 2002a). The administration had indicated some opposition to both measures, but did not present a specific proposal and has indicated agreement with the final version of the bill. The USDA (2001a) publication *Food and Agricultural Policy* provides their views on policy. The differences were worked out in a conference committee, the bill was passed by both houses, and became law when signed by the President (New York Times 2002c, 2002e). U.S. agricultural policy has moved toward a greater concern for the environment—the National Farmland Trust called the FAIR act a triumph for conservation (Warman 1996). The Senate version was more environmentally oriented than that of the House; the conference bill is a compromise of the two. A New York Times article (2002a) indicated that a factor in determining the nature of the Senate version was the publication of the subsidies received by individuals under the FAIR Act (see EWG 2001). A major alternative to the current policy is to substitute conservation payments for the direct support payments now given to producers to the major grains and cotton, a procedure that would distribute the payments to a much broader group of farmers (New York Times 2001). These types of payments would come under the green box provisions of WTO which are not supposed to be trade distorting (although they probably are) and which are being promoted by the European Union and Japan in the new round of WTO talks. U.S. farm legislation is becoming more aligned with those advocating inclusion of environmental issues in trade agreements such as the. The 2002 legislation, while increasing conservation payments, retained and increased subsidies for the major crops as its primary focus, and also expanded subsidies for other products; it does contain provisions that permit the Secretary of Agriculture to reduce payments if they exceed the WTO limits (New York Times 2002f, Zoellick 2002). Australia, the EU, and other countries view the 2002 legislation as trade distorting and have threatened to challenge it in the WTO (Ames 2002; New York Times 2002d).

## **Conclusions and Implications**

Agriculture has been and will continue to be a major contributor to environmental degradation. Tilman et al. (2001), for example, forecast a 2.4-2.7 fold increase in nitrogen and phosphorus eutrophication, as well as a large conversion of natural ecosystems to agricultural production in the next 50 years as the sector responds to increased demand for food and fibers due to increases in population and wealth. They say: “This eutrophication and habitat destruction would cause unprecedented ecosystem simplification, loss of ecosystem services, and species extinctions” (p. 281). However, they also indicate that it may be possible to minimize or even reverse some of the trends leading to these pessimistic forecasts with appropriate mechanisms, but these cannot be achieved unless “far more resources are dedicated to their discovery and implementation” (p. 284)—see Bromley (1996) for more complete discussion of agriculture and the environment.

Increases in the trade of agricultural products will almost certainly accompany the increases in agricultural production since the increases in population and agricultural production will not necessarily occur in the same locations. If the increase in output is adequate to meet the increased demand, it will necessarily depend on countries being able to fully exploit the comparative advantages that free trade facilitates. Since numerous studies have shown that the direct and indirect environmental consequences from increases in trade can be both positive and negative, the net effect in each country will be dependent on the stronger of the two. What seems essential is, as Runge (1998) indicates, that environmental and trade agreements and policies must be sufficiently integrated, or at least coordinated, to assure that they work together to improve the environment while simultaneously attaining the benefits of free trade.

This, essentially, means that free trade advocates need to realize that, just as there are market and

policy failures, there also can be trade failures. Thus, FTAA, WTO, and other trade liberalization negotiators need to assure that the trade agreements are structured in ways that do not work at cross purposes to environmental considerations and even that the trade agreements to some degree facilitate and promote enhanced environmental solutions. Placing confidence in independent international negotiating processes for free trade and improvements in the environment is apt to fail due to the difficulty of reaching agreement for multilateral environmental agreements as well as to the conflicts between trade and environmental agreements when the two are carried out as separate processes; there is no guarantee that trade will always win in the process of resolving such conflicts, especially since the environment seems to enjoy broader support than free trade. The ruling of the WTO dispute settlement panel in favor of the United States on its appeal of the original unfavorable ruling in the sea turtle-shrimp case brought by India et al. (Bridges 2001b; Irwin 2002, pp. 198-200; USTR 2001c) may be a sign that the trade camp is beginning to realize that it must broaden its views beyond a narrow concept that *free trade must always win* even when justifiable environmental rules and regulations conflict with a nation's right to export a "good" product, but one that has been produced in ways that unnecessarily harm the environment when alternative, less harmful technologies exist. This ruling, which requires that the U.S. to enter into 'good faith' negotiations to resolve the issue, has been criticized by a number of WTO members who see it as a potentially dangerous precedent (Bridges 2001e, Sampson 2000). Thus, care must be exercised to see that such regulations are justifiable and not erected as barriers to trade that protect a domestic industry. It will also be necessary to assist developing countries, in particular, obtain the resources and technology that will enable them to meet stricter environmental standards.

There is little evidence that the FTAA negotiations are going to involve environmental issues to any significant extent due to opposition by nearly all of the member countries (exceptions are Canada

and the United States). The decision seems to be to let the WTO negotiate and rule with respect to the role of the environment in multilateral trade agreements. However, the issue is controversial within the WTO negotiations and, thus, it is uncertain what the outcome will be (see, e.g., Timms 2002). Furthermore, to gain Congressional approval may require that the U.S. insist on a greater role for the environment in the FTAA than is currently being contemplated as demonstrated by the opposition to the granting trade promotion (fast-track) authority to the President, although the House passed version requires that environmental concerns be addressed (see, Elliott 2001, USTR 2002). Furthermore, the process and negotiations of the FTAA agreement will be affected by factors such as the economic crises in Argentina and the political crisis recently experienced in Venezuela.

### **Endnotes**

1. Mexico did not pursue the issue and the finding was never affirmed by GATT council (Irwin 2002). The U.S., Mexico, and eight other tuna producers reached an agreement to regulate tuna fishing in 1992. Since then dolphin deaths have declined sharply, from some 133,000 in 1988 to less than 2000 per year since 1998 (NOAA 2002). However, the tuna-dolphin situation remains a controversial and contentious issue due to changes in the program and legal challenges by environmentalists (see, e.g., Defenders of Wildlife 2002).
2. Eliste (2002) found that trade agreements not only do not cause a race to the bottom, but that they often result in improved environmental conditions including regulations and their enforcement. The latter is true for both trade among industrialized countries and north-south trade, but apparently not for south-south trade.
3. Most economists and other free trade advocates recognize that there are potential conflicts between multilateral environmental and trade agreements. They often blame these problems on trade and/or policy failures.
4. Many environmentalists and environmental organizations oppose free trade agreements and have been a part of the protests that erupted in Seattle and that have plagued subsequent meetings and trade liberalization efforts. For statements of four major environmental organizations see, for example: Friends of the Earth (2001), National Wildlife Federation (2000), Sierra Club (2001), and World Wildlife Fund (n.d.); see also Sampson (2000).
5. While Bhagwati is a very strong free trade advocate, he also recognizes many of the problems and issues involved in the implementation of free trade, including those resulting from preferential or regional trade agreements. In addition to the paper cited (Bhagwati 2000), see also his recent

book, *Free Trade Today*, for a succinct presentation of his views (Bhagwati 2002).

6. The development of ISO 14000 standards on the environment may offer a long run approach to handling environmental issues in international trade since these will provide a common set of standards for industries to utilize in developing and implementing environmentally appropriate procedures (UNCTAD 2001). Schaper (2000, p. 34) indicates that there was a large increase in ISO 14000 certified firms during the 1990s, especially in Argentina, Brazil, and Mexico.

7. Other parts of the NAFTA agreement can also have environmental implications. An example is Chapter 11 which allows firms to sue for damage when regulations, such as environmental rules, have adverse effects on them (see, for example, Moyers 2002)

8. The authors and others who promote trade do not seem to believe that trade failures can also exist.

9. The WTO's Committee on Trade and Environment was established in 1995 and met several times to develop its agenda which was presented at the Singapore Ministerial Conference in December 1996 (CTE 2002).

10. There is also a concern for the impacts of agro-environmental policies on trade, but these issues are not discussed in this paper (see, e.g., OECD 2001)

11. The CEC (2001) has made a thorough review of the environmental situations of the three countries in NAFTA, including their agricultural and natural resource sectors, but has not related this directly to the effects of trade.

12. Although a majority of Republicans, who controlled the House of Representatives, voted for fast track approval, enough joined a majority of the Democrats to defeat fast track in both 1997 and 1998 (Eilperin 1998). While environmental and labor issues played a role in the refusal to approve fast track authority, the political environment probably was a more important factor.

13. Ecuador, with 42.5 percent of its land in protected areas, has the highest proportion of protected land in the world (WRI 2000, pp. 244-45), but Southgate and Whitaker (1994, pp. 23ff) indicate that this may be misleading since the country is not able to adequately regulate access to the protected areas and consequently much of the "protected" area is open to exploitation and environmental degradation. The protected areas include most of the Galapagos Islands (where protection is fairly good but not complete), the Amazonian region where considerable exploitation occurs partly as a result of oil production, much of the country's mountainous forested area with inadequate protection, and coastal areas where the mangroves and other areas are exploited for shrimp culture with the land leased to shrimp producers at low rates.

14. A search of the web sites of other FTAA members did not reveal any indication of a position on environmental issues with respect to the FTAA although some had web sites that provided information about the FTAA. The U.S. and Canada have web sites that present their views on FTAA issues as well as information on the FTAA and links to the FTAA web site. The Canadian site has links to those of five other countries, but of these only Argentina has information on the

FTAA and they do not present much information on their own positions.

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