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Environmental Issues in the FTAA

Dale Colyer

West Virginia University

Abstract

Environmental issues have become important in trade agreement negotiations. NAFTA explicitly includes environmental provisions and they are affecting ongoing WTO and FTAA negotiations. The final role of the environment in the FTAA is uncertain, given opposition by most of the members. The draft FTAA agreement does not contain a separate section on the environment, but a US position paper indicates that environmental provisions are important and that US negotiators will seek to incorporate environmental concerns into specific chapters such those on investment and agriculture. The large number and varied economic and environmental conditions of the several countries in the FTAA, will make it difficult to include meaningful environmental provisions in the agreement, but environmentalists are seeking and the inclusion of such provisions in the NAFTA and WTO agreements will tend to make it difficult to get approval of future agreements that do not address environmental issues or at least that do not guard against creating pollution havens or that encourage laxness in environmental protection. This paper examines environmental and trade issues in the context of the FTAA negotiations including analyses of environmental conditions in the region and the pros and cons of their inclusion in the FTAA and other trade agreements.

INTRODUCTION

The varied economic and environmental conditions of the 34 nations negotiating the Free Trade Area of the Americas (FTAA) agreement complicate the process and may preclude having meaningful environmental provisions in the agreement. However, the successful incorporation of environmental provisions in North American Free Trade Agreement (NAFTA) and the increasing importance of environmental issues in the World Trade Organization (WTO) may make it difficult to get Congressional approval of agreements that do not contain provisions to protect the environment, or at least that guard against creating pollution havens that

encourage laxness in environmental protection (WTO 1999). This concern has been a factor in the delays in getting the US Congress to approve the trade promotion authority, formerly called fast track authority, requested by the Bush administration (USA Today 2001, Broder 2001). To date, the environment has not been included in the proposed FTAA agreement, except as it relates to other issues. This has been due, at least in part, to opposition from a majority of the Latin American and Caribbean countries (Murillo Rodriguez 2000). However, both Canada and US are required to carry out environmental assessments of all trade agreements (Canadian Department

of Foreign Affairs and International Trade 2001a, Clinton 1999, USTR 2001a).

TRADE AGREEMENTS AND THE ENVIRONMENT

The inclusion of environmental provisions in trade agreements is a controversial issue (see, for example, Hoekman and Anderson 2000). This became an important issue in 1991 when the US lost the General Agreement on Trade and Tariffs (GATT) tuna-dolphin dispute with Mexico (Eglin 1999, Estey 1994). The loss caused a strong backlash that resulted in vehement protests by environmentalists who then became more involved in the trade negotiation process, including the protests at the WTO meetings in Seattle in 1999 and at subsequent meetings (see, e.g., Friends of the Earth 2001, National Wildlife Federation 2000, Sierra Club 2001, or World Wildlife Fund n.d.). Other results were the environmental side agreement for NAFTA and GATT's activation of its Group on Environmental Measures and International Trade, which had not met after being established in 1971 (Eglin 1999, pp.252-253; Nordström and Vaughan 1999). Environmental measures were then included in the Uruguay Round Agreement and are a factor in the negotiations under the new round of the WTO (Bridges 2001c). In addition, Executive Order 13141, requiring environmental reviews of trade agreements, was issued by President Clinton (1999) and reaffirmed by the current administration (USTR 2001a, USTR and CEQ 2000). Canada also has a requirement for environmental reviews of trade agreements and environmental issues

have been included in its agreements with Chile and Costa Rica (Canadian Department of Foreign Affairs and International Trade 2001a). Canada included a statement on the environment in its proposal for the preamble to the FTAA agreement (Canadian Department of Foreign Affairs and International Trade 2001b).

ENVIRONMENTAL EFFECTS OF TRADE

The effects of trade on the environment may be due to scale, structure, technology, and other factors (Nordström and Vaughan 1999). Some analysts include product and policy/regulation effects (Krisoff et al. 1996; QAWG 2000) and others include a separate transportation effect (Vasavada and Nimon 2001). Scale or size effects from trade liberalization may be environmentally detrimental due to production increases accompanied by increases in waste products that must be disposed of in the environment. However, trade can cause increases in income, resulting in demands for environmental protection and providing resources to invest in remedial action. Structural changes affect the composition of output, with effects that are not determinable on an *a priori* basis. Changes in technology may accompany changes in output that result in a shift to production of new products, or actions taken to become more competitive. Newer technologies may employ techniques which reduce pollution. However, productivity-enhancing techniques in agriculture often involve intensified use of fertilizers and/or pesticides that can increase pollution. Product effects, those associated

with the production of a particular commodity, can create environmental problems: poultry production, for example, can cause problems due to the disposal of litter from the production facilities. Transportation effects result from the movement of goods between countries, which can result in increased air or water pollution. Regulation effects are the result of changes in policies and laws, or their enforcement, thereby affecting production and waste disposal activities that result from production for trade. When environmental issues are included in the trade agreement, environmental effects are apt to be positive. If not, and there is no separate agreement on the environment, the trade agreement may result in the creation of pollution havens or the weakening of enforcement, although some empirical studies seem to indicate that such a race-to-the-bottom is not common.

ANALYZING ENVIRONMENTAL EFFECTS

Most of the techniques included in economists' tool kit can be applied to environmental issues. Huang and Labys (2001) list and discuss techniques used, including CGE, international trade, input-output, welfare, game theoretic, optimization, spatial GIS, and econometric models. Their list may not be complete, since comparative statics, simulation, and other techniques are also used, but may be considered part of the other types of models: simulation, for example, may be used in combination with other types of models (see, for example, Williams and Shumway 2000). The USTR's Quantitative Analysis Working

Group (QAWG 2000) recommends models such as CGE for determining scale, structure, and technology effects, but finds that non-quantitative approaches may be needed for evaluating policy/regulation effects. Harwell et al. (2000) developed a scenario-consequence approach, which is "a flexible, easily adaptable template for exploring the environmental effects of free trade" (p.9). Runge et al. (1997, p.35) support this approach, saying, "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."

Studies of trade and the environment have produced conflicting results (Huang and Labys 2001). One analysis of agricultural trade and the environment indicates that a growing use of pesticides, mostly imported, by developing countries and human poisoning is an unfavorable impact of trade (Runge 1992). 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 cautions that a "careful evaluation of these claims suggests a different interpretation." Runge, then, repeats the basic argument for free trade as being a process that increases incomes in developing countries, enabling them to undertake expensive programs to improve environmental conditions. However, in a later publication he says, "Sanguine interpretations of these findings, suggesting an

automatic pollution-reducing response to income growth, are not supported" (Runge 1998, p.2).

AGRICULTURE IN THE FTAA COUNTRIES

The proposed FTAA consists of 34 countries from North America, South America, Central America, and the Caribbean. Membership consists of most of the large countries (except Cuba) and many of the smaller nations, although not all of the small countries in the Caribbean are included. The members vary widely in size, stage of economic development, per capita income, environmental conditions, and environmental laws and regulations. The US is the largest economy with only about one third of the area's population but more than three fourths of its GDP while St. Kitts and Nevis is the smallest with a minuscule 0.0005 percent of the area's population and 0.00027 percent of its income (World Bank 2000, CIA 2001). Canada is the largest country in terms of land area with 9,971 square kilometers and St. Kitts and Nevis is the smallest with 261 square kilometers.

The US is also the largest agricultural producer in the region. It has only about one fourth of the total land area of the Americas, but is agriculturally well endowed with about one half of the arable land area (WRI 2000). The US accounts for about 49% of the agricultural trade of the FTAA, being 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. Agricultural trade, however, is

important to every member of the FTAA, either as exporters, importers or both. Most FTAA members have positive agricultural balances of trade (Table 1). In addition to the Caribbean countries, Mexico and Venezuela are exceptions, being 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, almost three times their combined level of agricultural imports.

ENVIRONMENTAL CONDITIONS IN FTAA COUNTRIES

Some environmental indicators for the FTAA subregions are reported in Tables 2-4, with fertilizer data in Table 2, pesticide data in Table 3, and land data in Table 4 (greater detail can be found in Colyer 2002). 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 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 per unit of land is relatively intense in countries such as Costa Rica, El Salvador, Chile, Columbia and Trinidad and Tobago, as well as in the US, but do not approach application rates used in Europe and Japan. 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, Columbia, Suriname and the United States. Pesticide data for some countries may be misleading: in Brazil, for example, the overall intensity of use per hectare is low, but in some areas use tends to be intensive on export crops (Dasgupta, Mamingi and Meisner 2001). Except for the US, this mostly reflects the use of pesticides on tropical crops that are being produced for export. Pesticide and fertilizer use in South America increased substantially in the 1990s (Schaper and Parada 2000).

Land use intensity, the amount of land per 1,000 population, 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. The low intensity in Canada 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 (Colyer 2002). Relatively little land is irrigated in the FTAA area, although a few countries have substantial areas including the US, 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 large amounts of protected land, more than 15%, include Ecuador (42.5%), Venezuela (35.4%), Dominican Republic (31.1%),

Belize (20.1%), Chile (18.7%), Panama (18.7%), and Guatemala (16.8%).

There is a substantial amount of land degradation throughout the FTAA and particularly in Latin America (Table 4, WRI 1992). Land degradation in industrialized North America (the US and Canada) is relatively small with only 4.9% of the world's degraded land; only 5.3% of the area's vegetated land is degraded. Central America has relatively more degraded land, with 3.2% of the World total while the area has only 2% of the world's land. More importantly, the area has 5% of the world's moderate, severe and extreme erosion and nearly one fourth of its vegetated land is at least moderately degraded. 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%, with 14% of its land area being degraded. The FTAA's degraded area (excluding the Caribbean countries for which data were not included in the WRI report) was 20.4% of the world total compared with a total land area of 29.9%, primarily due to the low percentage of degraded land in North America. Some 10.6% of the vegetated land is degraded.

Numerous studies of the environment in Latin America indicate that agricultural practices have contributed to environmental degradation and that substantial areas remain at risk of further degradation (see Runge et al., 1997, for a review of 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 area's 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 America and much of Central America, including Mexico. Growing populations have increased the pressures on agriculture in these areas with accompanying soil erosion and, often, 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.

Runge et al. (1997) summarized several studies and, when combined with their own analyses, find grave environmental problems relating to the agricultural, forestry and fisheries sector, including nutrient depletion, salinization, erosion, deforestation, threatened habitats, vegetation degradation, water problems, and agrochemical pollution. Since agricultural trade is important to the region, it is reasonable to conclude that trade is linked to some of this degradation. Some, including agrochemical pollution from banana cultivation, is directly linked to production for trade since a large share of several tropical products are exported and most of those are

produced using large amounts of fertilizers and pesticides.

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 econo-metric 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 (1997) 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 fixed and when technology is allowed to vary" (p.357). Effects include deforestation and increases in pesticide use, organic waste production, greenhouse gases, and air pollution.

ENVIRONMENTAL REGULATION IN THE FTAA

Environmental laws and regulations vary considerably among the members of the FTAA with generally strong laws, regulations, and enforcement in the US and Canada and typically weaker situations in many of the other countries. Several of the countries have relatively strong environmental laws and regulations but weak enforcement, a situation that results from deficiencies in institutions, personnel, and resources (see, Recca and Echeverria 1998, pp.xxvii-xxix; Gligo 1998; Berjano Avila 1998; Runge et al. 1997). Recca and Echeverria, 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 the author).

Trade by countries in MERCOSUR has been found to have important effects on the environment due to increased production of agricultural products but the countries party to the agreement do not take these into account despite its "declarations of environmental principles" (Gligo 1998, p.169). Gligo indicates that soybean and sunflower production in Argentina is an example of potential harm to the environment due to the technological package utilized in their production (p.183). Another analyst finds that inadequacies within the institutional structures concerned with environmental

issues to be a major deficiency in the MERCOSUR members (Berjano Avila 1998, p.191). There is a need for an adequate institutional framework to manage the environment, including regulation where market mechanisms cannot be used to internalize externalities. Green (1995) also evaluated environmental issues in MERCOSUR and indicated that the member countries all face similar environmental problems including "polluted waters, polluted atmosphere and soil, noise pollution, deforestation, illegal traffic in endangered species, oil spills, and inadequate toxic waste disposal" (p.183). While they tend to have strong environmental laws that are continually being strengthened, they vary substantially among the countries and enforcement is a problem. He expects this to improve with stricter environmental rules and the development of a new environmental technology industry. Harwell et al. (1994, pp.32-33) similarly found that Venezuela has an extensive body of environmental legislation, which is based on high universal standards, but that the country has been criticized for lack of enforcement due to factors that include technical and financial deficiencies

The draft review for a proposed US-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, is also conducting an environmental impact review of the proposed agreement. While the impacts on US agriculture would be minimal due to the relatively small amount of US exports to Chile, they could be more dramatic in Chile due to the importance of the US to Chilean agricultural exports.

ENVIRONMENTAL PROVISIONS IN THE FTAA AGREEMENT

The role of the environment 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. While the US and Canada have encouraged discussion of the environment, "the majority of Latin American and Caribbean countries have opposed its inclusion..." (Murillo Rodríguez 2000, p.93, see, also, Krist 2002). The draft FTAA agreement does not contain a separate section or chapter on the environment (FTAA 2001), but does contain references to the environment in several sections. A US position paper indicates that environmental provisions are important and that US negotiators will seek to incorporate environmental concerns into specific chapters (USTR 2001b). However, Robert Zoellick, the USTR, stated "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" (Zoellick 2001, p.12). However, this does not say that NGOs think environmental issues should be excluded from trade agreements. Furthermore, the administration has reaffirmed the requirement for environmental reviews of trade agreements under Executive Order 13141 issued by President Clinton in 1999 (USTR 2001d).

The investment chapter of the Draft Agreement contains the strongest environmentally related statement among those included in that document (WTO 2001):

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.

While the draft agreement does refer to the environment in a number of its chapters, these are relatively minor and there is a preference by most participants for the WTO agreement to prevail with respect to environmental issues. The agricultural chapter has references to the environment, including one of its annexes. In a section on risk, for example, the document states "pertinent ecological and environmental conditions" (p.20) should be considered when assessing risk. The annex concerned with domestic support of agriculture holds that payments for research, infrastructure,

and services for environmental programs should not be considered as subsidies to agriculture. Krist (2002) believes environmental issues should be addressed by the Market Access Negotiations.

In preparing for the negotiations and under Executive Order 13141, a US 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). This Quantitative Analysis Working Group (QAWG) recommended a core quantitative approach to be accompanied by supplemental analyses of specific sectors, geographic areas of the US, and other relevant issues. However, to date, there have been no reports of such analyses being carried out.

CONCLUSIONS AND IMPLICATIONS

Agriculture has been, and will continue to be, a major contributor to environmental degradation. A forecast by one group of analysts is for a 2.4 to 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 (Tilman et al. 2001). Their report states: "This eutrophication and habitat destruction would cause unprecedented ecosystem simplification, loss of ecosystem services, and species extinctions" (p.281). While it may be possible to minimize or reverse the forces

leading to that prediction, the required mechanisms cannot be attained unless "far more resources are dedicated to their discovery and implementation" (p.284).

Increased trade in agricultural products will accompany the increases in agricultural production due to population expansion in areas without corresponding increased agricultural production. Areas with food deficits will necessarily depend on other countries being able to fully exploit the comparative advantages that trade facilitates. This will necessarily have environmental consequences, but the net effect will be dependent on the stronger of the positive and negative impacts, as well as on the development and application of environmentally friendly technologies. What seems essential, as Runge (1998) indicates, is that environmental and trade agreements and policies must be sufficiently integrated or coordinated, to assure that they work together to improve the environment and attain the benefits of free trade.

The 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 concerns and needs. Trade agreements can, to some degree, help facilitate and promote environmental solutions. Independent international negotiating processes for free trade and environmental issues cannot be depended on due to the difficulty of reaching agreement for multilateral environmental agreements. In addition there will, inevitably, be conflicts between trade and environmental agreements when the two are

carried out as completely separate processes. There is no guarantee that trade will win in the process of resolving such conflicts, as indicated by the shrimp-sea turtle decision by the WTO dispute settlement panel. Its ruling in favor of the United States, from an appeal of the original unfavorable ruling, may indicate that the trade camp's narrow view that free trade must always win may not prevail (Bridges 2001a; USTR 2001b). While this ruling requires that the US conduct good faith negotiations to resolve the issue, a number of WTO members see it as a potentially dangerous precedent (Bridges 2001c). While care should be used to see that environmental rules are justifiable and not erected as barriers to trade that protect a domestic industry, environmental concerns also are legitimate and must not be victims to free trade agreements. To make environmental protection rules fair it may be necessary to assist developing countries in obtaining the resources and technology to enable them to meet stricter environmental standards.

Despite the concerns, there is little evidence that the FTAA negotiations will encompass environmental issues to any significant extent. The decision to let the WTO rule with respect to the role of the environment in multilateral trade agreements seems likely to prevail. However, the issue is controversial and it is uncertain what the outcome will be. Furthermore, assuring Congressional approval may require that the US insist on a greater role for the environment in the FTAA than is currently being contemplated.

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Table 1. 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 & the 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: FAO Stat Database

Table 2. FTAA Fertilizer Production, Consumption and Trade (metric tons)

Country	Production	Consumption	Imports	Exports
Total FTAA	39,570,472	37,065,022	19,733,332	20,749,240
US & Canada	34,488,510	22,450,550	779,098	19,063,160
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: FAO Stat Database.

Table 3. FTAA Pesticide Imports and Exports, 1999 (\$1,000)

Country	Imports	Exports	Net Imports
FTAA	2,918,485	2,382,295	536,190
US & Canada	1,372,982	1,721,553	(348,571)
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: FAO Stat Database.

Table 4. Land Degradation in FTAA Area (1940-1990)

Region	Total Area (million has.)	Percent of World Total	Percent of Vegetated Area
World: Total Area Degraded	1,964.4	100.0	17.0
Moderate, Severe & 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 & 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 & 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 & 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 & Extreme	278.1	22.9	7.3
Light	123.5	16.5	3.2

Source: WRI 1992, p.112

* Includes Mexico.