

Desertification in the Mediterranean: Environmental Risks of a Mediterranean Free Trade Agreement

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ABSTRACT

This note discusses the problem of desertification and its effect on the agricultural practices of the Mediterranean Basin and examines the environmental deterioration which will likely follow the establishment of the Mediterranean Free Trade Zone in 2010. This note then focuses on the reality of an environmental side agreement as a means to incorporate environmental provisions into the final Mediterranean Free Trade Association and presents supplemental solutions to minimize environmental damage and desertification while pursuing economic growth in a free market.

I. INTRODUCTION

The Mediterranean Basin has been plagued by religious strife and economic disparities for centuries. A number of Mediterranean and Middle Eastern countries¹ located in the Mediterranean Basin remain

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1. *Commission Staff Working Paper, Desertification Report 25* (June 2000) (stating that the twelve Middle Eastern and Mediterranean Partner countries (MPCs) are Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, the Palestinian Authority, Syria,

particularly unstable and vulnerable to potential violence. In light of the political, social, and economic problems causing this instability, the European Commission proposed to strengthen the Mediterranean area by establishing a permanent Euro-Mediterranean Partnership (EMP).² In 1995, the twelve Middle Eastern and Mediterranean Partner countries (MPCs) and the Single European Market of 1992 (EU) held a conference in Barcelona, which became known as the Barcelona Process, to explore cooperation and development within the tense backdrop of the Mediterranean Basin.³ The Euro-Mediterranean Partnership emerged from this conference.⁴

The EMP became an indication of hope and promised likely and budding stability. The Barcelona Process, although separate from the Middle East Peace Process, was anticipated to contribute to and encourage integration and shared tolerance between the people of this region by eliminating economic barriers and fostering free trade.⁵ Amidst the continuing conflicts, the EMP still remains the only multilateral forum, beyond the United Nations (UN), where all the parties of the Middle East are able to meet.⁶

At the Barcelona Process, the EMP made several significant decisions to increase financial assistance to the twelve MPCs⁷ in order to increase cooperation in social and economic areas.⁸ Most notably, the EMP affirmed the goal of establishing a Mediterranean Free Trade Zone (MFTZ) by 2010.⁹ To achieve this, the EU has begun establishing Free

Tunisia, and Turkey), *available at*

<http://europe.eu.int/comm/development/body/theme/environment/docs/Desreport.Eng.doc>

c.

2. *See id.*

3. *See* David Katz, *Bilateral and Multilateral Free Trade Agreements in the Mediterranean: Will They Promote a Sustainable Mediterranean or Will They Further Degrade the Environment?*, http://search.choike.org/cgi-bin/choike.cgi?cs=&q=environment&ch=http:%2F%2Fwww.foeme.org%2Fmftz%2Fwto_brief.htm&fm=off (last visited May 5, 2006).

4. *See id.*

5. *See id.*

6. *See* Eur. Comm'n, *The EU & the Middle East Peace Process: The Middle East Peace Process*, http://europa.eu.int/comm/external_relations/mepp/ (last visited May 5, 2006).

7. EUROPEAID CO-OPERATION OFFICE GEOGRAPHICAL CO-ORDINATION UNIT FOR THE MEDITERRANEAN REGION AND THE MIDDLE EAST, *EU FUNDING OPPORTUNITIES IN THE MEDITERRANEAN REGION: INFORMATION NOTE 3-4 (2003)*, *available at* http://europa.eu.int/comm/europeaid/projects/med/publications/eu_funding_opportunities_en.pdf.

8. *See* Katz, *supra* note 3.

9. *See id.*

Trade Association Agreements between itself and the MPCs.¹⁰ These bilateral Free Trade Agreements (FTAs) will eventually form the basis for the final multilateral Mediterranean Free Trade Association (MFTA).¹¹

The land of the Mediterranean Basin is particularly at risk for environmental degradation.¹² Because of the environmental problems already present in the Mediterranean Basin, the impact of free trade is likely to be especially damaging. Currently, the Mediterranean Basin is facing a very serious problem of desertification, “land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities.”¹³ If desertification continues, the damage will be irreparable and much of the land will become unusable.¹⁴

Although the EMP and prospective MFTZ do advance highly-desired, ideal objectives,¹⁵ the environmental consequences of free trade in this region have not been sufficiently addressed. These consequences especially need to be addressed as the 2010 establishment date becomes imminent. Along with free trade, the international community will also probably witness an increase in production and industrialization, resulting in the inevitable negative environmental impacts that are, in some ways, a necessary evil.¹⁶ Even sustainable development, the goal of most developing nations, does not mean a total lack of environmental degradation.¹⁷ Pollution and other environmental problems unavoidably will occur at some level as countries develop. However, in addressing environmental problems, such as desertification, the goal should be to

10. *Id.*; see also Eur. Comm’n, *The Euro-Mediterranean Partnership: Association Agreements* (for full text of all existing EU-Mediterranean Association Agreements), http://europa.eu.int/comm/external_relations/euromed/med_ass_agreemnts.htm (last visited Mar. 22, 2006).

11. See Katz, *supra* note 3.

12. JACQUELINE KARAS, CLIMATE CHANGE AND THE MEDITERRANEAN REGION 13–17 (2000), <http://www.greenpeace.org/raw/content/international/press/reports/climate-change-and-the-mediterranean.pdf>.

13. Eur. Env’t Agency, *EEA Glossary*, <http://glossary.eea.eu.int/EEAGlossary/D/desertification> (last visited Apr. 21, 2006).

14. See *id.*

15. Ctr. for Trade Pol’y Studies, *Free Trade FAQs* (stating that objectives include improving quality of life and increasing economic prosperity), <http://www.freetrade.org/faqs/faqs.html#two> (last visited Mar. 22, 2006).

16. See U.N. Indus. Dev. Org. (UNIDO), *UNIDO Industrial Development Report 2002/2003: Competing Through Innovation and Learning*, Aug. 2002, [http://www.unido.org/userfiles/timminsk/Feature2002-08\(August2002\)UNIDO-IDR2002.pdf](http://www.unido.org/userfiles/timminsk/Feature2002-08(August2002)UNIDO-IDR2002.pdf) (last visited May 5, 2006).

17. See *id.*

find a balance between free trade and environmental protections so that the land remains useable for present and future generations.

The threat that this goal will not be achieved is becoming very real in the shadow of the looming MFTZ. Many of the nations in need of economic growth are those which are already suffering from severe desertification.¹⁸ In these regions, the liberalization of agriculture and consequential increase in production will only serve to exacerbate the already critical problem.¹⁹ In light of this outcome, environmental protections must be addressed in the formation of the MFTZ.

Other regional trade agreements made between members with different levels of economic growth, such as North American Free Trade Agreement (NAFTA), demonstrate that environmental problems will develop unless precautions are taken to avoid them in advance. As of yet, no effective environmental provisions have been incorporated into the already existing Association Agreements.²⁰ For example, the EU-Algerian Association Agreement, which contains similar provisions to most other MPC Association Agreements, does assert a focus on cooperation specifically in addressing desertification.²¹ However, the Parties are only required to "encourage cooperation in preventing deterioration of the environment."²² This aspirational language sets forth a very weak environmental standard. Thus, the final MFTA, which will be based on these agreements, may also lack effective environmental provisions. Additionally, even if environmental standards were stronger, no enforcement mechanisms exist. The prevailing notions and operation of free trade could easily be used to diminish any environmental provisions set forth in these association agreements and even in the final MFTA.²³

This note will first address the problem of desertification and its present effects on the land and agricultural practices of the Mediterranean Basin. Second, the note will examine the inevitable

18. See Secretary-General, *Report of the Secretary-General on Agriculture, Land and Desertification Delivered to the Commission on Sustainable Development*, para. 4, U.N. Doc. E/CN.17/2001/PC/13 (Mar. 29, 2001) (prepared by the U.N. Food & Agric. Org.).

19. Asadullah Khan, *Topsoil Loss and Land Degradation*, INDEPENDENT, Feb. 2003, at 1-3; WILLIAM P. CUNNINGHAM & BARBARA WOODWORTH SAIGO, ENVIRONMENTAL SCIENCE: A GLOBAL CONCERN 195 (1992).

20. See Council Decision 6786/02, art. 52(2), 2002 (EC) (in the process of ratification), available at http://europa.eu.int/comm/external_relations/algeria/docs/assoc_art.pdf.

21. See *id.*

22. *Id.* cl. 1.

23. See *infra* Part II.C.

environmental deterioration brought on by free trade if environmental policy is to continue on the path of present FTAs, as evidenced by similar FTAs. Third, this note will address specifically how the MFTZ will likely affect the land and agricultural industry of the Mediterranean Basin and how it may exacerbate desertification already occurring in the area. Finally, this note will focus on the reality of an environmental side agreement as a means to incorporate environmental provisions into the final MFTA and presents supplemental solutions which can minimize environmental damage and desertification while pursuing economic growth in a free market.

II. BACKGROUND ON DESERTIFICATION

Desertification is not, as commonly misconceived, the expansion of the desert. The UN Convention to Combat Desertification (UNCCD) defines desertification as “land degradation in arid, semiarid and dry sub-humid areas resulting from various factors, including climactic variations and human activities.”²⁴ These arid, semiarid, and dry sub-humid areas generally receive low annual rainfall and are often referred to as “drylands.”²⁵ The UN Environment Program (UNEP) estimates that nearly seventy percent of productive drylands suffer from desertification.²⁶

A. Causes of Desertification

Desertification involves damage to the land that is primarily caused by human activity.²⁷ Initial land degradation often stems from overcultivation, overgrazing, deforestation, mismanaged irrigation, and salinization.²⁸ These destructive land practices continue for a variety of reasons. The demands of population growth, the demands of national and international economic policies, and continuing climate change all lead

24. U.N. Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, art. I(a), June 17, 1994, 33 I.L.M. 1328 [hereinafter *Desertification Convention*].

25. See Kyle W. Danish, *International Environmental Law and the “Bottom-Up” Approach: A Review of the Desertification Convention*, 3 IND. J. GLOBAL LEGAL STUD. 133, 139 (1995).

26. See *id.* at 136; see also Secretary-General, *supra* note 18, para. 4 (citing about 65 percent).

27. See Danish, *supra* note 25, at 139.

28. *Id.*

to damaging land practices and management.²⁹ There is no single cause, which makes solving the problem of desertification especially complex. Overall, a wide range of sources influence the exploitation of already precarious lands.

1. Population Growth

Although it is only one of several causes of desertification, population growth remains a very substantial, problematic issue.³⁰ Population growth inevitably increases the necessity for food.³¹ This increased need for food creates an incentive for farmers to intensify cultivation and crop growth. Especially in less developed countries, the pressure is not merely to produce more food, but to do it as quickly and cheaply as possible.³² This means increased short-term gains to those farmers who overproduce;³³ however, it also means prospective damage to the land. For example, the intensive productivity from the Green Revolution³⁴ has now "reached a plateau of . . . diminishing returns."³⁵ Due to the effects of the Green Revolution in Latin America, the share of agricultural land with degraded soils has reached seventy-four percent.³⁶ In countries made up primarily of at-risk drylands, this increased need for food can lead to even more harmful results. The process of desertification continues as the land is overcultivated and becomes highly susceptible to severe land degradation.

29. *Id.* at 139–40.

30. The effect of population growth on the environment is a very significant topic and has been extensively written upon. *See, e.g.*, CLIVE POINTING, *A GREEN HISTORY OF THE WORLD: THE ENVIRONMENT AND THE COLLAPSE OF GREAT CIVILIZATIONS* 68–79 (1991) (discussing the effect of population growth on the environment); Donald H. Minkler, *Demographic Trends and Policies in the Quest for Sustainability: The 1993 National Conference on Sustainable Solutions—Populations, Consumption and Culture*, 21 B.C. ENVTL. AFF. L. REV. 271 (1994); Anne Ketover, *International Environmental Law Colloquium: Fouling our Nest: Rapid Population Growth and its Effect on the Environment*, 7 TUL. ENVTL. L.J. 431 (1994).

31. Danish, *supra* note 25, at 140.

32. *Id.*

33. *Id.*

34. Jeffrey Barber, *The Sustainable Consumption and Production of Food* 14 (characterizing the Green Revolution as an attempt to feed the world through dramatic increases in agricultural production using mechanization, irrigation, pesticides, and fertilizers), <http://www.citnet.org/wg/spac/documents/spacfood.aspx> (last visited May 5, 2006).

35. *Id.*

36. *Id.* (calculating percentages as of 1990).

2. Overproduction Due to the Demands of International Trade

In addition to overpopulation, the demands of international trade also affect land mismanagement and subsequent desertification.³⁷ Farmers, as defined in *Agenda 21*,³⁸ are “all rural people who derive their livelihood from activities such as farming, fishing and forest harvesting.”³⁹ When less developed countries integrate into the global market and liberalize their agriculture, farmers from small subsistence farms and medium family and community farms are placed in a difficult position.⁴⁰ Most are unable to compete and will fall to the large agribusinesses whose policies emphasize high production targets of imports and exports rather than “integrated [and] sustainable livelihoods.”⁴¹ In order to be competitive, small to medium farms are forced to engage in mechanized high-input agriculture.⁴² Soil-intensive farming becomes necessary to maximize the crop yield.⁴³ Modern industrial agriculture tends to produce cheap, abundant food in the most efficient way possible; however, environmental costs are not taken into account.⁴⁴

Thus, when land is soil-intensively overcultivated, the probability of desertification increases.⁴⁵ First, the practice of continually growing the same crops on the same area of land exhausts the soil nutrients and results in decreased production of goods.⁴⁶ Second, intensive farming also causes salinization resulting from heavy dependence on irrigation.⁴⁷

37. *Id.* at 140.

38. LAKSHMAN GURUSWAMY, INTERNATIONAL ENVIRONMENTAL LAW IN A NUTSHELL 474 (2003). *Agenda 21* was a comprehensive action plan taken to assess the human impact on the Environment. U.N. Conference on Environment and Development, *Agenda 21*, sec. 32.3, U.N. Doc. A/CONF. 151/4 (1992), available at <http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=52&ArticleID=49&l=en> [hereinafter *Agenda 21*].

39. *Id.*

40. Barber, *supra* note 34, at 19.

41. *Id.*

42. *Id.* at 19.

43. Peter Mann et al., *Knowledge for a Sustainable Food System: Identifying and Providing for Education, Training, Knowledge-Sharing and Information Needs* (Sustainable Agric. & Food System Caucus, NGO Dialogue Paper No. 4, 2000), available at http://csdngo.igc.org/agriculture/agr_dia_Paper4.htm.

44. *Id.*

45. See CUNNINGHAM & SAIGO, *supra* note 19, at 195; Asadullah Khan, *Topsoil Loss and Land Degradation*, INDEPENDENT, Feb. 23, 2003, at 1–3.

46. CUNNINGHAM & SAIGO, *supra* note 19, at 195.

47. Secretariat, *Review of Activities for the Promotion and Strengthening of Relationships With Other Relevant Conventions and Relevant International Organizations, Institutions and Agencies: Collaboration and Synergies Among Rio Conventions for the Implementation of the UNCCD*, para. 11, U.N. Doc. ICCD/COP(3)/9

Salinization occurs when the soil becomes infertile due to an oversaturation of salt.⁴⁸ Dryland irrigation is frequently the solution to problems of water scarcity and high evaporation in dryland regions, where large quantities of water are not available and no alternatives exist.⁴⁹ Extensive dryland irrigation increases the risks of salinization.⁵⁰ Additionally, irrigation may seep soil salts into the groundwater.⁵¹ The groundwater is then reused for irrigation, doubling the adverse effects of salinization.⁵² Eventually, soil salinity reaches a threshold level at which the cropland can no longer be productive, often leading to abandonment.⁵³

The overcultivation of soil intensive crops for international markets is a definite cause of desertification.⁵⁴ The agricultural industries of developed countries receive subsidies from their respective governments and are then encouraged to produce as much as possible, exceeding domestic demand, in order to increase crop exports.⁵⁵ As developed countries overproduce subsidized agricultural products and propel their products into the markets of the developing countries, the more efficient developing-country markets are destroyed and local prices plummet.⁵⁶ At the same time, developing-country exports are unable to reach the developed country markets without a dramatic increase in production.⁵⁷ Thus, under the current system, economic pressures to grow exportable revenue-generating cash crops have increased.⁵⁸

In order to be competitive in the market, many developing nations focus on cash crops or off-season products to raise revenue for development.⁵⁹ Many developed nations condition aid on cash crop production.⁶⁰ Continued production of monoculture crops is extremely stressful on drylands, removing all nutrients from the soil and not

(Sept. 28, 1999), available at http://www.gm-unced.org/English/DOCS/9eng_COP3.pdf [hereinafter *Collaboration and Synergies Among Rio Conventions*].

48. *Id.*

49. *Id.*

50. *Id.*

51. *Id.*

52. *Id.*

53. Danish, *supra* note 25 at 140.

54. *Id.*; *Collaboration and Synergies Among Rio Conventions*, *supra* note 47.

55. Danish, *supra* note 25, at 141.

56. *Id.* at 148.

57. *Id.*

58. GURUSWAMY, *supra* note 38, at 474.

59. William C. Burns, *The International Convention to Combat Desertification: Drawing a Line in the Sand?* 16 MICH. J. INT'L L. 831, 839 (1995).

60. *Id.*

allowing any time for the soil to recover.⁶¹ Overcultivation causes drylands, already naturally lacking in nutrients, to become even more susceptible to erosion.⁶² The topsoil soon disappears and the subsoil, which is often infertile and unable to absorb water, is exposed.⁶³ This process, exacerbated by natural causes, results in desertification.

3. *Natural Causes*

Despite the negative impact of human activity in perpetuating desertification, it is often not the only cause. At the 1992 Earth Summit held in Rio de Janeiro, desertification was redefined to include both human and natural causes.⁶⁴ The definition took into account climate changes, describing desertification as “land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including *climatic variations* and human activities.”⁶⁵ This definition reflects the fact that natural environmental events often exacerbate desertification.⁶⁶ For example, reduction in vegetation caused by drought and increased exposure to erosion by heavy rainfall may both add to desertification.⁶⁷ Dryland regions are at a higher risk of desertification because of the extreme fluctuations of the dryland climate.⁶⁸ Furthermore, drylands are frequently susceptible to both drought and severe storms at the start of the rainy season.⁶⁹ Satellite imagery has shown that a vegetation boundary south of the Sahara, a dryland region, can vary by 200 kilometers from a wet to dry year.⁷⁰ These natural causes, together with human activities, have resulted in a significant increase in desertification.

61. *Id.*

62. *Id.*

63. *Id.*

64. *Agenda 21*, *supra* note 38, ch. 12.

65. *Id.* (emphasis added).

66. Camilla Toulmin, *Combating Desertification: Encouraging Local Action Within a Global Framework*, in GREEN GLOBE YEARBOOK OF INTERNATIONAL CO-OPERATION ON ENVIRONMENT AND DEVELOPMENT 79 (Helge Ole Bergeson & George Parmann eds., 1994), available at http://www.greenyearbook.org/articles/94_06_toulmin.pdf.

67. *Id.*

68. *Id.*

69. *Id.*

70. U.N. Convention to Combat Desertification, *Fact Sheet: The Causes of Desertification*, <http://www.unccd.int/publicinfo/factsheets/showFS.php?number=2> (last visited May 5, 2006).

B. Impacts of Desertification on Agricultural Productivity in the Mediterranean

As expected, land degradation has a severely detrimental and pervasive impact on agriculture.⁷¹ Soil is vulnerable to erosion from wind and water, and as erosion increases so does flooding.⁷² Irrigated lands then become salinized as the water tables drop. Because the land is so saturated with salt, and thus infertile, crop yields invariably diminish.⁷³

The Mediterranean region, much of which is drylands, provides an illustration of the dryland problem and how it is susceptible to both human and natural impacts.⁷⁴ The Mediterranean water resource system has felt the first impacts of climate change.⁷⁵ Reductions in available water have most affected the southern Mediterranean countries.⁷⁶ In Algeria, Egypt, Lebanon, Libya, Malta, Morocco, Syria, and Tunisia, water is already very scarce.⁷⁷ In addition, the Mediterranean region is especially prone to desertification caused by the lack of water, which results in subsequent increases in erosion, salinization, and reductions in soil quality.⁷⁸

The Mediterranean region is also a region rife with potential human causes of desertification.⁷⁹ First, the changing climate and subsequent increasing drought make this region increasingly susceptible to damage by improper land use.⁸⁰ Second, much of the land is already affected by desertification.⁸¹ Third, the southern Mediterranean region is home to the proposed MFTZ,⁸² the formation of which will significantly change the entire economy.⁸³ Specifically, changes in agriculture brought on by the

71. Danish, *supra* note 25, at 137.

72. *Id.* As the land erodes away from water sources, the water spills out over the banks. *Id.*

73. *Id.*

74. KARAS, *supra* note 12, at 14.

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.*

82. See Barcelona Declaration and Work Programme, Nov. 28, 1995 (adopted at the Euro-Mediterranean Conference), available at http://europa.eu.int/comm/external_relations/euromed/bd.htm [hereinafter Barcelona Declaration].

83. *Id.*

liberalization of trade will likely drastically exacerbate the already growing problem of desertification.⁸⁴ The MFTZ, while most likely an inevitable event, does not necessarily have to be a negative one. However, the proper precautions must be taken in order to prevent continued desertification and address the damage that has already occurred.

C. International Answers to the Desertification Problem

At the 1992 UN Conference on Environment and Development (UNCED), the participating countries identified desertification to be “one of the most serious environmental problems faced by humanity.”⁸⁵ In reaction to this finding, the nations called on the UN General Assembly to establish a negotiating committee to draft an international convention to combat desertification.⁸⁶ On June 17, 1994, UNCCD was adopted.⁸⁷ As of 2005, 191 countries are Parties to the agreement.⁸⁸ The preamble of the Convention discusses the multiple elements responsible for desertification, stating that “desertification and drought affect sustainable development through their interrelationships with important social problems such as poverty, poor nutrition, lack of food security, and those arising from irrigation, displacement of persons and demographic dynamics.”⁸⁹ These conventions and conferences evidenced the wide recognition of the problem of desertification, as well as demonstrated the dire need to address already occurring desertification and take steps to prevent and halt further desertification.

Although recognition of the problem of desertification was an important first step, the Parties to the above-mentioned conventions and conferences came up against difficulties in addressing and preventing the worldwide problem. The nature of desertification is different from many other environmental problems, such as ozone depletion, global warming, or reduction of biological diversity.⁹⁰ Unlike desertification, those problems are globally connected as the use of resources and actions of a

84. See *infra* Part IV.

85. U.N. Conference on Environment and Development, June 3–4, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/5/Rev.1, 31 I.L.M. 874 (1992).

86. Burns, *supra* note 59, at 834.

87. Desertification Convention, *supra* note 24.

88. *Id.* (stating that as a Party to the Convention, countries agree to address the problem of desertification and work to prevent it).

89. Desertification Convention, *supra* note 24, at 1332.

90. Toulmin, *supra* note 66, at 87.

individual country have a transboundary impact.⁹¹ Potential solutions to globally connected problems have been best dealt with through international treaties, which impose restrictions on countries to preserve “the common heritage of human kind.”⁹² For example, the UN Framework Convention on Climate Change addresses the effect of energy use on ozone depletion.⁹³ Desertification, on the other hand, has no “well-identified or commonly accepted” global connection.⁹⁴ In other words, except for the fact that the problem is prevalent throughout the world, specific actions increasing desertification in one country may not be connected to desertification troubles in other nations.⁹⁵ Thus, due to the unique nature of desertification, an international treaty addressing desertification does not offer the best possible solution.

The pressures of the international free market do present a global connection, however, it is a tenuous one. The actions of one country can affect another’s likelihood for desertification. This happens only indirectly through the global market as countries begin competing with each other.⁹⁶ This connection often is not addressed because of the stringent restrictions that free trade has placed upon the global system.⁹⁷ For example, some agricultural, environmental, and trade policies of developed countries have damaging effects on small farmers and herders in developing countries.⁹⁸ While international treaties may be created and could provide a context within which to consider impacts on the environment, specifically desertification, they would be severely limited by the doctrines of free trade.⁹⁹

International treaties and conventions singularly focusing on desertification, like UNCCD, are important and should be strengthened. However, an alternative and possibly a more successful way of addressing desertification would be to incorporate environmental provisions into the framework of trade and economic relations.¹⁰⁰ In fact,

91. *Id.* at 83.

92. Third U.N. Conference on the Law of the Sea, *Final Act*, Dec. 10, 1982, 21 I.L.M. 1245 (1982) (entered into force Nov. 16, 1994); *see also* Toulmin, *supra* note 66, at 87.

93. U.N. Framework Convention on Climate Change, May 9, 1992, 31 I.L.M. 849 (1992).

94. Toulmin, *supra* note 66, at 83.

95. *Id.*

96. *Id.* at 87.

97. *Id.*

98. *Id.*

99. *Id.*

100. Steven Shrybman, *Trade Now, Pay Later*, 320 NEW INTERNATIONALIST (2000), <http://www.newint.org/issue320/trade.htm> (last visited May 5, 2006).

this might be the best way of achieving environmental protections, because the global doctrine of free trade is so pervasive that purely environmental treaties may not be effective in solving the problems created by free trade.¹⁰¹ However, many treaties attempting to incorporate environmental provisions prove not to be wholly successful because of the limits they place on free trade. For example, the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) attempts to limit trade of endangered plant and animal species, but the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) trade protocols severely limit CITES's effectiveness.¹⁰² These trade protocols make it very difficult to actually implement international environmental protections if they conflict with the ideals of free trade.

Incorporating environmental provisions into the trade agreements themselves may be a viable solution for increasing international environmental protections. As trade and the environment are interconnected, trade agreements can and should include environmental provisions.¹⁰³ Changes in trade affect and depend on the human environment. Consequently, creating a distinction between environmental and trade agreements "is artificial and serves only to defeat sustainable and integrated" growth.¹⁰⁴ In order to decrease desertification brought on by prospective market pressures, environmental provisions must be incorporated into the final trade agreements. Desertification should be addressed in any trade agreements made between state parties experiencing land degradation.

III. MEDITERRANEAN FREE TRADE ZONE: HISTORY AND BACKGROUND

The EMP was created on November 28, 1995, at the signing of the Barcelona Declaration, with the hope of creating a zone of "shared prosperity" in the Mediterranean based on free trade and political

101. Toulmin, *supra* note 66, at 87.

102. The WTO does have Article XX environmental exceptions, but these are narrow and fail to allow restrictions on trade of habitat of endangered species. *Id.*; see also Convention on International Trade in Endangered Species of Fauna and Flora, Mar. 3, 1973, 12 I.L.M. 1085 [hereinafter CITES]. CITES's lack of success illustrates the pervasive nature of free trade and the ineffectiveness of purely environmental agreements that attempt to pursue environmental causes by affecting trade.

103. Shrybman, *supra* note 100.

104. *Id.*

cooperation.¹⁰⁵ The partnership, comprised of the EU and twelve Mediterranean countries—Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, the Palestinian Authority, Syria, Tunisia, and Turkey—created a mission statement to achieve this prosperity zone.¹⁰⁶ The goals of the EMP were to promote peace and stability in the troubled region and to reduce the economic gap between the developed and developing countries of the region.¹⁰⁷ Three primary methods were set out to implement these goals:¹⁰⁸ first, the EU and the MPCs initiated a multilateral dialogue;¹⁰⁹ second, negotiations of Euro-Mediterranean Association Agreements between the EU and each MPC began;¹¹⁰ and third, and most importantly, the groundwork was put forth to establish the world's largest free trade zone by the year 2010.¹¹¹ This plan for a Mediterranean Free Trade Zone was inspired by the concept that free trade encourages economic growth and will aid in eradicating poverty.¹¹²

The creation of the MFTZ will mean the removal of trade barriers throughout the zone.¹¹³ While the EU already provides duty-free access to the twelve MPCs, the purpose of the MFTZ is to open up the MPC economies, remove customs duties, and integrate the MPCs into the global economy.¹¹⁴ As the developing countries' economies are far behind, only the developed countries would make vast gains, and developing countries may find that their conditions worsen if the MFTZ throws them into the global economy.¹¹⁵ In order to prevent this inequity while still establishing the free trade zone, the EU has begun several measures of economic aid.¹¹⁶ For example, the EU provided Tunisia with a 100 million Euro grant to facilitate economic reforms and to help

105. Jacqueline Klosek, *The Euro-Med Partnership*, 8 INT'L LEGAL PERSP. 173, 175 (1996); see also Barcelona Declaration, *supra* note 82.

106. Klosek, *supra* note 105, at 174.

107. *Id.*

108. *Id.*

109. *Id.*

110. *Id.*

111. Barcelona Declaration, *supra* note 82.

112. Klosek, *supra* note 105, at 179.

113. *Id.*

114. Friends of the Earth Middle East, *Executive Summary*, in EUROPEAN-MEDITERRANEAN FREE TRADE ZONE: IMPLICATIONS FOR SUSTAINABILITY: CASE STUDIES, ASSESSMENTS AND RECOMMENDATIONS 1, 1 (David Katz ed., 2000), available at http://www.foeme.org/index_images/dinamicas/publications/publ34_1.pdf [hereinafter IMPLICATIONS FOR SUSTAINABILITY].

115. *Id.*

116. Klosek, *supra* note 105, at 179.

compensate for loss of revenue from the lifting of customs duties.¹¹⁷

Despite the EU's distribution of grants for MPCs, an unequal relationship will most likely still exist between developed and developing nations. Because of the MPCs' great economic dependence on the EU, the MFTZ will most certainly have a profound impact on both production and consumption, as well as social and environmental impacts.¹¹⁸ The MPCs represent a very small share of the EU's economy, but the EU represents over half the trade of the MPCs.¹¹⁹ This means that the EU has the upper hand in negotiations. The MPCs have to compete against EU trade partners for favorable treatment, limited resources, and access for their goods into the EU market.¹²⁰

The MFTZ may be an effective anti-poverty measure. Steps have been taken to address the increase in unemployment and "aggravation of poverty" expected from the initial transition in the MFTZ.¹²¹ However, very little consideration has been given to the environment and sustainable development.¹²² Because of the almost certain detrimental environmental impacts in the Mediterranean, incorporating environmental measures into the MFTZ is crucial.

IV. ENVIRONMENTAL CONSEQUENCES OF FREE TRADE

Because the MFTZ has not yet been created, its environmental effects are not yet certain. However, other similar regional trade agreements and their detrimental environmental effects are able to shed light on the likely environmental outcomes of the MFTZ. NAFTA offers an appropriate model to examine and to learn from in order for the creators of the MFTZ to understand the appropriate balance of free trade and environmental needs.

While the EU does offer an example of a free trade zone, one which will eventually make up half of the MFTZ, the EU is bound by more than

117. *Id.*

118. *Id.*

119. David Katz, *The Euro-Mediterranean Free Trade Zone and the Environment—Issues and Evidence: Lessons from other Trade Agreements*, in IMPLICATIONS FOR SUSTAINABILITY, *supra* note 114, at 9, 9 [hereinafter *Lessons from other Trade Agreements*].

120. *Id.*

121. *Id.*

122. *Id.* at 6.

just a free trade agreement.¹²³ It is a “comprehensive political and economic regional integration,”¹²⁴ which is also made up of highly economically developed nations.¹²⁵ NAFTA, however, offers a better model to which the drafters of the MFTZ might look in creating their own FTA. NAFTA is very comparable to the MFTZ. Although NAFTA involves only one developing country, Mexico, it characterizes the nature of a free trade agreement involving both developing and developed nations.¹²⁶ Consequently, the environmental issues arising from NAFTA are likely to be similar to those that will arise out the MFTZ.¹²⁷ In examining the results of NAFTA, the consequences of free trade between developing and developed countries can be analyzed. First, NAFTA produced a pattern of distinct change in the agricultural industry, which negatively impacted the environment. Second, NAFTA offers an example of the unsuccessful inclusion of environmental provisions into trade agreements—an example not to be followed. From such an analysis of the environmental problems facing the less-developed party to a free-trade agreement lacking clear environmental provisions, it is clear that similar negative environmental consequences are likely to follow for the MPCs absent successful environmental provisions in the upcoming free trade agreement.

A. NAFTA's Environmental Provisions

Environmental provisions are often present in trade agreements. Examples include GATT/WTO Article XX¹²⁸ exceptions and NAFTA's Commission on Environmental Compliance.¹²⁹ However, the extent to which these and other environmental provisions are enforced within trade agreements is nearly nonexistent, and they subsequently result in

123. *Id.* at 8.

124. *Id.* at 9.

125. *Id.*

126. *See id.*

127. *Id.*

128. Article XX allows countries to place restrictions on trade in order to enable “the conservation of exhaustible natural resources.” Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, vol. 1, 33 I.L.M. 1125 (1994) [hereinafter Final Act].

129. The Commission on Environmental Compliance was created by the North American Agreement on Environmental Compliance (NAAEC)—the environmental side agreement to NAFTA. North American Agreement on Environmental Cooperation, art. 36, Sept. 8–14, 1993, Can.-Mex.-U.S., 32 I.L.M. 1480 [hereinafter Environmental Compliance].

little to no environmental protection.¹³⁰ In the case of NAFTA, the Commission on Environmental Compliance was created in the North American Agreement on Environmental Compliance (NAAEC), NAFTA's environmental side agreement.¹³¹ This agreement attempted to incorporate environmental concerns into NAFTA; these provisions, however, have had hardly any impact due to the lack of enforcement mechanisms.¹³²

Similarly, GATT/WTO has allowed for few successful restrictions on trade under its environmental provisions. Examples of failed attempts to protect the environment through trade restrictions include¹³³ the European food-safety measures (Beef Hormone cases),¹³⁴ the U.S. clean air regulations (Reformulated Gasoline Case),¹³⁵ and the marine mammal conservation laws (TUNA/Shrimp cases).¹³⁶ These cases illustrate the tension between the goals of environmental protection and free trade.

Reconciling this tension within the MFTZ will be a very daunting task. Drafters of the MFTZ should note how NAFTA has been both successful and unsuccessful in its integration of environmental concerns and should take this into consideration when drafting the MFTZ. They might also note from NAFTA that integrating environmental concerns through an environmental side agreement is not sufficient.¹³⁷ The side agreement's impact on environmental policy was weak and has done little to limit trade's "chilling effect on environmental policies and regulations."¹³⁸ Damage to the land continues and not a single environmental problem existing at the time of NAFTA's formation has been solved using the environmental side agreement.¹³⁹

130. *Id.*

131. *Id.*

132. Shrybman, *supra* note 100.

133. The cases involved attempts to use the environmental exception provisions of GATT to allow restrictions on trade for environmental purposes (e.g., prohibiting hormones in beef, requiring higher quality gasoline, and protecting dolphins caught in tuna nets). Shrybman, *supra* note 100.

134. See Panel Report, *European Communities—Measures Concerning Meat and Meat Products (Hormones)*, WT/DS26/R/USA, WT/DS48/R/CAN (Aug. 18, 1997) (adopted Feb. 13, 1998).

135. See Panel Decision, *United States Standards for Reformulated and Conventional Gasoline*, WT/DS2/1, 1996 WL 738802 (Jan. 29, 1996).

136. See Panel Report, *United States—Restrictions on Imports of Tuna*, GATT Doc. DS29/R (June 16, 1994) (not adopted).

137. Shrybman, *supra* note 100.

138. John Audley & Scott Vaughn, *Time for the NAFTA Environmental Watchdog to Get Some Teeth*, June 24, 2003, <http://www.globalpolicy.org/globaliz/econ/2003/0703cec.htm> (last visited May 5, 2006).

139. *Id.*

NAFTA did not grow and evolve with the environmental provisions as part of its infrastructure, and the transition years were especially detrimental.¹⁴⁰ However, the MFTZ can escape the fate of the NAAEC. First, proper enforcement mechanisms, currently lacking in the formation of the MFTZ, must be explicitly included. Second, while not alone sufficient, environmental side agreement provisions must be integrated into the MFTZ. The provisions of this side agreement must take into account a nation's right to develop, but the environmental provisions must also be firm and capable of enforcement.

The NAAEC was a separate treaty created after NAFTA was already adopted, inserted in order to placate environmental activists.¹⁴¹ Thus, the ineffectiveness of NAFTA's environmental provisions can be avoided by providing for strong enforcement mechanisms and ensuring that the Mediterranean environmental side agreement is completed and incorporated during the initial formation of the MFTA.¹⁴² If environmental provisions are part of the MFTA from the beginning, the MPCs can shape these provisions so that they are effective and useful. These provisions can be made to work toward allowing development while also ensuring sustainability.

The MPCs are aware that desertification is a pressing international issue that is likely to be exacerbated by a newly liberalized market.¹⁴³ The drafters of the MFTZ can learn from the setbacks of NAFTA and the NAAEC. First, NAFTA illustrates the environmental dangers that can occur when opening up the market to a developing country. Second, NAFTA demonstrates that integrating environmental protections early on and creating enforcement mechanisms are possible tactics the MPCs can use to ensure that their trade agreements are successful and sustainable.¹⁴⁴ The MFTZ can utilize provisions that take into account a nation's right to develop, while also maintaining firm and enforceable environmental provisions.

B. NAFTA's Pattern of Change in the Agricultural Industry

NAFTA significantly influenced changes in agricultural production. As evidenced by Mexico's experience with NAFTA, liberalizing a developing country's trade portends "export-oriented cash crops . . .

140. *Id.*

141. Environmental Compliance, *supra* note 129.

142. Joel Millman, *NAFTA's Do-Gooder Side Deals Disappoint: Efforts to Protect Labor, Environment Lack Teeth*, WALL ST. J., Oct. 15, 1997, at A19.

143. KARAS, *supra* note 12, at 14.

144. Friends of the Earth Middle East, *supra* note 114.

[and] . . . more intensive use of machinery and of agricultural inputs, such as water, fertilisers, and pesticides.”¹⁴⁵ Problems are caused by amplified production, introduction of nonnative crop species, increased dangers of inadvertent pests, more use of pesticides, and, overall, a greater risk of environmental degradation.¹⁴⁶ Initially, NAFTA had a detrimental affect on local production.¹⁴⁷ Mexican producers of maize were driven out of business.¹⁴⁸ The local producers found it impossible to compete with their trade partner’s imports and “were faced with the prospect of either changing crop types and cultivation techniques in favor of more intensive methods or abandon[ing] their traditional livelihoods.”¹⁴⁹

Additionally, NAFTA affected overall consumption patterns. Reduction of customs and taxes on foreign goods increased consumption of consumer goods.¹⁵⁰ As the Mexican market opened, the developing countries began to adopt “western consumption habits”¹⁵¹ resulting in a significant rise in water and energy usage.¹⁵² NAFTA also caused a rise in transportation and related pollution as goods were transported longer distances.¹⁵³ Further, the removal of customs meant fewer funds for the governments to use for addressing environmental issues.¹⁵⁴ In other words, the possibility of Mexico “catching up” economically was remote, considering its “capacity and willingness to address environmental issues decrease[d] exactly at a time when pressures [were] on the increase.”¹⁵⁵

These patterns are most likely to occur in the Mediterranean Basin upon the creation of the MFTZ. Although the MFTZ does not fully liberalize agriculture, the initial transition into the market will mean a change in agricultural production of the MPCs that shifts focus onto export-oriented foreign trade.¹⁵⁶ For many of the MPCs, which are already exploiting their “limited natural resource bases at or beyond sustainable rates,” such an expansion will most likely cause irreversible

145. *Lessons from other Trade Agreements*, *supra* note 119, at 13.

146. *Id.*

147. *Id.*

148. *Id.*

149. *Id.*

150. Friends of the Earth Middle East, *supra* note 114, at 1.

151. *Lessons from other Trade Agreements*, *supra* note 119, at 13.

152. *Id.*

153. Friends of the Earth Middle East, *supra* note 114, at 1.

154. *Id.* at 1.

155. *Id.*

156. *Lessons from other Trade Agreements*, *supra* note 119, at 13.

damage.¹⁵⁷

NAFTA does offer a possible proposal of environmental niche markets which could mitigate some of the environmental damage caused and help to incorporate the goals of free trade and environmental protection.¹⁵⁸ Niche markets are market segments with common characteristic needs that are most often overlooked and underserved, but are consistently present.¹⁵⁹ For example, in eastern Mediterranean countries, niche markets exist to develop water purifying, desalinization technology, and dryland greenhouses.¹⁶⁰ These niche markets may offer potential gains for both trade and the environment.¹⁶¹ However, this can only happen if strong "supporting institutions and policies backed with sufficient authority and finances" are created.¹⁶² As of now, even the policies and institutions set up under NAFTA backing niche markets are more concrete than anything the MPCs possess.¹⁶³ The MPCs must begin to create institutions capable of implementing niche markets and other solutions that go hand-in-hand with actual FTA environmental provisions to encourage sustainability in the future MFTZ.¹⁶⁴

C. Mediterranean Free Trade Zone: The Potential Effect on Agriculture

The MFTZ would substantially change the agricultural industry in the region.¹⁶⁵ Trade concessions (removal or reduction of tariffs) are a large part of the agricultural plan.¹⁶⁶ For example, Tunisia already has been given concessions for olive oil and cut flowers in its association agreement, and other countries have or will also receive similar concessions.¹⁶⁷ However, despite these concessions, the agricultural industry of the developed countries will continue to dominate the

157. Friends of the Earth Middle East, *supra* note 114, at 1.

158. *Id.*

159. Jennifer Basye Sander & Peter Sander, *In Your Place: How to Tell If Your Start-Up Idea is Based on a Niche, a Trend or Just a Fad That Will Fizzle*, ENTREPRENEUR, Oct. 2003, <http://www.entrepreneur.com/article/0,4621,311138,00.html> (last visited May 5, 2006).

160. Friends of the Earth Middle East, *supra* note 114, at 1.

161. *Id.*

162. *Id.*

163. *Id.*

164. *Id.*

165. *See infra* Part V.

166. Klosek, *supra* note 105, at 180.

167. *Id.*

policy.¹⁶⁸ Studies suggest that these trade concessions are designed “more to freeze traditional flows than to push export dynamics of agricultural exports” from the MPCs to the EU.¹⁶⁹ Many of the concessions granted are limited to products that do not compete with the EU’s products.¹⁷⁰ Furthermore, many of these limitations do not correspond with the natural peak production for these countries.¹⁷¹ These concessions are also often limited by tariff preferences which come in the form of quantitative tariff quotas.¹⁷² This means that only a certain amount of a product being exported will have reduced or removed tariffs.¹⁷³ “For products where tariff reductions are granted without a quantitative limit, the EU reserves the right to set limits later if imports [cause] ‘difficulties’ on EU markets,” i.e., if the influx of imports begins to negatively affect the EU.¹⁷⁴ The EU has always applied at least one of these versions of concessions.¹⁷⁵

The EU claims to advocate free trade within the agricultural industry. The liberalizing of certain agricultural products, however, will present a problem for many EU farmers, and the EU is in an excellent position to limit the problems for its own producers.¹⁷⁶ This means a more problematic transition for the developing countries into the international market, both economically and environmentally, as they competitively increase production and further exploit their environmental resources. Ensuring sustainable agriculture in these highly critical areas is necessary in order to avoid environmental damage to “the scarce and already highly polluted natural resources” in the region.¹⁷⁷

V. ENVIRONMENTAL PROBLEMS UNDER THE MEDITERRANEAN FREE TRADE ZONE

The creation of a free trade agreement will inevitably mean significant changes in the agricultural industries of the countries

168. *Id.*

169. Mahmoud Allaya, CIHEAM FOURTH ANNUAL REPORT: DEVELOPMENT AND AGRI-FOOD POLICIES IN THE MEDITERRANEAN REGION 44–45, *available at* <http://www.ciheam.org/ressources/en/report2001/chap4.pdf> (last visited May 5, 2005).

170. *See* Klosek, *supra* note 105, at 180.

171. Allaya, *supra* note 169, at 45.

172. *Id.* at 44.

173. *See id.*

174. *Id.*

175. *Id.*

176. Klosek, *supra* note 105, at 180.

177. Allaya, *supra* note 169.

involved. These changes to the agricultural industry also portend considerable and damaging environmental effects. As the industry changes, the potential for overproduction becomes much more attractive and the unsustainable exploitation of already scarce resources follows. This next section discusses some of the more blatant environmental problems that will likely occur as a result of the changes in the agricultural industry.

A. Resource Scarcity

Currently, many MPCs are already exploiting their natural resources to the fullest.¹⁷⁸ Water is scarce and is used in unsustainable ways.¹⁷⁹ The Nile and Jordan rivers, the two main water sources for this region, are at a risk of high contamination from upstream agricultural runoff and salinization from overpumping.¹⁸⁰ Agricultural use of water is one of the leading components of land degradation caused by salinization because agriculture uses the majority of the region's freshwater.¹⁸¹ Thus, the amount of remaining arable land is diminished and continually threatened by "mismanagement and improper farming systems" that lead to eroded soil and decline in soil quality.¹⁸² This current level of contaminated water and lack of arable lands puts the Mediterranean region especially at risk for further land degradation and environmental problems brought on by the creation of the MFTZ.¹⁸³ Additionally, because of its precarious location, the progressing stages of desertification make the Mediterranean Basin especially prone to irreparable land damage.¹⁸⁴ This makes the need to incorporate environmental protections into the upcoming MFTZ all the more pressing.

B. Overproduction

Failing to internalize environmental costs, keeping status quo

178. Friends of the Earth Middle East, *supra* note 114, at 1.

179. Abdul-Hamid Musa, *Implications of the Euro-Mediterranean Free Trade Zone on Agriculture & Environment in the Southeastern Mediterranean*, in *IMPLICATIONS FOR SUSTAINABILITY*, *supra* note 114, at 48, 51.

180. *Id.*

181. *Id.* (stating 81 percent water use in Egypt, 74 percent in Jordan, 70 percent in Palestine, and 64 percent in Israel).

182. *Id.*

183. *See supra* Part II.

184. *Id.*

pricing policies, and continuing overproduction will only lead to an inefficient use of agricultural resources like water and land.¹⁸⁵ The problem of overproduction is even more serious because the natural resource bases are already overburdened.¹⁸⁶ Improper pricing will also result in the export of resources rather than “profitable crops,” which results in further degradation to the land.¹⁸⁷

Because of foreign subsidies and lower returns for alternative crops, such as fruit tree production, lands are often cultivated with grains.¹⁸⁸ Cultivation of grains and other highly land-intensive cash crops causes extreme depletion of nutrients in the land.¹⁸⁹ Continuous overproduction of these crops additionally degrades the land.¹⁹⁰ The drylands of the Mediterranean Basin are already naturally susceptible to erosion.¹⁹¹ When these crops are continually harvested, the fertility of the land decreases and eventually the land can no longer produce crops.¹⁹² The MFTZ will also create a threat to range lands.¹⁹³ Increasing market prices for livestock and other food crops means decreases in the market prices for fruits and vegetables and, therefore, drops in farm income.¹⁹⁴ These drops in farm income create incentives for farmers to relocate, risking encroachment on and cultivation of marginal “environmentally sensitive” land.¹⁹⁵

Because of the demand for production, the agricultural industry also faces the expanded use of agro-chemicals.¹⁹⁶ Although reduction of price supports may mean more efficient use of agro-chemicals, the fact that farmers must now intensively export agriculture is likely to mean an overall increase in chemical use for agriculture production in the MPCs.¹⁹⁷ In addition, price supports often come in the form of subsidies on inputs such as fertilizers, agrochemicals, and irrigation technology.¹⁹⁸

185. Musa, *supra* note 179, at 56.

186. *See supra* Part II.A, B.

187. Musa, *supra* note 179, at 56.

188. *Id.* at 51.

189. GURUSWAMY, *supra* note 38, at 474.

190. Musa, *supra* note 179, at 51.

191. KARAS, *supra* note 12, at 14.

192. *Id.*

193. *See* Musa, *supra* note 179, at 55.

194. *Id.* at 56.

195. *Id.*

196. *Id.*

197. *Id.*

198. David Blandford, *Are Disciplines Required on Domestic Support?*, 2 ESTEY CTR. J. FOR INT'L L. & TRADE POL'Y 35, 40 (2001), available at http://www.esteyjournal.com/j_pdfs/blandford2-1.pdf.

This lowers the cost of production for the farmers and allows them to produce more.¹⁹⁹ Accordingly, this results in more intensive use of the land and a dramatic increase in agro-chemicals.²⁰⁰ These pesticides and fertilizers, while necessary to increase production, add to the damage being done to the land and accelerate the process of desertification.²⁰¹

Even though the MFTZ will not fully liberalize the agricultural industry, it will nonetheless likely impact agriculture, as fruit and vegetable exports are particularly “responsive to the market pulses.”²⁰² This means that in order to be competitive, Mediterranean countries will have to export more and continue to exploit their limited land and water.²⁰³ Governments will likely be willing to “trade deficit in treasury with deficit in their natural resources reserves.”²⁰⁴ However, doing this may simply mean an increase in both because the incentives for sustainable farming lack economic returns, and no policies exist to enforce sustainable farming practices.²⁰⁵

VI. KEYS TO AN ENVIRONMENTALLY SOUND MEDITERRANEAN FREE TRADE AGREEMENT

The Association Agreements do provide the very beginnings of an environmental framework, albeit a very limited one. The provisions relating to the environment are mostly made up of aspirational language. For example, Lebanon's Association Agreement calls for “encouraging cooperation in preventing deterioration of the environment . . . and ensuring the rational use of natural resources, with a view to ensuring sustainable development.”²⁰⁶ Israel's Association Agreement focuses cooperation on “environment-friendly agriculture” and dictates that “ecological balance shall be taken into account [along with] economic cooperation.”²⁰⁷ This directive, although apparently compelling, is hardly clear or compulsory and leaves many unanswered questions. What *does*

199. *Id.* at 40.

200. *Id.* at 53.

201. *Lessons from other Trade Agreements*, *supra* note 119, at 13.

202. Musa, *supra* note 179, at 56.

203. *Id.*

204. *Id.*

205. *Id.*

206. See Council Decision 7293/02, art. 45(1) 2002 (EC) (in the process of ratification), available at http://europa.eu.int/comm/external_relations/lebanon/aa/1.pdf.

207. Euro-Mediterranean Agreement, arts. 42(2), 46, 2000 O.J. (L 147) 3, 11 (EC), available at http://europa.eu.int/eur-lex/pri/en/oj/dat/2000/l_147/l_14720000621en00030156.pdf.

it mean to take into account the environmental and ecological balance? How do the MPCs go about “environment-friendly agriculture” or encourage cooperation in the prevention of deterioration of the environment? The remaining Association Agreements contain similar environmental provisions and, thus far, present the same kinds of questions and fail to even *begin* to answer them.²⁰⁸ If the MFTA is based solely upon the Association Agreements, it would represent a free trade agreement with even less environmental protection than that of NAFTA or GATT.²⁰⁹ In order to make the MFTZ an environmental leader among FTAs, a much stronger legal framework needs to be in place for the final MFTA.

Not only is the environmental legal framework between the MPCs and the EU practically nonexistent, but unlike the EU, even the legal framework designed to address transboundary environmental issues in each individual MPC is somewhat lacking.²¹⁰ Much of the responsibility for environmental issues is duplicated among various entities of the MPC governments—a very inefficient way of solving this problem.²¹¹ Additionally, even if there is a national framework already in place, most of the time there are no actual mechanisms to enforce the environmental policies.²¹² This means that if the MFTZ were to take effect, the MPCs would face “rampant economic development” with no real environmental protections.²¹³

A. Instituting an Environmental Side Agreement

An environmental side agreement for the MFTZ is in the process of being negotiated.²¹⁴ This agreement should set out firm environmental goals, building on the Association Agreements, as well as a specific plan to enforce and implement the organized environmental standards. The present environmental provisions are inadequate in both depth and detail. However, the creation of an environmental side agreement prior to the establishment of the MFTZ will allow for environmental objectives and

208. See Eric Neumayer, *A Blueprint For Making the Prospective Mediterranean Free Trade Zone an Environmental Role Model*, 11 EUR. ENV. 173, 179–80 (2001).

209. *Id.*

210. *Id.*

211. *Id.*

212. *Id.*

213. Friends of the Earth Middle East, *supra* note 114, at 3.

214. Friends of the Earth Europe, *Mediterranean Programme MedNet: NGO Comments on the SIA-EMFTA Phase 2*, Oct. 5, 2005, <http://www.foeurope.org/mednet/sia/index.htm> [hereinafter *MedNet*].

precautions to be incorporated into the final MFTA in a way that is no longer possible under the Association Agreements. The Association Agreements do not sufficiently address how to both pursue free trade and protect the environment.²¹⁵ Thus, an environmental side agreement to the Association Agreements must be created. It must draw on and provide the instrumentalities and enforcement mechanisms for the goals laid out in the aspirational environmental provisions of the Association Agreements. The environmental side agreement and Association Agreements between the MPCs should be implemented into the final MFTA, ensuring that higher levels of environmental protection will be maintained. The objectives of the environmental side agreement should support and develop the environmental goals of the Association Agreements.

First, the specific obligations of the members must be discussed in the environmental side agreement. One important obligation that each member country should share is to carry out its own environmental impact assessment (EIA) or sustainability impact assessment (SIA).²¹⁶ A provisional pre-SIA for the MFTZ was initiated in November 2004.²¹⁷ Based on its preliminary examinations, the SIA report confirms that, as of now, the Association Agreements are not in a position to ensure sustainability in the Mediterranean region through its transition into the free trade market.²¹⁸ The findings conclude that (1) the Association Agreements lack details regarding (and some completely ignore) workers' rights and environmental issues; (2) the environmental regulatory systems in the MPCs, including funding, qualified staff, and environmental management, are very weak; (3) current healthy consumption patterns of the Mediterranean diet will be negatively impacted and Northern consumer habits, production processes, and mobility patterns will be exported to the MPCs and bring social and environmental impacts; and (4) MPCs need to undertake their own studies and consultation processes to evaluate the MFTZ and not solely

215. *Lessons from other Trade Agreements*, *supra* note 119, at 16.

216. EIAs and SIAs examine all of the potential elements that may affect the environment or its potential for sustainability. *See generally* INT'L ASS'N FOR IMPACT ASSESSMENT, PRINCIPLES OF ENVIRONMENTAL IMPACT ASSESSMENT BEST PRACTICE (1999), *available at* http://www.iaia.org/Members/Publications/Guidelines_Principles/Principles%20of%20I.A.PDF; INT'L ASS'N FOR IMPACT ASSESSMENT, INTERNATIONAL PRINCIPLES FOR SOCIAL IMPACT ASSESSMENT (IAIA Special Publication Series No. 2, 2003), *available at* http://www.iaia.org/Members/Publications/Guidelines_Principles/SP2.pdf.

217. *MedNet*, *supra* note 214.

218. *Id.*

rely on the EU SIA.²¹⁹

Additionally, incorporating a general exceptions clause, applicable to the final MFTA, into the environmental side agreement would strengthen a commitment to environmental standards. A general exception clause is a binding provision on all parties built into the agreement that lists the circumstances under which a country may violate a term of the agreement without penalty.²²⁰ For example, GATT Article XX lists the exceptions to that agreement, allowing countries to take some “otherwise GATT-illegal actions necessary to protect human, animal or plant health or life.”²²¹ The general exceptions clause incorporated in the Association Agreements must be broad enough to ensure that measures and restrictions put in place to prevent severe environmental damage or other established concerns are allowed. Past trade dispute panels have often interpreted exceptions narrowly, thus preventing nations from favoring protection of the environment over expansion of commerce.²²² With a strong general exceptions clause, some environmental measures and protections made to prevent an increase in desertified land may be implemented.

The environmental side agreement should also lay out environmental standards and create a monitoring body or commission to enforce these standards. Similar to other trade commissions, it should be made up of members from each of the party states, but members must be able to act autonomously.²²³ The commission should be financially independent, not bound by specific policies of their individual countries, and have judicial and arbitral powers to settle disputes.²²⁴ Moreover, the

219. *Id.*

220. Lori Wallach, *The NGO Pocket Trade Lawyer, For the Multilateral Agreement on Investment*, PUBLIC CITIZEN, <http://www.citizen.org/trade/issues/mai/articles.cfm?ID=7402> (last visited May 5, 2006).

221. Final Act, *supra* note 128.

222. Countries have unsuccessfully invoked both of the GATT Article XX exceptions relating to the environment in the two GATT Tuna-Dolphin cases, the CAFE standards challenge, the Beef Hormone case, the Reformulated Gasoline Cleanliness case, and the Turtle/Shrimp case.

223. See Steve Charnowitz, *The NAFTA Environmental Side Agreement: Implications for Environmental Cooperation, Trade Policy, and American Treaty-making*, 8 TEMP. INT'L & COMP. L.J. 257 (1994) (stating that the NAAEC has a weaker version of the ideal Commission).

224. In order to be effective, an international independent commission would “have the following attributes: (1) a governing body composed of representatives serving fixed terms who are not responsible to the government of their home nation, (2) a robust decision making method such as majority rule, (3) fiscal powers to tax in order to be financially self-sustaining, (4) budgetary autonomy, (5) judicial or arbitral powers to

commission should act as a monitoring body and be able to initiate warnings or complaints on its own. Ideally, this commission would be made up of business, government, and environmental members, so that the environmental concerns could be integrated into the industry, agriculture, and governments of the various member countries.

The environmental standards to which the countries are held need to be more than just their own national standards, which vary largely from country to country.²²⁵ Requiring nations to follow only their own environmental standards offers little or no environmental protection—the countries could substantially lower their national regulations and still be in compliance with the treaty.²²⁶ Instead, the environmental side agreement needs to establish self-executing international obligations to which all parties to the MFTA must comply.

One of these obligations would be minimum regional environmental standards that would apply to various fields.²²⁷ For example, a standard could be set for uniform regulations for the protection and preservation of farmable land.²²⁸ These regulations could include quantitative poly-cropping requirements and limits on dangerous chemicals.²²⁹

These minimum regional standards must be strong, but they cannot just be the standards of the EU (which offer high environmental protection) or the standards of the MPCs (which offer low environmental protection). Compromises must be negotiated between the countries in establishing these substantive commitments to specific standards that take into account the capabilities of the member nations.²³⁰ For example, one standard could be common limits on specific chemicals and pollutants like DDT.²³¹ However, in order for the MPCs to comply with

settle disputes and impose fines, and (6) a staff of international civil servants." *See id.* at 264.

225. *Id.*; *see also* North American Agreement on Environmental Cooperation, Sept. 14, 1993, Can.-Mex.-U.S., 32 I.L.M. 1480 (1993) (only requiring countries to follow their own national environmental standards).

226. Charnowitz, *supra* note 223, at 264.

227. These standards can be applied to a variety of fields, including agriculture, land use, "fisheries, weights and measures, health, communications, postal delivery, intellectual property, statistics, sanitation, labor, conservation, and customs cooperation." *Id.*

228. *See* Convention of 1908 Between Great Britain and the United States, art. I, July 1, 1908, 206 C.T.S. 392 (1908) (creating common international regulations, such as closed seasons and limits on nets, in order to protect and preserve fisheries in U.S. and Canadian waters).

229. *Id.*

230. Charnowitz, *supra* note 223, at 257.

231. *Id.*

higher environmental standards, substantial financial resources are needed and the EU must be responsible for providing more financial, technical, and other assistance to the MPCs.

Additionally, the environmental side agreement needs to establish methods of ensuring compliance with these standards as well as penalties for failing to comply. The environmental side agreement should contain guidelines for proper access to remedies. Parties should be able to seek an injunction to force a party to comply with the minimum regional environmental standards, either by looking to the monitoring commission for an investigation into the environmental violation or having access to a judicial remedy.²³² Where these exist in the FTA, the agreement should set out substantive obligations that allow the Parties of the MFTA equal access to the courts. Other environmental agreements do provide similar substantive obligations.²³³ For example, the Scandinavian Convention on the Protection of the Environment allows individuals from one member country who have suffered harm to bring suit in the courts of another member country.²³⁴ Trade sanctions should also be addressed as an alternative way of penalizing those who fail to comply with their obligations under the agreement, restoring the status quo among the member countries.²³⁵

B. Alternative Solutions Incorporating the Goals of Free Trade and Environmentalism

The purpose of the environmental side agreement is to ensure that economic growth is in harmony with sustainable development. Ideally, the collective Association Agreements and environmental side agreement would be incorporated and fully utilized within the MFTZ. Environmental protections would be enforced, land properly maintained, and desertification thoroughly dealt with at the onset of the MFTZ. However, the tensions and conflicts between trade and the environment are complex and not easily solved. Thus far, the incorporation of

232. *Id.*

233. Nordic Convention on the Protection of the Environment, Feb. 19, 1974, art. 3, 13 I.L.M. 591 (1974).

234. *Id.*

235. Trade sanctions, such as anti-dumping provisions, are present in GATT. *See, e.g.,* General Agreement on Tariffs and Trade, art. VI, Oct. 30, 1947, 55 U.N.T.S. 194 (authorizing duties on products that are being dumped). Under GATT and NAFTA, trade sanctions are a contract-type remedy, designed to restore the status quo. Charnowitz, *supra* note 223, 284 n.258. Under the NAAEC, trade sanctions are punishment for failing to follow the established standards or pay a fine. *Id.*

environmental provisions into trade agreements has reached a limited success. The characteristics of the MFTA's emerging environmental side agreement do differ slightly from other environmental provisions which have been unsuccessful against the actuality of free trade. However, the prevailing notion of free trade is so dominant that even strong environmental provisions can be rendered powerless. Environmental protection is necessary to further economic growth and development. If desertification is allowed to continue, the ability for member countries to develop their agricultural economies will be extremely diminished. Because of the limited solutions that will most likely arise from environmental provisions within trade agreements, other parallel solutions exist. These alternatives offer a way to combine the interests of trade and environmental protection to ensure that the liberalization of the market does not irreparably damage the Mediterranean environment.

1. Decreases and Changes in Subsidies

One possible solution lies in decreasing subsidies or placing qualifications requiring certain sustainable practices on the subsidies. Globally, approximately US\$650 billion a year is spent subsidizing activities harmful to the environment.²³⁶ Agricultural subsidies *can* be proper in certain situations where they aid in increasing and developing the sustainability and quality of life, rather than ensuring its deterioration.²³⁷ As one NGO envisioned, agricultural subsidies should be used "to pay ecological costs" by encouraging the farmers to cultivate poly-crops or develop organic agriculture.²³⁸ This, however, remains only a vision.

The present subsidy policy significantly encourages overproduction.²³⁹ Agricultural subsidies, especially for fertilizers, pesticides, irrigation water, and floor pricing for products cause farmers to overproduce at an unnecessary environmental cost.²⁴⁰ Estimated billions of dollars in subsidies for pesticides and fertilizers are being spent in developing countries.²⁴¹ These subsidies guarantee a pesticide-dependent industrial agriculture system that leads to increased soil erosion and desertification.

Removing price supports for pesticides or other subsidies and

236. Musa, *supra* note 179, at 54.

237. *Id.*

238. *Id.*

239. *Id.*

240. *Id.*

241. Barber, *supra* note 34.

transferring that money into sustainable and ecologically beneficial agriculture will significantly limit the environmental damage being done to the land. For example, Egypt reduced the use of agricultural pesticides from 34,000 tons in the 1980s, to 4,000 tons in the late 1990s.²⁴² The present subsidy system provides for a cycle of overproduction and damage to the land. By changing the agricultural subsidies, the MPCs will have another way of responding to the priority of sustainable agriculture.

2. Catering to Niche Markets

Another possible solution for addressing the problem of desertification along with free trade is supplying niche markets,²⁴³ which can satisfy the goals of free trade and environmentalism.²⁴⁴ Taking on a niche market usually means providing a specific product to a targeted demographic. In the Mediterranean region, niche markets exist that could aid in cultivating crops while limiting the damage to the land. Because of the fluctuating climate and extensive risk of desertification, a niche market presently exists for dryland greenhouses. Lack of water has always been a problem for agricultural production in drylands.²⁴⁵ Dryland greenhouses allow for high productivity with much less use of water.²⁴⁶ They reduce evaporation, thus making water use more efficient.²⁴⁷ This method is also less energy intensive.²⁴⁸ It requires very little use of fossil fuel energy to cool the greenhouses in the daytime and warm them at night.²⁴⁹ An additional benefit of growing crops in dryland greenhouses is the ability to fertilize them with carbon dioxide gas.²⁵⁰ The controlled environment within the greenhouse allows for intensified agricultural production without damage to the land.²⁵¹ The product can then be marketed in colder regions as an off-season crop and bring back higher returns, while the cost of production is much lower than if produced elsewhere.²⁵²

The Mediterranean region is also an ideal ecosystem for generating

242. Musa, *supra* note 179, at 54.

243. *Lessons from other Trade Agreements*, *supra* note 119, at 1.

244. *Id.*

245. *Id.*

246. *Id.*

247. *Id.*

248. *Id.*

249. *Id.*

250. *Id.*

251. *Id.*

252. *Id.*

exportable products to supply other niche markets abroad. One interesting example is the production of fish and crustaceans.²⁵³ When many regions experience lower temperatures, drylands are relatively warm and sunny.²⁵⁴ Although drylands seem like an improbable place to harvest seafood, the region has actually been successful in this endeavor. Dryland salt water, detrimental to most crops and soils, is increasing in amount as the land becomes more salinized and provides the preferred habitat for many commercial fish and crustaceans.²⁵⁵ The dryland regions are an ideal location because the freezing temperatures lethal to many commercial fish do not occur in the drylands and dryland aquaculture does not compete with agriculture for limited useable land and water, as is common in non-dryland regions.²⁵⁶

Similarly, the Mediterranean region has the potential to be a majority supplier to the algae market. Algae contain chemical compounds which can be extracted and used for pigments, enzymes, cosmetics, and pharmaceuticals.²⁵⁷ Algae can be grown in drylands faster and cheaper than in any non-dryland region.²⁵⁸ Unicellular micro-algae reproduce faster than most other crop plants and have a variety of potential uses.²⁵⁹ The whole cells can be used as food for fish larvae.²⁶⁰ The algae can also be used in food additives and vitamins. Like agricultural crops, algae need much sunlight and benefit from warmth during the cold season. However, the amount of water used in production is much lower in algae than in other crops, and thus drylands become a very effective location for the harvesting of algae.²⁶¹

3. *Creating Sustainable Local Foundations*

Another crucial key to ensuring that sustainable agriculture occurs along with free trade is to create support at the local level. Local level studies recognize the need to examine the nature and causes of degradation in each specified setting and the need to collaborate with local populations.²⁶² Although these drylands may be resilient and able to adapt to various levels of products, environmental problems definitely

253. *Collaboration and Synergies Among Rio Conventions*, *supra* note 47, at 24.

254. *Id.*

255. *Id.*

256. *Id.*

257. *Id.*

258. *Id.* at 25.

259. *Id.*

260. *Id.*

261. *Id.*

262. *Id.*

exist in dryland areas.²⁶³ A relationship exists between human societies and their environment, which provides a foundation for a policy that encourages more effective management of resources.²⁶⁴ It is the local people who cultivate the land and depend on it to continue providing for them. The land is their livelihood and the more it is damaged, the worse it becomes for the people economically, socially, and environmentally.

It is critical that priority be given to supporting the land users themselves in managing their natural resources in a sustainable manner.²⁶⁵ This means that local-level activities must be carried out through an infrastructure which enables land users to feel more economically secure.²⁶⁶ The awareness of the local populations must be increased. Local people will engage in sustainable practices if they know about the risks of irreparable damage from desertification, and if they are able to assess the costs and benefits to themselves, as opposed to the benefits to their countries and governments.²⁶⁷ Local communities and their leaders should be informed.²⁶⁸ Although education campaigns consisting of remote teaching and education through the Internet may seem helpful, the resources for this type of education do not exist.²⁶⁹ A viable alternative may be professional educators, active within the community, who have also come from among the communities.²⁷⁰ In addition, a role remains for national, sub-regional, and global actors to support this "local-level approach."²⁷¹ Despite the MFTZ and the problems that come with it, giving the local communities incentives and education to practice sustainable farming will significantly aid in the prevention of desertification.

VII. CONCLUSION

Currently, the Mediterranean Basin is facing the very significant challenge of desertification. In light of the present status of the environmental problems, the impacts of the MFTZ will likely be especially damaging. Every attempt to preserve sustainable practices on the land should be utilized. According to the Worldwatch Institute

263. Toulmin, *supra* note 66, at 83.

264. *Id.*

265. *Id.*

266. *Id.*

267. *Collaboration and Synergies Among Rio Conventions*, *supra* note 47, at 38.

268. *Id.*

269. *Id.*

270. *Id.* at 39 (discussing educators similar to World Bank Facilitators).

271. Toulmin, *supra* note 66, at 83.

Founder, Lester Brown, “the food system is likely to be the sector through which environmental deterioration eventually translates into economic decline.”²⁷² If desertification is allowed to progress, the land’s capacity to grow food will be severely limited—meaning not only environmental decline, but also social and economic decline. The creation of the MFTZ is inevitable. It is essential that the environmental side agreement be completed and fully incorporated into the final MFTA. If these provisions were included in the prospective MFTZ, it could become a promoter not only of trade and economic growth, but also of environmental protection in the Southern Mediterranean region. However, the reality is that trade and the environment remain at odds with each other. Despite this tension, the MFTZ is not doomed to result in apocalyptic environmental damage. Potential solutions do exist which incorporate the goals of environmentalism with the goals of free trade.

272. Lester R. Brown, *The Agricultural Link: How Environmental Deterioration Could Disrupt Economic Progress* 6 (World Watch Paper No. 136, 1997), available at <http://www.bellingen.nsw.gov.au/files/1283/File/WorldWatchAgricultural.pdf>.