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International Environmental Law and the “Bottom-Up” Approach: A Review of the Desertification Convention

KYLE W. DANISH*

The media was once filled with images of encroaching deserts and starving populations. Attention has since shifted to other issues, but the problems remain. Desertification is acute not only in familiar desert regions such as the Sahara, but in regions such as the Sahelian and other drylands which comprise nearly thirty-five percent of the earth's total land area. Mr. Danish analyzes the Desertification Convention of 1995, discussing both the Convention's efforts to address the environmental degradation and the Convention's impact on international notions of the state, crafting large-scale responses, and generating centralized regulation. This Convention employs a “bottom-up” approach; it focuses on local developmental issues and the marginalized peoples living in the threatened areas. It provides increased international recognition for non-governmental organizations and local land users by obligating states to channel authority and resources to them. The article presents an overview of the Convention and analysis based on international environmental legal norms. The author illustrates that, despite donor fatigue and reticence on the part of developed nations, the “bottom-up” approach in conjunction with creative financing methods will provide a more effective means for dealing with a growing environmental crisis.

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I. INTRODUCTION

In April 1995, delegates from 103 nations signed an agreement initiating a new international effort to address the worldwide environmental problem of desertification.¹ The document they signed, the Desertification Convention, is not only a major advance in efforts to reverse and prevent desertification; it also represents progressive development in the tools and doctrines of international environmental law. The hallmark of the Desertification Convention is its “bottom-up” approach. Other international environmental conventions obligate states to centralize and expand their powers of regulation. The Desertification Convention, however, obligates states to channel authority and resources down to local land users and particularly to non-governmental organizations (NGOs). The Convention does not mandate new regulations, instead, it mandates new alliances and new partnerships that link international institutions, states, NGOs, and communities. The Convention creates new legal modalities and mechanisms that give form to these partnerships.

This radically different approach is necessitated by the nature of the problem. A set of international, national, and local conditions are inducing millions of rural people to over-exploit ecologically fragile lands. To make these unsustainable patterns of land use sustainable requires an approach that not only addresses international macro-economic conditions but also confronts local development issues.

The bottom-up approach offers a promising set of doctrines, norms, and mechanisms to international environmental law. Damaging patterns of land use are among the principal causes of a majority of the world’s other environmental harms. Future protocols of the international conventions on climate change and biodiversity, as well as initiatives related to the non-binding world forestry agreement, will have to address land use issues.² The

1. UNITED NATIONS, INTERGOVERNMENTAL NEGOTIATING COMMITTEE FOR A CONVENTION TO COMBAT DESERTIFICATION, ELABORATION OF AN INTERNATIONAL CONVENTION TO COMBAT DDESERTIFICATION IN COUNTRIES EXPERIENCING SERIOUS DROUGHT AND/OR DESERTIFICATION, PARTICULARLY IN AFRICA, U.N. Doc. A/AC.241/27 (1994), 33 I.L.M. 1328 [hereinafter DESERTIFICATION CONVENTION].

2. The Desertification Convention was a product of the United Nations Conference on Environment and Development (UNCED) held in Brazil in 1992. Delegates to UNCED also produced two other binding international conventions: United Nations Framework Convention on Climate Change, U.N. Miscellaneous Doc. [ST/DPI/1300-Oct. 1992, May 9, 1992, 31 I.L.M. 849 [hereinafter Framework Convention on Climate Change]; and Convention on Biological Diversity, U.N. Miscellaneous Doc. [ST/DPI/1307-Oct. 1992, June 5, 1992, 31 I.L.M. 818 [hereinafter Biodiversity Convention]. In addition to these binding conventions, delegates adopted the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus

Desertification Convention provides a valuable model for international environmental policymakers.

The Convention is also a striking model for the development of international law generally. A major departure from traditional state-centric international jurisprudence, the Desertification Convention provides a blueprint for future international regimes that incorporate the broad spectrum of governmental and non-governmental actors.

II. DESERTIFICATION: A BACKGROUND ON THE PROBLEM

A. *The Definition and Extent of Desertification*

The Convention defines desertification as "land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climactic variations and human activities."³ The term "desertification" encompasses several forms of biological degradation occurring in "drylands." Drylands are areas that are marked by low annual precipitation and, consequently, are ecologically fragile.⁴ Drylands that are potentially productive constitute nearly thirty-five percent of the Earth's land area.⁵

Mismanagement of drylands has had disastrous consequences throughout world history. Improper irrigation practices played a significant role in the collapses of the Sumerian and Babylonian empires.⁶ Overcultivation in the American Great Plains precipitated the "Dust Bowl" conditions of the 1930s, during which an estimated 3.5 million people left their farms.⁷

on the Management, Conservation and Sustainable Development of All Types of Forests, June 13, 1992, U.N. Doc. A/CONF. 151/26/Rev.1 (vol. I), Annex III, 31 I.L.M. 881 (1992) [hereinafter *Forestry Principles*]. The delegates also endorsed a non-binding action plan for sustainable development through the millennium. Agenda 21, adopted June 13, 1992, U.N. Doc. A/CONF. 151/26/Rev.1 (vols. I,II,III) (1992) [hereinafter Article 21].

3. DESERTIFICATION CONVENTION, *supra* note 1, art. 1(a).

4. The Desertification Convention defines arid, semi-arid and dry sub-humid areas as "areas, other than polar and sub-polar regions, in which the ratio of annual precipitation to potential evapotranspiration falls within the range from 0.05 to 0.65." *Id.* art. 1(g).

5. United Nations Environmental Programme, Report of the Executive Director, *Status of Desertification and Implementation of the United Nations Plan of Action to Combat Desertification* at xiii, UNEP/GCSS.III/3 (1991)[hereinafter *Status of Desertification*].

6. Christopher C. Joyner, *Towards Transnational Management of Desertification: The Eco-Politics of Global Concern*, 16 INT'L LAW. 67, 67 (1982).

7. DAVID S.G. THOMAS & NICHOLAS J. MIDDLETON, DESERTIFICATION: EXPLODING THE MYTH 22-23 (1994).

Though estimating the extent of desertification is difficult and problematic, the United Nations Environmental Programme (UNEP) estimates that of productive drylands, nearly seventy percent--or twenty-five percent of the Earth's total land area--are threatened by desertification. This threatened area is the home and source of livelihood to nearly 900 million people, approximately one-fifth of the world's population.⁸ The Food and Agriculture Organization asserts that each year, desertification is rendering practically barren seven million hectares of formerly cultivable drylands, an area approximately the size of Ireland.⁹

A persisting image of the problem of desertification is that of deserts encroaching upon formerly productive lands. This common depiction is a distortion. The regions threatened by desertification encompass a far greater area than merely the fringes of the world's deserts. Moreover, the oscillation of desert fringes seems to be a distinct phenomenon, related almost entirely to climate variation and of a smaller magnitude than historically assumed.¹⁰

Though dryland regions exist on nearly each of the continents, there is a strong correlation between poverty and drylands. Consider the total land area of the world's developing countries. The poorest, least developed countries--in which annual per capita income averages under \$500--make up twenty percent of that total land area. These same countries, however, contain sixty-three percent of all the drylands in developing countries.¹¹ The Sahelian region of Africa, which includes Cape Verde and portions of Senegal, Mauritania, Mali, Burkina Faso, Niger, Chad, and the Sudan, consists largely of drylands. Severe drought, extensive poverty, rapid population growth, and political instability have exacerbated the consequences of desertification in this region. The concentration of the world's poorest people on inherently ecologically fragile lands drives the need for an effective international response to desertification.

8. *Status of Desertification*, *supra* note 5, at xiii.

9. Angeline Oyog, *Environment: Convention Agrees Accord to Stop Growth of Deserts*, INTER PRESS SERVICE, June 18, 1994, available in LEXIS, World Library, CURNWS File.

10. Mike Hulme & Mick Kelly, *Exploring the Links Between Desertification and Climate Change*, ENVIRONMENT, July-Aug. 1993, at 4, 7.

11. Robert W. Kates & Viola Haarman, *Where the Poor Live*, ENVIRONMENT, May 1992, at 5, 7.

B. Desertification: Manifestations and Consequences

The manifestations of desertification vary considerably by region, even by locality, and encompass more than merely the appearance of desert-like conditions. Soil can grow vulnerable to wind and water erosion. Flooding can increase as soil erodes. Irrigated lands may become salinized as water tables drop. In croplands, yields may diminish. In rangelands, vegetation for livestock feed can be reduced. Woody biomass can decline, increasing the distance one must travel for fuelwood. Water resources for drinking and for agriculture can subside.¹²

The consequences of these various forms of biological degradation can be severe. By one measure, direct financial losses from desertification amount to \$42.3 billion annually.¹³ Much of this financial loss consists of desertification's toll on global agricultural productivity. Their ecological fragility notwithstanding, drylands currently generate at least one-fifth of the world's agricultural output.¹⁴ The process of desertification is reducing this output significantly, harming most severely the poor countries that rely on drylands for food. Already, according to UN officials, between ninety to ninety-five percent of the world's food aid flows to dryland regions.¹⁵ UNEP officials recently declared, "If the process of desertification is not arrested in the near future, the world shortage of food will increase dramatically within a few decades."¹⁶

Desertification causes other socio-economic disruptions. People are abandoning desertified drylands in large numbers, joining the world's growing

12. *Status of Desertification*, *supra* note 5, at 3.

13. H. Dregne et al., *A New Assessment of the World Status of Desertification*, DESERTIFICATION CONTROL BULL., No. 20, 1991, at 6, 15. According to the authors, this figure--which represents income foregone--is a "very rough" aggregate of widely-varying estimates in different countries. Dregne also has cited a State of New Mexico study which found that the indirect, off-site costs of wind erosion were 45 times greater than the direct, on-site costs. H. Dregne, *Desertification Costs: Land Damage and Rehabilitation*, UNEP, Dec. 1990/Jan. 1991. All monetary figures cited in this article are denominated in United States dollars.

14. R.L. HEATHCOTE, *THE ARID LANDS: THEIR USE AND ABUSE* 296 (1983).

15. Franklin Cardy, *Desertification: A Fresh Approach*, OUR PLANET: DESERTIFICATION ISSUE, (1995), available in Econet conference: inc.desert, topic No. 239. According to the FAO, most of the world's 800 million under-nourished people live in drylands. Brad Knickerbocker, *Environmental Wear in Dry-Land Areas*, CHRISTIAN SCI. MONITOR, Oct. 25, 1994, at 14.

16. William C. Burns, *The International Convention to Combat Desertification: Drawing a Line in the Sand?*, 16 MICH. J. INT'L L. 831, 846 (1995).

number of "environmental refugees."¹⁷ One estimate places the number of individuals at risk of displacement as a result of desertification at over 135 million people per year.¹⁸

The displacement of individuals resulting from desertification is triggering additional problems. Desertification refugees may find only more marginal drylands available. Thus, they begin the cycle of degradation anew.¹⁹ Other displaced peoples are joining a massive exodus of rural individuals to cities. Urbanization in countries affected by desertification currently ranges from eight to ten percent annually.²⁰ These rising rates of displacement and urbanization implicate environmental security issues. Uprooted rural individuals competing for productive lands or for jobs in cities teeming with people are a source of social unrest. The impoverishment and instability precipitated by the growing scarcity of cultivable soil in drylands regions has the potential to stimulate violent conflicts within and among already unstable states.²¹

In addition to these socio-economic consequences, the process of desertification also endangers common resources. The process of degradation

17. See generally JODI L. JACOBSON, ENVIRONMENTAL REFUGEES: A YARDSTICK OF HABITABILITY, Worldwatch Paper 86 (Nov. 1988); Arthur H. Westing, *Environmental Refugees: A Growing Category of Displaced Persons*, 19 ENV'T CONSERVATION 201 (1992).

18. Arthur H. Westing, *The Almeria Statement on Desertification and Migration*, 21 ENV'T CONSERVATION 179, 180 (1994). The Statement asserts that "the corollary of the recognized right of freedom of movement is the right to remain." *Id.* at 181. Though determining the factors that induce individuals to migrate is difficult, estimates of individuals uprooted by desertification are striking. Some estimates include: one-fifth of the population of Burkina Faso and one-sixth of the population of Niger. Burns, *supra* 16, at 839, n.40 citing INDEPENDENT COMMISSION ON INTERNATIONAL HUMANITARIAN ISSUES, THE ENCROACHING DESERT (1986), at 29. World-wide migration caused by desertification may be as high as 2,000 to 3,000 individuals a day. John Madeley, *For Millions, Life is a Battle Against the Sand*, THE GAZETTE (Montreal), June 26, 1993, at 16, available in LEXIS, Nexis Library, WORLD File.

19. *Status of Desertification*, *supra* note 5, at 13.

20. *Id.* at 12.

21. Thomas Homer-Dixon, who has analyzed the links between environmental change and international security, observes:

I propose that poor countries will in general be more vulnerable to environmental change than rich ones. . . . In these countries, a range of atmospheric, terrestrial and aquatic environmental pressures will in time probably produce, either singly or in combination, four main, causally interrelated social effects: reduced agricultural production, economic decline, population displacement, and disruption of regular and legitimized social relations. These social effects, in turn, may cause several specific types of acute conflict, including scarcity disputes between countries, clashes between ethnic groups, and civil strife and insurgency, each with potentially serious repercussions for the security interests of the developed world.

Thomas Homer-Dixon, *On the Threshold: Environmental Changes as Causes of Acute Conflict*, 2 INTERNATIONAL SECURITY, 76, 78 (1991).

in drylands threatens elements of global biodiversity, particularly core agricultural species. One team of experts has observed:

Many crops (wheat, barley, sorghum, millet, etc.) and fodder species that form the backbone of world agriculture and pasture husbandry, have their origins in arid and semi-arid territories . . . The impact of desertification on loss of germplasm resources may be, from an economic point of view, no less severe than the impact of deforestation.²²

The potential effects of desertification on climate change are disputed but probably minor. Estimates of non-industrial contributions to climate change, though difficult to quantify, are estimated to constitute five to fifteen percent of total radiative forcing. Tropical deforestation, however, causes the greatest percentage of these non-industrial emissions; desertification causes a much smaller fraction.²³

C. *Desertification: Causes*

The most frequently cited human activities that cause desertification fall in the following categories: overgrazing, overcultivation, deforestation, and mismanaged irrigation.²⁴ Climatic variations, principally droughts caused by declining rainfall, are thought to intensify degradation caused by human activities.²⁵

What precipitates unsustainable uses of drylands? Mere ignorance on the part of the land-users is not a complete answer. Individuals have used drylands for centuries. Experts have found that, under circumstances of social stability, even quite poor individuals and communities in dryland regions have implemented sophisticated and successful means of preventing dryland degradation. Thus, the question is: what influences have disrupted otherwise

22. M. Kassas et al., *Desertification and Drought: An Ecological and Economic Analysis*, DESERTIFICATION CONTROL BULL., No. 20, 1991, at 22, 23.

23. Hulme & Kelly, *supra* note 10, at 8.

24. See, e.g., Kassas et al., *supra* note 22, at 21-22; Sandra Postel, *Land's End*, WORLD WATCH, May-June 1989, at 12, 13; THOMAS & MIDDLETON, *supra* note 7, at 67. ("Different authors have organised these causes in different ways but generally they fall under the headings of overgrazing, overcultivation and deforestation. Salinisation on irrigated cropland, a clear-cut desertification resulting from human actions, is often viewed as a separate category from the aforementioned.")

25. *Status of Desertification*, *supra* note 5, at 3.

sustainable patterns of use? Desertification experts point to myriad socio-economic and political conditions that are driving dryland mismanagement.

One factor is population pressure. The population of ten countries in the Sahelian region of Africa increased from 60 million to 107 million between 1960 and 1987, a period during which the area was plagued with severe desertification, drought, and famine.²⁶ Growing populations mean growing migrations into drylands by people who have had insufficient experience with the sustainable use of drylands. Population growth in dryland countries also increases demand for food. This increased demand promises large short-term awards to those farmers and pastoralists who intensify cultivation and grazing. Growing populations demand not only more food but also more energy. Because ninety percent of the developing world relies on wood as fuel for energy, this energy demand drives deforestation in drylands.²⁷

National policies also are a root condition of desertification. In most developing countries, rural people are on the political margins; developing country governments have demonstrated a distinct bias favoring urban consumers over rural producers. Several affected countries have imposed pricing policies that subsidize food for urban populations at the expense of rural farmers and pastoralists. As a result, rural populations are deprived of resources needed to invest in sustainable practices.²⁸

Even when land-users have adequate resources to invest in such practices, insecure land tenure, another national policy failure, can discourage them from making those investments. Absent secure tenure, rural land-users have an incentive to practice "hit-and-run" grazing and farming, maximizing the yield from lands from which they may be evicted at any time.²⁹ Land is also needed as collateral for investments in seeds, fertilizer, and other items necessary for long-term productivity. Without ownership of land, farmers do not have the

26. THOMAS & MIDDLETON, *supra* note 7, at 92, citing IUCN, THE IUCN SAHEL STUDIES (1989).

27. Joel Schechter, *New Frontiers in Desert Research*, in DESERT DEV. 287, 305 (Yehuda Gradus ed., 1985). However, the link between changes in population are not necessarily straightforward. The rate of population growth should be distinguished from the density of population. In some areas, migration of individuals to cities has deprived dryland communities of the human power needed to implement desertification prevention practices. Robert Paarlberg observes: "In much of Africa, rural labor shortages frequently cause many traditional resource-conserving tasks—such as proper soil preparation, mulching, terrace maintenance, and weeding—to be left undone." Robert Paarlberg, *The Politics of Agricultural Abuse*, ENVIRONMENT, Oct. 1994, at 6, 34.

28. See generally ROBERT BATES, MARKETS AND STATES IN TROPICAL AFRICA: THE POLITICAL ECONOMY OF AGRICULTURAL POLICIES (1981); MERILEE GRINDLE, STATE AND COUNTRYSIDE: DEVELOPMENT POLICY AND AGRICULTURAL POLITICS IN LATIN AMERICA (1986); MICHAEL LIPTON, WHY POOR PEOPLE STAY POOR: URBAN BIAS IN WORLD DEVELOPMENT (1977).

29. Paarlberg, *supra* note 27, at 36.

collateral for these agricultural assets. Without the tools, farmers are induced to wear out the land and abandon it.³⁰

Land tenure in many affected countries is not only insecure but inequitable as well. The patronage systems in many developing countries favor politically powerful and wealthy farmers. These farmers assemble large holdings and increasingly drive poorer land-users into more marginal lands. Inequitable policies toward women are particularly damaging. It is estimated that women are responsible for eighty percent of the food their families eat and, with the help of their children, collect water and wood for heating and cooking. Yet women, throughout the developing world, do not have rights to their husbands' property, do not have equal access to credit, and are not permitted to participate in training programs designed to educate land-users about sustainable practices.³¹

To the extent that rural land-users are unaware of practices that cause degradation and are ignorant of means to prevent such degradation, rural extension services should be providing training and education. Weak institutions and the aforementioned urban bias in many affected countries have precluded such awareness and capacity-building programs.

The driving mechanisms are not confined to weaknesses or neglect in national policies and institutions. International politics and macroeconomic policies also influence dryland mismanagement. Aspects of the current state of international trade have been linked to desertification. The extensive cultivation in Africa of certain water and soil-intensive cash crops for international markets--groundnuts and cotton, particularly--has been linked to widespread degradation. Another trade-related condition was highlighted during the negotiations of the Convention: the "dumping" of agricultural products subsidized in developed countries into developing country markets. Since 1984, the European Community has spent approximately \$420 million in export subsidies for beef production. These generous subsidies have encouraged European farmers to produce an amount of beef far in excess of that demanded by European markets. In 1991, Europeans exported 54,000 tons of cut-rate beef to Africa. Local prices for beef in Africa plummeted. African pastoralists could not overcome this subsidized competition. The

30. Postel, *supra* note 24, at 15.

31. *Id.*

pastoralist's unsold inventory--vast herds of cattle--grazed the Sahel to an excess.³²

The process of desertification is thus driven by a myriad of influences and conditions. Desertification is not caused by emissions of a certain kind of substance or a particular pattern of economic activity, thus it cannot be addressed through the uniform application of particular kinds of technologies or practices. Instead, it is largely a socio-economic phenomenon through which a range of local, national, and international conditions marginalize people and induce them to over-exploit relatively fragile resources.

III. THE INTERNATIONAL RESPONSE TO DESERTIFICATION 1977-1991

A. The United Nations Conference on Desertification (UNCOD) and the Plan of Action to Combat Desertification (PACD)

The international community first confronted the problem of desertification in the early 1970s during the height of the drought and famine in the Sahel. It has been estimated that 100,000 to 250,000 people and more than ten million cattle perished in this region of Africa during the late 1960s and early 1970s.³³ As television images of starving people were transmitted around the world, a community of scientists asserted that extended periods of low rainfall alone were not the cause of the problem but were exacerbating degradation caused by human action. Moreover, these scientists identified this problem as a threat facing many regions of the world.

In response to the crisis and the problem which had been identified as its cause, the United Nations convened the United Nations Conference on Desertification (UNCOD). UNCOD met from August 29 to September 9, 1977 in Nairobi, Kenya. Ninety-four countries participated. Delegates to the UNCOD adopted a non-binding Plan of Action to Combat Desertification (PACD).³⁴ Developing and negotiating the PACD "engendered surprisingly

32. *The Issue that Won't Go Away*, ECO No. 5, Sept. 26, 1994, available in Econet conference: inc.desert, topic No. 83. Christian Aid, an NGO from the United Kingdom, introduced a report on this issue during negotiations for the Desertification Convention.

33. Steven L. Rhodes, *Rethinking Desertification: What Do We Know and What Have We Learned?*, 19 WORLD DEV. 1137, 1137 (1991).

34. UNITED NATIONS, UNITED NATIONS CONFERENCE ON DESERTIFICATION: ROUND-UP, PLAN OF ACTION, AND RESOLUTIONS, at 1 (1978) [hereinafter PACD].

little controversy, and debate involved only relatively minor amendments with very few differences in views on substantive matters."³⁵

The PACD's "ultimate objective" is to "sustain and promote, within ecological limits, the productivity of arid, semi-arid, sub-humid and other areas vulnerable to desertification in order to improve the quality of life of their inhabitants."³⁶ The drafters envisioned complete implementation of the PACD by the year 2000.³⁷

The PACD consists of twenty-eight recommendations. The plan suggests that affected countries: undertake evaluations and monitor desertification; develop national plans for combating desertification that integrate relevant sectors and are incorporated into national development programs; create insurance funds to compensate people during times of drought; and strengthen science and technology research. The cornerstone of the proposed approach is well-researched, holistic, national plans. Affected countries are to develop these plans with the support of the international community.

The PACD is extraordinarily comprehensive. Though the document is structured in the form of twenty-eight "recommendations," it actually consists of 102 paragraphs, each with several "sub-paragraphs," that contain a variety of observations about and suggestions for combating desertification. The sheer number and variety of recommendations may be partially explained by the non-binding nature of the document. No recommendation was a legal obligation; therefore, drafters could assemble a "dream list" of suggestions.

Many of the suggested actions have been characterized as large-scale technical fixes.³⁸ In a typical passage, the PACD urges affected countries to prevent soil loss through dust storms by "stabilizing sand surfaces by the use of matting, mulches, chemical, bituminous or any other economically viable products, vegetating dune surfaces, reshaping dunes and removing slip faces where necessary."³⁹

Interspersed among these recommendations for generic technical fixes are statements and suggestions that acknowledge the local specificity of desertification and the need to incorporate rural land-users in the planning of policy responses. The PACD recommends that public participation be made

35. Joyner, *supra* note 6, at 81.

36. PACD, *supra* note 34, para. 10, at 7.

37. *Id.*

38. Joyner, *supra* note 6, at 83.

39. PACD, *supra* note 34, para. 45(j)(iii), at 21.

“an integral element” of combating desertification.⁴⁰ The PACD also acknowledges the importance of utilizing local knowledge in the preparation of national plans, expanding the role of “community organizations,” and transferring technologies appropriate for local conditions.⁴¹ These elements of a bottom-up approach which were progressive for a 1977 international environmental plan are, however, almost entirely obscured by the laundry list of large-scale technical solutions that fill the rest of the PACD.

According to practically all commentators, UNCOD and the PACD generated some amount of awareness but little and largely ineffective action. Why after an international conference and a carefully-constructed plan of action was the international response to desertification so ineffective?

One oft-cited stumbling block is the distorting multitude of definitions and images of “desertification” that persisted throughout the 1977-1992 period. In 1983, two experts catalogued over 100 definitions of desertification appearing in scientific literature.⁴² Also, early researchers of dryland degradation created a kind of Faustian bargain by naming the phenomenon which they observed “desertification.” On the one hand, the vivid image suggested by the phrase--sand dunes engulfing formerly fertile lands--has possibly generated more action than that which “degradation of drylands” might have generated. One expert has called it a “stroke of political genius.”⁴³ The term, however, encouraged many in the international community to focus their attention almost exclusively on true, hyper-arid deserts instead of on the semi-arid and sub-humid areas “where the real problem is.”⁴⁴ Moreover, the term associated the problem with the more limited phenomenon of desert oscillation. As noted above, studies throughout the 1980s and early 1990s have found that deserts have migrated less than was assumed, and that this movement has been almost entirely a product of changes in the amount of rainfall. A litany of articles have exposed this “myth of the marching desert”⁴⁵ and damaged the credibility of the larger problem of desertification among policy-makers.

40. *Id.* para. 27, at 13.

41. *Id.* para. 16(o), at 9; para. 28(d), at 13; and para. 75(b), at 27.

42. Michael Glantz & Nicolai Orlovsky, *Desertification: A Review of the Concept*, DESERTIFICATION CONTROL BULL., No. 9, 1983, at 15, 15.

43. H. E. Dregne, *Reflections on the PACD*, DESERTIFICATION CONTROL BULL., No. 15, 1987, at 8, 8.

44. Richard S. Odingo, *The Definition of Desertification: Its Programmatic Consequences for UNEP and the International Community*, DESERTIFICATION CONTROL BULL., No. 18, 1990, at 34, 46.

45. Bill Forse, *The Myth of the Marching Desert*, NEW SCIENTIST, Feb. 4, 1989, at 31.

Another factor undermining the credibility of desertification and discouraging the international response has been the difficulty of obtaining reliable assessments of the problem. A consensus exists that monitoring projects throughout the entire 1977-1992 period have been inadequate. One critic has called the global percentages of degraded drylands distributed by UNEP "estimates based on guesstimates."⁴⁶ Yet, during the 1977-1992 period, UNEP cited these statistics dogmatically, creating a misleading perception of the extent of the problem and the level of certainty about this extent. In the late 1980s, UNEP's overheated rhetoric generated a backlash of sorts in the scientific community and encouraged a "revisionist critique."⁴⁷ In 1993, UNEP Executive Director Elizabeth Dowdeswell acknowledged the limitations of existing data: "UNEP openly admits that the best assessments from an extended network of national experts worldwide, leave much to be desired in terms of statistical accuracy and detail."⁴⁸

Even before the revisionist critique, however, few governments of affected and donor countries appeared prepared to make combating desertification a priority. Though the PACD had highlighted the importance of national action plans as the key first step, only twenty affected developing country governments submitted such plans and they were generally of poor quality.⁴⁹ A. Buonajuti lists some of the factors leading to the inadequacy of the policy response of these governments:

Many governments did not recognize the enormity of the desertification threat, or appreciate the costs or complex processes of desertification. They found it difficult to undertake holistic planning by breaking through traditional bureaucratic boundaries that cause sectoral planning by their various ministries and did not and still do not have a clear-cut multi-sectoral governmental organ to coordinate the implementation of the PACD. Political instability and hostilities in many countries suffering from desertification were a difficult setting within which to mount an effective programme for dealing with environmental problems of natural resources. Moreover,

46. THOMAS & MIDDLETON, *supra* note 7, at 67.

47. Rhodes, *supra* note 33, at 1139.

48. Elizabeth Dowdeswell, *Editorial*, OUR PLANET: DESERTIFICATION ISSUE (1995), available in Econet conference: inc.desert, topic No. 239.

49. A. Buonajuti, *External Evaluation of the Plan of Action to Combat Desertification*, DESERTIFICATION CONTROL BULL., No. 20, 1991, at 30, 31.

desertification problems were aggravated by the hostilities and consequent influx of refugees.⁵⁰

Confronting a scarcity of resources, national governments relied largely on short-term fixes that could generate immediate returns. Most of these projects have proved ineffective over the long-term.⁵¹ The marginalization of rural land-users from strongly centralized dryland governments also undermined responses on the national level. Without the participation of local communities, national projects lacked the insights of those with local knowledge, were inappropriate for local conditions, and were not sustained by their recipients.⁵² An UNEP external evaluation of the PACD succinctly concluded: "In some cases where governments *did* implement measures to combat desertification, the impact was insufficient because they lacked community participation and support."⁵³

Donor support was insufficient. Some estimates indicate that in the aggregate, aid for projects related to combating desertification in developing countries amounted to only \$0.6 billion per year during the early 1980s. By comparison, UNEP estimates that, over the next twenty years, affected developing countries will require \$2.4 billion per year in external aid if they are to undertake preventative, corrective, and rehabilitative measures.⁵⁴

When donor aid did flow to desertification rehabilitation or prevention projects, it was largely ineffective. In designing or selecting projects to fund, donors usually did not consult the recipient country's national action plan even when one was available. As a result, aid was largely uncoordinated and unprioritized.⁵⁵ Donor-supported projects were marked by the same characteristics as projects undertaken by affected countries alone: short-term, overly large-scale, and planned and implemented in a top-down manner.

A representative project of the period was the "Green Sahel" project. This donor-funded scheme had as its objective the afforestation of a region crossing

50. *Id.*

51. *Status of Desertification*, *supra* note 5, at 41. See also Buonajuti, *supra* note 49, at 31.

52. Cardy, *supra* note 15. See also *Status of Desertification*, *supra* note 5, at 41.

53. Buonajuti, *supra* note 49, at 32. See also THOMAS & MIDDLETON, *supra* note 7, at 155; Harma A. Diallo, *Dealing with Real People*, OUR PLANET: DESERTIFICATION ISSUE (1995), available in Econet conference: inc.desert, topic No. 239. ("The local population was often longing to see a project completed --because then the people from abroad, or even their own capital city would withdraw and they could get back to business as usual. After about three years nothing of the scheme would be left.")

54. *Status of Desertification*, *supra* note 5, at 67.

55. Diallo, *supra* note 53.

through several Sahelian countries. Commentators uniformly describe the project as poorly-conceived. A more effective use of resources would have been a number of smaller projects responsive to local conditions and needs.⁵⁶ The project's execution was disastrous. Organizers did not consult or gain the support of the numerous communities within the area and, therefore, found themselves unable to sustain tree-planting efforts.

As a whole, during the 1977-1992 period, most efforts to combat desertification focused on these large-scale, top-down efforts. At the same time, evidence was growing that such responses could not effectively prevent and reverse over-exploitation of drylands. Increasingly, desertification experts suggested that the process of desertification is too locally-specific to be effectively "combated" with regional schemes conceived solely by governments and international organizations. An influential 1990 World Bank paper by Ridley Nelson observed that "the complexity and local variability of the problem of land degradation suggests that there are no global or regional technological solutions and that large programs such as tree belts across Africa are not a solution"⁵⁷ In addition, as the socio-economic aspects of desertification became clearer, experts gradually understood that efforts to respond to desertification must engage land-users in both planning and implementation. Nelson asserted that "the need is to get spontaneous responses from millions of small farmers and pastoralists rather than for government to tax them to get the money and do it for them."⁵⁸ In 1994, David S.G. Thomas observed that the international response to desertification "needs not grand global and national plans, but planning with and by local people, building on the systems used in many of these areas for centuries."⁵⁹

The success stories from 1977-1992 provided support to this growing consensus. Effective in-the-field desertification projects consisted almost entirely of community-oriented efforts. In Burkina Faso, Senegal, and Togo, farmers formed a coalition of 1200 village groups aimed at sharing information on sustainable dryland cultivation practices. The coalition operates "schools" that teach group leaders better agricultural techniques and finances projects

56. THOMAS & MIDDLETON, *supra* note 7, at 155-56.

57. RIDLEY NELSON, WORLD BANK TECHNICAL PAPER NO. 116, DRYLAND MANAGEMENT: THE "DESERTIFICATION" PROBLEM, (1990), at 22.

58. *Id.* at 23.

59. Geoff Tansey, *The 'Grass Roots' Strategy for Holding Back the Deserts*, FIN. TIMES, Oct. 14, 1994, at 31.

suggested by the leaders.⁶⁰ In Senegal, the Organization of Rural Associations for Progress (ORAP), an association of local groups, determined in the 1980s that the switch from traditional drought-resistant crops to cash crops had increased the groups' vulnerability to desertification. ORAP developed a new approach; with the assistance of Oxfam-America (Oxfam), the organization now makes loans to local groups to help them switch back to traditional seeds and fertilizers and generally improve food production.⁶¹ In rural Yemen, farmers with experience in terrace-farming, a technique with which to cultivate drylands, are working with NGOs to share their knowledge with farmers in other parts of the country and with those in other dryland countries.⁶²

Grass-roots and international NGOs spearheaded almost all of these small-scale, participatory efforts. Their effectiveness was lauded by an otherwise disheartening 1984 UNEP review of the progress of the PACD:

In some respects, NGOs have been the most effective agencies in the campaign against desertification Their high record of success is related to the small-scale and local direction of their projects and the requirements for local community participation, as well as their flexibility in operation and their ability to learn from other mistakes. The dominance of field activities gives these actions an impact out of proportion to the money invested.⁶³

In 1992, with the exception of these NGO efforts, it was apparent that the PACD had failed to generate a sufficient response to the problem of desertification. Assessments of the extent and location of affected areas remained inadequate. The myth of the marching desert persisted, at once oversimplifying the manifestations of the problem and making its solution seem impossible. Affected-country governments and donors assembled an uncoordinated series of large-scale projects that neglected local land-users whose needs and actions constitute the core of the problem. Increasingly, the international community learned that desertification was a problem of local resource management, of marginalized people on marginal lands, and only policy responses empowering those people would be successful.

60. LLOYD TIMBERLAKE, *AFRICA IN CRISIS: THE CAUSES, THE CURES OF ENVIRONMENTAL BANKRUPTCY* 210-11 (Jon Tinker ed., 1985).

61. *Id.* at 212.

62. Tansey, *supra* note 59.

63. TIMBERLAKE, *supra* note 60, at 216-17.

IV. THE DESERTIFICATION CONVENTION

A. Overview

At UNCED, African countries pressed for an international convention on desertification. They cited the failure of the PACD and emphasized that no problem better captured the crisis of the environment and development.⁶⁴ Delegates to UNCED officially requested the U.N. General Assembly to establish an intergovernmental negotiating committee on desertification.⁶⁵ UNCED participants also agreed to include a chapter on desertification in Agenda 21, the non-binding international action plan for sustainable development. The chapter contains detailed recommendations for national, regional, and international initiatives.⁶⁶

Later that year, during its 47th session, the U.N. General Assembly adopted resolution 47/188 calling for the establishment of an "Intergovernmental Negotiating Committee for the Elaboration of an International Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa."⁶⁷ The resolution called for five negotiating sessions culminating in a Convention by June 1994. The first session was to be held in Nairobi; the second in Geneva; the third in New York; the fourth in Geneva; and the fifth in Paris.

Negotiations concluded on June 18, 1994. The Convention and its four regional annexes were opened for signature on October 15, 1994. The Convention enters into force on the ninetieth day after the date of deposit of the fiftieth ratification.⁶⁸ As of early October 1995, 110 states and regional economic integration organizations have signed the convention and seven have deposited instruments of ratification.⁶⁹ The Executive Secretary of the

64. Bo Kjellen, *A New Departure?*, OUR PLANET: DESERTIFICATION ISSUE (1995), available in Econet conference: inc.desert, topic No. 239.

65. *Delegates Call for Negotiation of Treaty to Stop Spread of Deserts*, INT'L ENVTL. REP. - CURRENT REP., June 17, 1992, at 416.

66. Agenda 21, *supra* note 2, at Ch. 12.

67. G.A. RES. 188, U.N. GAOR, 47th Sess., 93d mtg. at 241, U.N. Doc. A/47/719 (1992).

68. DESERTIFICATION CONVENTION, *supra* note 1, art. 36(1).

69. *A Daily Report on the INC for the Elaboration of an International Convention to Combat Desertification*, 4 EARTH NEGOTIATIONS BULL., No. 67, available in Econet conference: inc.desert, topic No. 263.

Intergovernmental Negotiating Committee predicts that the fiftieth ratification will occur in mid-1996.⁷⁰

1. Overview of the Text: Principles and General Obligations

The first paragraph in the article on “principles” articulates four of the principal themes of the Convention: (1) local participation in planning and implementing desertification programmes;⁷¹ (2) improved coordination and utilization of financial and other resources;⁷² (3) the enhancement of cooperation among governments, NGOs, and land users to improve understanding of the problem;⁷³ and (4) recognition of the special needs and vulnerability of affected developing countries.⁷⁴

Article 4 sets out a number of “general obligations” that all the Parties undertake. Among these are duties to adopt an integrated approach to combating desertification; the Parties must address the physical, biological, and socio-economic aspects of the problem.⁷⁵ The Parties also agree that eradicating poverty and improving international economic conditions are elements of efforts to combat desertification.⁷⁶

Article 5 contains a set of obligations specifically for affected country Parties. To the extent that national circumstances allow, preventing desertification must be a priority in national policies. The affected country Parties must also agree to promote awareness among citizens and citizen groups.⁷⁷

Article 6 summarizes obligations for the developed country Parties. Among these obligations are duties to “provide substantial financial resources” to affected developing country Parties to assist them with developing and implementing action programmes.⁷⁸ Developed country Parties are also obligated to promote and facilitate the access of affected developing countries to “appropriate technology, knowledge and know-how.”⁷⁹

70. Harma A. Diallo, Address at Princeton University Woodrow Wilson School of Public and International Affairs (Oct. 9, 1995).

71. DESERTIFICATION CONVENTION, *supra* note 1, art. 3(a).

72. *Id.* art. 3(b).

73. *Id.* art. 3(c).

74. *Id.* art. 3(d).

75. *Id.* art. 4(2)(a).

76. *Id.* art. 4(2)(c).

77. *Id.* arts. 5(a), (d).

78. *Id.* art. 6(b).

79. *Id.* art. 6(e).

2. *Overview of the Text: Action Programmes*

In Article 9, the Convention identifies the development of national action programmes (NAPs) as the "central element" of the strategy to combat desertification, complemented by regional and subregional programmes as necessary.⁸⁰ Unlike the PACD, the greater part of which consists of recommendations for the *content* of action programmes, the Desertification Convention concentrates mostly on the *process* of developing the plans with a few specific recommendations on content. Widespread participation and holistic strategies are consistent themes in the Convention's elaboration of the NAP process. The NAPs are developed and implemented through "participatory mechanisms" and should integrate combating desertification and eradicating poverty.⁸¹ Affected Parties agree to closely link preparation of the action programmes with the preparation of national development plans. Developed country Parties agree to link their assistance to these action programmes; Article 9, Section 2 states that priority "shall be given to supporting" these programmes.⁸²

3. *Overview of the Text: Financial Resources and Financial Mechanisms*

Financing was the most contentious issue in the negotiations. In general, developing countries insisted on binding obligations from the developed countries to provide new and additional funds for efforts by developing countries to combat desertification. They also called for a new global fund to administer the transfers of those resources or, in the alternative, a new desertification portfolio or window in the Global Environment Facility (GEF).⁸³ The developing country delegates also sought commitment from

80. *Id.* art. 9(1).

81. *Id.* art. 10(2)(a)-(g).

82. *Id.* art. 9(2).

83. The Global Environment Facility (GEF) is an international financial mechanism designed to transfer financial resources to developing countries to compensate them for the incremental costs of implementing projects and programs that address global environment problems. The GEF funds projects and programs in four focal areas; climate change, stratospheric ozone depletion, biodiversity loss, and pollution of international waters. The GEF currently is the interim financing mechanism for the Framework Convention on Climate Change and the Convention on Biological Diversity. It also administers the Montreal Protocol Multilateral Fund. A partnership of three multilateral agencies manages the GEF; the World Bank; the United Nations Development Programme, and the United Nations Environmental Programme. In its 1991-1994 pilot phase, the GEF received \$1 billion U.S. in voluntary contributions from industrialized

developed countries that each one would increase its official development aid to at least 0.7 percent of its GNP.⁸⁴ Developed countries had pledged such increases as a part of the non-binding Agenda 21 signed at the 1992 Earth Summit in Rio de Janeiro. Developed country delegates strongly opposed these proposals. They argued that the current quantity of financial transfers was sufficient. The greater failure of the PACD, they asserted, was the inefficient and ineffective utilization of aid. The developed country delegates insisted that a guarantee of new money was not necessary, and a new fund would merely saddle the international community with a new bureaucracy. From the first negotiating session, donor countries pressed for obligations to improve the coordination of aid, the quality of national action programmes, and the effective channeling of aid to the field level.

The compromise language on financing leaves the issue unsettled. Developed countries have no obligations to provide new and additional funds. The Convention does not establish a new desertification fund nor does it promise a desertification portfolio in the Global Environment Facility. Developed countries merely promise to provide "substantial" financial and other resources as "mutually agreed."⁸⁵ They "undertake to . . . mobilize substantial financial resources,"⁸⁶ "promote" the availability of new and additional funds from the GEF,⁸⁷ and "explore" innovative methods of financing including debt-for-nature swaps.⁸⁸ In a measure consistent with the Convention's emphasis on improving the utilization of existing aid flows, all Parties, developed and developing countries alike, are obligated to "rationalize and strengthen the management of resources already allocated."⁸⁹

Rather than create a new "fund" in Article 21, the Parties compromised by referring to new "financial mechanisms."⁹⁰ The text is vague in its elaboration of "financial mechanisms." It merely sets out aspirations for them; they are

countries. In 1994, these countries pledged \$2 billion for the replenishment of the fund. *See generally* Andrew Jordan, *Paying the Incremental Costs of Global Environmental Protection: the Evolving Role of the GEF*, 36 ENVIRONMENT 12 (1994).

84. *Summary of the Second Session of the INC for the Elaboration of an International Convention to Combat Desertification*, U.N. Intergovernmental Negotiating Comm., 2d Sess., 4 EARTH NEGOTIATIONS BULL. No. 22, available in Econet conference: inc.desert, topic No. 88 [hereinafter *Summary Report of the Second Session*].

85. DESERTIFICATION CONVENTION, *supra* note 1, art. 6(b).

86. *Id.* art. 20(2)(a).

87. *Id.* art. 20(2)(b).

88. *Id.* art. 20(2)(d).

89. *Id.* art. 20(5)(a).

90. Mohammad Kassas, *Negotiations for the International Convention to Combat Desertification (1993-1994)*, 7 INT'L ENVTL. AFF. 176, 184 (1995).

to be effective, efficient, participatory, and should channel resources to local levels. The Article leaves it to the Conference of the Parties to give definition to the favored mechanisms. Article 21 does indicate a preference for a certain kind of mechanism, the "national desertification fund."⁹¹ Notably, even the developed countries' vague pledges to transfer substantial resources to the affected countries⁹² are not connected in the text to the "financial mechanisms."⁹³ Thus, the developed countries have no binding obligation to channel financial transfers through these "mechanisms" whatever form they may take.

Delegates from developed countries also effectively resisted the efforts to make their Agenda 21 pledge of increasing official development aid a binding obligation. They consented to repeating the Agenda 21 pledge in the Convention's non-binding preamble section.⁹⁴ Even that non-binding pledge was revised in the last three days of the Convention in favor of a paragraph reading: "Reaffirming in this light the commitments of developed countries as contained in paragraph 13 of chapter 33 of Agenda 21."⁹⁵ The commitment is thus doubly diluted. It appears only in the Preamble of the Convention and, even then, only by reference to Agenda 21, a non-binding document.

Other conventions that emerged from UNCED contained provisions recognizing that developing countries could not be expected to meet their obligations absent sufficient external aid, the Desertification Convention merely acknowledges—within the non-binding Preamble section—that "it will be difficult" for developing countries without such aid.⁹⁶

In an eleventh hour compromise, the Parties agreed to the establishment of a "Global Mechanism."⁹⁷ Though the Convention defers to the final authority of the Conference of the Parties over the operations and form of the

91. DESERTIFICATION CONVENTION, *supra* note 1, art. 21(1)(d).

92. *Id.* arts. 6, 20.

93. *Id.* art. 21.

94. *Summary of the Fifth Session of the INC for the Elaboration of an International Convention to Combat Desertification*, U.N. Intergovernmental Negotiating Comm., 5th Sess., 4 EARTH NEGOTIATIONS BULL., No. 55, available in Econet conference: inc.desert, topic No. 198 [hereinafter *Summary Report of the Fifth Session*].

95. DESERTIFICATION CONVENTION, *supra* note 1, pmb., para. 13.

96. *Id.* at pmb., para. 18; *cf.* Biodiversity Convention, *supra* note 2, art. 20(4): "The extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are the first and overriding priorities of the developing country Parties."

97. DESERTIFICATION CONVENTION, *supra* note 1, art. 21(4).

Global Mechanism, it is clearly not meant to be a new fund but rather a kind of coordinating mechanism. According to the Convention, the Global Mechanism will inventory relevant international cooperation programmes, advise Parties on innovative financing methods, and provide information to Parties, intergovernmental organizations, and NGOs on available funds “in order to facilitate coordination among them.”⁹⁸ In August 1995, the Parties met for a sixth session and discussed different forms that the Global Mechanism might take. They considered what were characterized as “low potential” and “high potential” conceptions of the Global Mechanism.⁹⁹ A “low potential” Global Mechanism would only publicize resource gaps; it would identify programs and initiatives particularly in need of aid. A “high potential” Global Mechanism would essentially play a fundraising role by catalyzing and leveraging financial resources. Developed and developing country delegates split in a predictable fashion in the discussions. Developed countries favored a “low potential” Global Mechanism; and developing countries favored a “high potential” Global Mechanism. Resolution of the question probably will have to wait until the Conference of the Parties begins to meet.

4. Overview of the Text: Other Articles

A consistent theme in negotiations was the importance of improving coordination between the planning and the use of financial resources. The Convention emphasizes enhanced coordination among donors, developing country governments, and local actors. The Parties are to create “operational mechanisms, particularly at the national and field levels” that ensure the “fullest possible coordination among developed country Parties, developing country Parties, and relevant intergovernmental and non-governmental organizations. . . .”¹⁰⁰

The Convention also underscores the importance of capacity-building and educational and awareness programs. During negotiations, delegates referred

98. *Id.* art. 21(5)(a)-(d).

99. *A Daily Report on the Sixth Session of the Intergovernmental Negotiating Committee on the Convention to Combat Desertification*, 4 EARTH NEGOTIATIONS BULL., No. 70, available in Econet conference: inc.desert, topic No. 271 [hereinafter *Daily Report on the Sixth Session*].

100. DESERTIFICATION CONVENTION, *supra* note 1, art. 14(2).

to capacity-building as the "cornerstone" of the Convention.¹⁰¹ The Convention contains more specific recommendations for the contents of capacity-building programs than for the action programmes. These programs shall include awareness programs; promote public access to information; encourage the establishment of awareness-building organizations; develop and exchange materials; assess general educational needs in affected areas and design school programs to meet them; and develop awareness programs that can be integrated into existing educational programs.¹⁰²

5. *Overview of the Text: The Regional Annexes*

At the first session, the Parties debated whether the Convention should be a fully elaborated operative agreement, or a framework convention in anticipation of further elaboration and more extensive obligations in protocols to be negotiated in the future. Other conventions emerging from the Earth Summit have adopted the framework-protocol format. Many Parties insisted on a compromise: a framework convention with an operative annex for Africa, in recognition of the urgency of the desertification problem on that continent.¹⁰³ Developing countries from other regions resisted the compromise approach, asserting that they are also suffering significantly. Many insisted that a separate annex for Africa would merely be an instrument allowing developed countries to provide new funding only to the African countries. In the end, the African Annex was joined by three other regional annexes covering Asia, Latin America and the Caribbean, and the Northern Mediterranean.

The African Annex contains the most detailed measures and strongest commitments. Unlike the Convention text and the three other regional annexes, the African Annex lists several specific measures that should be included in African country action programmes.¹⁰⁴ African countries also undertake to execute these programmes without waiting for the Convention to enter into force.¹⁰⁵ Acknowledging the priority of assisting Africa, the

101. *A Daily Report on the INC for the Elaboration of an International Convention to Combat Desertification*, 4 EARTH NEGOTIATIONS BULL. No. 19, available in ECONET conference: inc.desert, topic No. 73.

102. DESERTIFICATION CONVENTION, *supra* note 1, art. 19(3)(a)-(f).

103. Kassas, *International Convention to Combat Desertification*, *supra* note 90, at 178.

104. DESERTIFICATION CONVENTION, *supra* note 1, Regional Implementation Annex for Africa, art. 8(3) [hereinafter Annex I].

105. *Id.* art. 7.

developed country Parties agreed to concrete commitments for transferring financial resources to the affected countries of Africa; they pledged to maintain the current level of assistance or to increase that level.¹⁰⁶

The other annexes are more general than the African Annex and more hortatory than obligatory in form. The Annex for Latin America and the Caribbean highlights links between desertification and issues of debt and international macroeconomic conditions¹⁰⁷ as well as the consequences of desertification on biodiversity.¹⁰⁸ The Annex for the Northern Mediterranean contains a provision specifically disqualifying countries in that region from receiving external aid for desertification initiatives.¹⁰⁹

B. Analysis: Macro-Level Obligations

To what extent does the Desertification Convention confront the problem of desertification on international and national macro levels? International macro level issues, trade, debt, aid, etc., are for the most part left to the margins of the text. Developed country argued against including in the text of the Convention any references to international economic conditions and policies as factors contributing to desertification. They vehemently opposed the establishment of obligations to address these conditions. Delegates from developed countries successfully advocated the deletion of a paragraph within the article on Principles stating that objectives of the Desertification Convention included contributions to the eradication of poverty, greater assurances of food and energy security, and the promotion of predictability and stability of financial resources for developing countries.¹¹⁰ In the end, most of these issues were transferred to the preamble. In that section, the issues are recognized both as factors in the process of desertification and as

106. *Id.* art. 5(1)(b). The words of the text are curious. They say that the developed countries shall “continue to allocate significant resources and/or increase resources to combat desertification” Despite its either/or construction, this sentence, by one reading, seems to imply an obligation to increase the current level of resources allocated no matter what: Developed countries can maintain current levels of assistance and increase them or simply increase them.

107. *Id.* Regional Implementation Annex for Latin America and the Caribbean, art. 2(b) [hereinafter Annex III].

108. *Id.* art. 2(a).

109. *Id.* Regional Implementation Annex for the Northern Mediterranean, art. 9 [hereinafter Annex IV].

110. *Negotiations Revert to Form*, ECO No. 8, Jan. 26, 1994, available in ECONET conference: inc.desert, topic No. 149.

consequences of desertification. None of the Parties has any obligation to address them.

According to developed countries, if the Convention became a "receptacle" for international macroeconomic and political issues, it would be more difficult to persuade their countries' publics that it would be an effective agreement.¹¹¹ Consistent with this view, the developed country delegates consented to the establishment of an obligation on all the Parties to "give due attention" to trade and debt issues within the "relevant international and regional bodies."¹¹² Notably, however, this is not an obligation to "address" nor even to "give due priority" to these issues. Moreover, it seems unlikely that the World Trade Organization, presumably the "relevant" trade body, will make the effects of agricultural subsidies on desertification a priority issue any time soon.

The Convention addresses the national macro-level desertification issues--security of land tenure, rural development policies, population pressures, etc.--only to a slightly greater extent than the international issues. As with the international issues, many of the national macro-level factors were shunted to the Preamble where they are the responsibility of none of the Parties. Some appear as measures that affected country Parties may include, "taking into account the circumstances and requirements" of each Party, in national action programmes.¹¹³

Though the main text of the Convention contains no binding commitments to address the national macro causes of desertification, the African Annex includes some commitments on these issues and may provide insight into how future protocols might look. In Article 4, which lists general obligations of the African country Parties, these Parties agree to make land tenure more equitable; they undertake to "sustain and strengthen reforms currently in progress toward greater decentralization and resource tenure . . ."¹¹⁴ Article 8, which establishes obligations for the content of national action programmes, emphasizes national policies to eradicate rural poverty generally. The affected African country Parties commit to including in their action programmes "as appropriate" a variety of very specific measures under the heading "measures

111. *Daily Report on the INC for the Elaboration of an International Convention to Combat Desertification*, 4 EARTH NEGOTIATIONS BULL., No. 27, available in ECONET conference: inc.desert, topic No. 139.

112. DESERTIFICATION CONVENTION, *supra* note 1, art. 4(2)(b).

113. *Id.* art. 10(4).

114. *Id.* Annex I, art. 4(2)(b).

to improve the economic environment with a view to eradicating poverty.”¹¹⁵ These measures range from developing markets for farm and livestock products to creating “price and tax policies and commercial practices that promote growth.”¹¹⁶ According to the Annex, the programmes also should address population; they shall include measures “defining and applying population and migration policies to reduce population pressure on land.”¹¹⁷

C. Analysis: Micro-Level Obligations: the “Bottom-Up” Approach

The hallmark of the Desertification Convention is its elaboration of a bottom-up approach for combating desertification. As early as the second session, an identifiable consensus supported a bottom-up approach generally.¹¹⁸ By the fifth session, the Parties agreed that the action programmes should involve local and NGO participation both in design and implementation.¹¹⁹

The elements of the bottom-up approach developed in the Convention consist of the following: participation by a range of land users in the planning and implementation of action programmes; measures to increase the awareness and capacity of land users; assurances that the importation of technology and ideas is driven by local demand; a leading role for NGOs both as expert bodies and as links to rural land users; and the development of coordinating and financial mechanisms that ensure access to financial resources that will allow land users and NGOs to implement the programmes.

1. The “Bottom-Up” Approach: Participation in Desertification Action Programmes and in Sustainable Development Programmes

The Convention says that the national action programmes—the “central element of the strategy” to combat desertification—should consist of local development programmes that are based on participatory mechanisms.¹²⁰ The national action programmes therefore shall:

115. *Id.* art. 8(3)(a).

116. *Id.* art. 8(3)(a)(i) and (ii).

117. *Id.* art. 8(3)(a)(iii).

118. *Summary Report of the Second Session*, *supra* note 84.

119. *Summary Report of the Fifth Session*, *supra* note 94.

120. DESERTIFICATION CONVENTION, *supra* note 1, art. 9(1).

[P]rovide for effective participation at the local, national and regional levels of non-government organizations and local populations, both women and men, particularly resource users, including farmers and pastoralists and their representative organizations, in policy planning, decision-making, and implementation and review of national action programmes.¹²¹

Notably, the Parties are obligated to provide for "effective participation" of local stakeholders and NGOs. A duty to provide merely for their "participation" arguably could be discharged by making only modest attempts to keep local stakeholders and NGOs informed and involved. The Parties must provide participation not only in implementing the programmes but also in deciding on the content of the programmes. Participation is required during continuing elaboration and revision; the plans "shall be updated through a continuing participatory process . . ."¹²² This paragraph also gives identity to the land users and land user groups of central importance--women as well as men, pastoralists as well as farmers, and NGOs. These are the key actors of the bottom-up process; they are referenced to throughout the text of the Convention and the Annexes.

While the Latin American and Asian Annexes specifically refer to the Convention's paragraph on participation in national action programmes,¹²³ the African Annex develops to an even greater extent the central role of land users in the action programme process. This greater elaboration is consistent with the African Annex's status as an operative agreement rather than a mere convention-like agreement. According to the African Annex, empowerment of local land users is not only a means to developing better action programmes but also an end of such programmes. The obligation is in more qualified language, but articulates clear goals. The programmes shall aim at:

[S]trengthening the capacity of local authorities and ensuring the active involvement of local populations, communities and groups, with emphasis on education and training, mobilization of non-

121. *Id.* art. 10(2)(f).

122. *Id.* art. 9(1).

123. *Id.* Annex III, art. 3(2) and Regional Implementation Annex for Asia, art. 4(2) [hereinafter Annex II].

governmental organizations with proven expertise and strengthening of decentralized government structures.¹²⁴

The African Parties agreed to obligations not only to enhance participation of land users in desertification action programmes, but also to develop a process which can maximize their participation in planning national sustainable development programmes generally. In Article 6, concerning the “[s]trategic planning framework for sustainable development,” these Parties agree to undertake a “consultative and participatory process” involving local populations and NGOs to “provide guidance on a strategy . . . to allow maximum participation from local populations and communities.”¹²⁵ This language seems to create a binding obligation of decentralized development planning within the African country Parties. Such obligations should help to alleviate the political marginalization of rural land users. As noted earlier, this marginalization is one of the socio-economic conditions at the root of desertification.

2. *The “Bottom-Up” Approach: Capacity-Building*

Additional evidence of the bottom-up process’ centrality in the Desertification Convention is its extensive section on “Capacity building, education, and public awareness.”¹²⁶ Though the language in this section more closely approximates policy recommendations than strictly binding obligations, one should not conclude that the parties are placing little emphasis on this aspect of the response to desertification. Statements made during the negotiations indicate that most delegates considered capacity-building the “cornerstone of the Convention.”¹²⁷ Indeed, the delegates expressed concern about the daunting task of reaching hundreds of millions of rural people with information about causes and cures for the problem of desertification.

The article defines capacity-building as “institution building, training and development of relevant local and national capacities.”¹²⁸ In addition to some measures aimed at institutions, the Parties agree to promote capacity-building through a range of activities involving the key local actors identified in earlier

124. *Id.* Annex I, art. 8(1).

125. *Id.* Annex I, art. 6(2).

126. *Id.* art. 19.

127. *Daily Report on the Sixth Session*, Sept. 21, 1993, *supra* note 99.

128. DESERTIFICATION CONVENTION, *supra* note 1, art. 19(1).

articles.¹²⁹ For example, the article emphasizes the importance of strengthening rural extension services and training extension staff in "participatory approaches."¹³⁰ The article also promotes "fostering the use and dissemination of the knowledge, know-how, and practices of local people in technical cooperation programmes, wherever possible."¹³¹

The section on educational awareness programs contains strictly binding obligations for the Parties. They are obligated to create and support programs to educate the public in affected countries about the causes and effects of desertification.¹³² To meet these objectives the Parties "shall" among other things, organize awareness campaigns and "promote" permanent public access to "relevant information."¹³³

3. *The "Bottom-Up" Approach: Technology, Knowledge, Know-how, and Practices*

Articles on technology transfer are common to international environmental law agreements. The article on technology in the Desertification Convention, however, is unique in that it essentially dictates that the management of technology for combating desertification should be driven by the demands of rural land users. In this way, it is consistent with the bottom-up process that the Convention develops.

The Parties "shall, in particular . . . facilitate access . . . to technologies most suitable to practical application for specific needs of local populations."¹³⁴ The Parties also must pay "special attention" to the cultural, economic, and environmental impacts of the technology.¹³⁵

In addition to calling for Parties to transfer technology to local levels, the Convention recognizes the value of the technology, knowledge, and practices of local land-users. The Parties commit themselves, with significant

129. *Id.* art. 19(1)(a).

130. *Id.* art. 19(1)(c).

131. *Id.* art. 19(1)(d).

132. *Id.* art. 19(3).

133. *Id.* art. 19(3)(a), (f).

134. *Id.* art. 18(1)(b). There is a similar obligation articulated within the article on "information collection, analysis and exchange." According to that article, the Parties "shall, as appropriate . . . ensure that the collection and exchange of information address the needs of local communities and those of decision makers, with a view to resolving specific problems, and that local communities are involved in these activities." *Id.* art. 16(b).

135. *Id.* art. 18(1)(b). It should be noted, however, that this obligation is not strictly binding; an obligation to "facilitate" access is not as binding as an obligation to "provide" access.

qualifications, to protecting and promoting such local knowledge and practices,¹³⁶ and the Convention sets out several steps through which to achieve these aims.

4. *The "Bottom-Up" Approach: Special Roles for NGOs*

NGOs were an important element of the negotiations and the text reflects their central role in the bottom-up process created by the Convention. By the fifth negotiating session, 230 NGOs were accredited and about fifty were actively participating.¹³⁷ Southern Hemisphere NGOs dominated. By most accounts, the participating NGOs were well-organized and effective.

The International Convention to Combat Desertification (INCD) Chairman, Bo Kjellen of Sweden, emphasized even before the negotiating sessions began that the participation in negotiations of NGOs from affected developing countries would be essential. After the signing of the Convention, when asked why the Convention would succeed where the PACD failed, he pointed out that NGOs had participated in the design of the Convention but not in the development of the PACD.¹³⁸

In the last few decades, the role of non-governmental organizations in developing, implementing, and enforcing international environmental initiatives has increased substantially. Non-governmental organizations are participating in the drafting of international agreements, sometime as members of the delegation of state parties. They monitor the performance of state parties. They shame and expose those parties that do not comply with their obligations. NGOs also are playing a major role in carrying out environmental initiatives both in tandem with state agencies and independently.¹³⁹

Nonetheless, according to the majority view, NGOs do not have legal personality in international law.¹⁴⁰ Arguably, some legal personality attaches to those NGOs with which intergovernmental organizations and convention

136. *Id.* art. 18(2).

137. *Summary Report of the Fifth Session*, *supra* note 93.

138. *More than 100 Countries Sign Convention on Desertification*, BNA INTERNATIONAL ENVIRONMENT DAILY, Oct. 18, 1994, available in LEXIS, Envirn Library, BNAED File.

139. See generally A. Dan Tarlock, *Environmental Law: The Role of Non-Governmental Organizations in the Development of International Environmental Law*, 68 CHI.-KENT L. REV. 61 (1993).

140. LOUIS HENKIN ET AL., INTERNATIONAL LAW: CASES AND DOCUMENTS, 346 (1993). Even those who recognize the significant role of NGOs in the development of international environmental law, acknowledge that, at the current time, they do not have legal personality in international law. See, e.g. Tarlock, *supra* note 138, at 64.

secretariats have established formal relationships. For example, the International Union for the Conservation of Nature (IUCN), an NGO, served as the CITES secretariat for a significant period of time. Thus, to a certain extent, international environmental law recognizes a norm that it is good policy for intergovernmental organizations to consult with international NGOs to acquire information both about the issue addressed by the organization and about the performance of state parties. This minority view notwithstanding, the variety and depth of the roles played by NGOs are not reflected in international law.

Given this current state of international law, the Desertification Convention represents a significant leap forward. In the text of the Convention itself, there are twenty-two separate references to NGOs. These references do not merely establish that a future desertification secretariat or intergovernmental organization should create a formal relationship with an NGO. The text obligates the state parties themselves to work with NGOs. According to the international law established under the Convention, non-governmental organizations shall be an integral element of the international and national-level policy responses to desertification.

The Convention acknowledges two important roles of NGOs in the bottom-up process. Because of their special links to the grass-roots, NGOs are recognized as effective conduits through which the international community can channel resources, information, and power to local populations. Thus, within the text, they are consistently grouped among the key local actors—women, farmers, pastoralists, local communities, local populations, etc.

The other role of NGOs recognized by the Convention is that of expert bodies. Implicitly, NGOs are placed on equal footing with intergovernmental organizations as organizations with whom Parties should consult and coordinate.¹⁴¹ In fact, the Convention consistently refers to intergovernmental organizations and non-governmental organizations in tandem. The Parties agree to develop national and field-level operational mechanisms to coordinate the efforts of developed country Parties, developing country Parties, and "relevant intergovernmental and non-governmental organizations."¹⁴² For the purposes of collecting and analyzing data on desertification, the Parties must

141. Unlike NGOs, intergovernmental organizations have legal personality in international law. The Convention's recurring references to intergovernmental organizations and non-governmental organizations in tandem suggests a developing norm which holds that "relevant" and "competent" NGOs have legal personality to a degree equal to that of intergovernmental organizations.

142. DESERTIFICATION CONVENTION, *supra* note 1, art. 14(2).

make full use of “competent intergovernmental and non-governmental organizations” particularly for disseminating information to key actors.¹⁴³ Similarly, cooperative efforts to transfer, acquire, and develop technology, “shall be conducted . . . making full use of the expertise of intergovernmental and non-governmental organizations.”¹⁴⁴ In undertaking educational and awareness-building programs, the Parties “shall” cooperate with “competent intergovernmental organizations, as well as non-governmental organizations.”¹⁴⁵ Any financial mechanisms developed by the Conference of the Parties shall provide information on available sources of funds “to interested Parties and relevant intergovernmental and non-governmental organizations” in order to promote cooperation among them.¹⁴⁶ Finally, NGOs may attend meetings of the Conference of the Parties as observes unless at least one-third of the Parties object.¹⁴⁷

The emphasis on NGOs as expert groups notwithstanding, NGOs are not promised positions on the Committee on Science and Technology established in Article 24.

Given the expansive web of obligations, can one interpret the Convention to establish a corresponding right on the part of NGOs to participate in state and international policy responses to desertification? A strict reading of the text locates no plain language establishing such a right. However, given the various obligations of state parties to “provide for the effective participation” of NGOs in the action programme process and to cooperate with and consult with them in several specific policy areas, the Convention arguably should be interpreted to establish a right of participation on the part of NGOs. Such an interpretation would be consistent with the view of some scholars that a right of citizen participation in environmental decision-making can be identified in the broader corpus of international environmental and human rights law.¹⁴⁸

143. *Id.* art. 16(d).

144. *Id.* art. 18(1).

145. *Id.* art. 19(3).

146. *Id.* art. 21(1)(d).

147. *Id.* art. 22(7). The Convention provides no definition of a “non-governmental organization.” The text occasionally modifies the term with the adjectives “competent” or “relevant” suggesting subsets of the broader category of “non-governmental organizations.”

148. Dinah Shelton, *Human Rights, Environmental Rights, and the Right to Environment*, 28 STAN. J. INT'L L. 103, 104-11, (1991); Neil A. F. Popovic, *The Right to Participate in Decisions that Affect the Environment*, 10 PACE ENVTL. L. REV. 683, (1993). Popovic asserts that, at a minimum, the right to participate in environmental decision-making must consist of the following elements: 1) education about the environment and things that might affect it; 2) access to information (including the fact that information exists and is available); 3) a voice in decision-making; 4) transparency of decision-making processes (by formal consideration of public input and explanation of how that input affected the decision at issue; 5) post-

The most conservative form of this interpretation would hold that the scope of the right as defined in the Convention would extend to participating in "policy-planning, decision-making, and implementation and review of national action programmes" as established in Article 10(2)(3). This interpretation suggests that the right rests not only in non-governmental organizations but also in the other key stakeholders identified in Article 10(2)(3). A more expansive interpretation, drawing on the other articles referring to NGOs, states that NGOs have not only the right of participation but also the right to be consulted on desertification policy. Recognizing NGOs' rights to participate and to be consulted--rather than merely acknowledging that participation of and consultation with NGOs is good policy--is necessary to the full realization of the international strategy for addressing desertification. Implied in the international consensus that NGOs must play a key role in combatting desertification is a recognition that non-democratic states that marginalize citizen groups must change their policies. A problem with any interpretation of the scope of this right, however, is the lack of any definition of "non-governmental organization" in the text, or a definition that is generally accepted in international law.

5. *The "Bottom-Up" Approach: Financial Mechanisms*

The bottom-up process envisions that efforts to combat desertification will originate at the local level. Therefore, financial resources, including those from bilateral and multilateral sources, must be channeled effectively to local actors. In particular, the scores of NGOs in developing countries that have demonstrated significant experience with undertaking local level projects and have effective ties to rural land users should be ensured access to funds.

The Convention imposes obligations on affected developing country Parties to work with NGOs to ensure that financial resources reach the local level for programs and projects. The affected developing country Parties "shall . . . utilize participatory processes" that involve NGOs in raising funds, deciding how funds should be used, and implementing funded projects.¹⁴⁹

This obligation to ensure local access to financial resources, however, is not matched by a corresponding obligation on the part of developed countries.

project analysis and monitoring, as well as access to pertinent information; 6) enforcement structures; and 7) recourse to independent tribunals for redress. *Id.* at 691.

149. DESERTIFICATION CONVENTION, *supra* note 1, art. 21(3).

Donors are not obligated to channel their aid to local groups or to some kind of financial mechanism that can achieve that aim. The paragraph on the participatory processes merely points out that “these actions” can be enhanced by “improved coordination and flexible programming on the part of those providing assistance.”¹⁵⁰

6. *The “Bottom-Up” Approach: Special Problems of Achieving Compliance*

Traditionally, international law is the law of states.¹⁵¹ Only states can be parties to cases heard by the International Court of Justice.¹⁵² Only states and international organizations can be parties to treaties.¹⁵³ In a system without centralized sanctions, the willingness of a state to comply with treaty obligations is, to a large extent, a function of its perceptions of the consequences of non-compliance on its relations with other states.¹⁵⁴

The Desertification Convention essentially develops a compact among states and non-state actors. For its success, the bottom-up process established in the Convention depends on the compliance of the state parties with obligations to cooperate with and empower non-state actors. This compliance is by no means ensured by the current political atmosphere. Though the final text reflects the general support for the bottom-up process by affected country

150. *Id.*

151. Louis Henkin, *International Law: Politics, Values and Functions*, 216 REC. DES. COURS 22 (1989-IV) partially reprinted in HENKIN ET AL., *supra* note 140, at 1-2. (“The purposes of international law, like those of domestic law, are to establish and maintain order and enhance reliable expectations, to protect ‘persons’, their property and other interests, to further other values. But the constituency of the international society is different. The ‘persons’ constituting international society are not individual human beings but political entities, ‘States’, and the society is an inter-State system, a system of States.”)

152. Statute of the International Court of Justice, 59 Stat. 1055, T.S. 993, 3 Bevans 1179, art. 34(1) reprinted in HENKIN ET AL., BASIC DOCUMENTS SUPPLEMENT TO INTERNATIONAL LAW CASES AND MATERIALS 127 (1993).

153. OPPENHEIM’S INTERNATIONAL LAW §§ 595-96, at 1217-20 (Jennings & Watts eds., 9th ed. 1992), reprinted in HENKIN ET AL., *supra* note 140, at 431-32.

154. OLIVER J. LISSITZYN, THE INTERNATIONAL COURT OF JUSTICE 5-6 (1951), cited in HENKIN ET AL., *supra* note 140, at 31. (“In the absence of organized authority superior to the independent state, the principal sanctions of international law, aside from the unilateral use of force the effectiveness of which depends on the power relationship between the contestants, are the disadvantages incurred by its breach, including the termination of the relations regulated by it and retaliation. Rational appreciation of the advantages of a relationship acts as a restraint upon the temptations to disregard the standards governing the relationship.”)

Parties, many opposed various provisions.¹⁵⁵ Indeed, a survey of the governments of affected countries suggests that, currently, the correlation of desertification and non-democratic systems of government is strong.

Because the Desertification Convention develops a new kind of partnership between state and non-state actors, it would be served by something other than the traditional state-centric enforcement mechanisms. In its current form, the dispute mechanism established in Article 28 is available for states only. It would be more consistent with the bottom-up process if NGOs--whose ability to represent non-state actors is generally acknowledged in the international community--could have access to a dispute mechanism established by the Conference of the Parties. With this access, NGOs could confront, in an international forum, state Parties that are systematically failing to meet obligations of the bottom-up process. As a lesser alternative, state parties should have obligations, similar to those established by human rights agreements, to make reports to the Conference of the Parties on their fulfillment of obligations of the bottom-up process.

V. NATIONAL ENVIRONMENTAL FUNDS: INNOVATIVE FINANCIAL MECHANISMS FOR THE "BOTTOM-UP" APPROACH

As noted above, the Parties have invited the COP to consider the establishment of national desertification funds as special financial mechanisms. The inspiration for these mechanisms are the "national environmental funds" (NEFs) emerging in an increasing number of developing countries.¹⁵⁶ National environmental funds have demonstrated significant

155. The first draft of the African Annex by the Organization for African Unity mentioned local participation only in implementing action programmes rather than in both planning and implementation. *NGOs Raise Questions on OAU Text*, ECO No. 1, Sept. 26, 1993, available in ECONET conference: inc.desert, Topic No. 79. China opposed reference to partnerships with NGOs in the article on capacity building, education, and public awareness (Art. 21). Johannah Bernstein et al., *Daily Report on the INC for the Elaboration of an International Convention on Desertification*, 4 EARTH NEGOTIATIONS BULL., No. 29, (Int'l Inst. For Sustainable Dev. Winnipeg, Manitoba, CA), Jan. 24, 1994. Brazil, Argentina, and Mexico effectively blocked provisions in the first draft of the Latin American Annex for local and NGO participation in action programmes. Brazil and China also resisted paragraph (d) of the article on "principles" which says that the Parties "should ensure" that the design and implementation of programmes are taken with the participation of NGOs. In the end, each of these blocking efforts was unsuccessful. *Negotiations Revert to Form*, ECO No. 8, *supra* note 109.

156. See generally Kyle W. Danish, *The Promise of National Environmental Funds in Developing Countries*, 7 INT'L ENVTL. AFF. 150 (1995). Different names exist for the group of mechanisms described below. "National environmental fund" is the name used by the Interagency Group for Environmental Funds, a roundtable of representatives from the GEF, official development agencies, NGOs, foundations, and from the funds themselves. Some observers refer to the mechanisms as "environmental trust funds." However,

promise as financial mechanisms that can complement participatory, bottom-up approaches to addressing environmental problems.

Twenty national environmental funds are in various stages of design and operation in developing countries; most were initiated after 1991.¹⁵⁷ These NEFs are emerging largely out of cooperative efforts among donors, developing country governments, and NGOs. Once established, they are independent from national governments. Though they appear in diverse forms with various mandates, NEFs generally have three elements in common: (1) the ability to receive money from a variety of sources; (2) management by a democratic board consisting of a broad cross-section of stakeholders; and (3) the ability to make appropriately-sized grants to a variety of beneficiaries for a variety of purposes.¹⁵⁸

Most of the existing national environmental funds take the legal form of a Common Law trust fund.¹⁵⁹ In its simplest sense, a trust fund is a legal arrangement by which a trustee(s) manages assets on behalf of a beneficiary(ies). NEFs that are trust funds are “public” or “charitable” trust funds. This is because the NEFs are established to finance projects that serve a public purpose, and the legally-designated beneficiary is the general public.¹⁶⁰ In countries with legal systems other than the Common Law, NEFs have been established either as trust funds through national legislation or in forms that are the legal systems’ approximation of a trust fund. In several countries with Civil Law legal systems, NEFs are “foundations.”¹⁶¹

not all of the funds that otherwise meet the description used below are Common Law trust funds. Some are Civil Law foundations or endowments. On the other hand, “national environmental funds” is also not a perfect description of the group because not all serve only one nation. One of the funds is regional and other regional funds are being discussed. Please also note: NEFs should be distinguished from the environmental funds in some Central and Eastern European countries. These latter funds are, for the most part, entirely managed by their governments.

157. *Id.* at 160.

158. INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES ET AL., REPORT OF THE FIRST GLOBAL FORUM ON ENVIRONMENTAL FUNDS 2 (1994) [hereinafter IUCN ET AL.].

159. Peter Sand has noted the proliferation of trust and trust-like arrangements for financing international environmental protection: “[E]ven a cursory glance at international financial mechanism for sustainable development shows an amazing—and clearly growing—variety of legal instruments that either call themselves trusts (regardless of what they really are) or could be categorized as trusts (regardless of what they really call themselves.)” Peter H. Sand, *Trusts for the Earth: New International Financial Mechanisms for Sustainable Development*, SYMPOSIUM ON SUSTAINABLE DEV. AND INT’L L., BADEN BEI WIEN, April 14-16, 1994.

160. BLACK’S LAW DICTIONARY 1512 (6th ed. 1990).

161. Examples of NEFs that are foundations include Honduras’ National Environmental Protection Fund and the Foundation for the Philippine Environment. THE WORLD BANK, ISSUES AND OPTIONS IN THE DESIGN OF GEF-SUPPORTED TRUST FUNDS FOR BIODIVERSITY CONSERVATION 86, 89 (1994) [hereinafter THE WORLD BANK, ISSUES AND OPTIONS]. See also William F. Frachter, INT’L ENCYCLOPEDIA OF COMP.

The most innovative feature of national environmental funds is their boards of directors or trustees. These boards are broadly representative and have principal authority for deciding how funds should be spent. Boards typically include representatives from national and local environmental NGOs, government officials, and technical experts. Some boards include representatives of bilateral or multilateral donors. International environmental NGOs are represented as voting or ex-officio members of several NEF boards. Most of the boards grant majority voting power to non-governmental representatives from the host country.¹⁶²

Many NEFs are perpetual endowments. Money they receive is invested as principal and they make disbursements from the annual net interest income. Other NEFs more closely approximate revolving funds, disbursing money received in the same or next year.¹⁶³

National environmental funds can receive financial resources from a variety of sources. A range of official development agencies, international environmental NGOs, and foundations have made grants to national environmental funds. National environmental funds have also received funds through debt-for-nature swaps.¹⁶⁴ Some emerging NEFs will tap internal sources of funds such as revenues from taxes on domestic extractive industries and fees charged to tourists.¹⁶⁵ The Global Environment Facility is providing

L., 104 (1972).

162. NEFs in many countries are making use of supplementary local or regional advisory boards in order to further maximize local participation in decision-making and implementation. The Indonesian Biodiversity Foundation, for example, will have several regional advisory boards with representatives from its remote island regions—the sources of its vast biological richness. U.S. AGENCY FOR INT'L DEV., USAID PARALLEL-FINANCED PROJECTS IN THE PILOT PHASE OF THE GLOBAL ENVIRONMENT FACILITY 10 (1995). Similarly, the board of Uganda's Mgahinga and Bwindi Impenetrable Forest Conservation Trust (MBFICT) designed to finance conservation efforts in two national forests will have the support of a Local Community Steering Committee. The Committee will consist of forest residents, wardens-in-charge, and the field staff of NGOs active in the area. The Committee will solicit and screen community development grants and have the authority to approve grants of up to \$1,000. In addition, the Committee will select three residents who will serve as voting members of the MBFICT board. THE WORLD BANK, ISSUES AND OPTIONS, *supra* note 161, at 29.

163. THE WORLD BANK, ISSUES AND OPTIONS, *supra* note 161, at 102.

164. The United States Agency for International Development has funneled a total of \$154 million into 7 Latin American NEFs through debt-for-nature swaps. IUCN, ET AL, *supra* note 158, at 2. In a debt-for-nature swap, one party purchases or forgives the debt of debtor country in exchange for the debtor country's commitment of funds to an environmental purpose(s). See Derek Asiedu-Akrofi, *Debt-for-Nature Swaps: Extending the Frontiers of Innovative Financing in Support of the Global Environment*, 25 INT'L L. 557, 564 (1991).

165. See e.g., WORLD WILDLIFE FUND, PAPUA NEW GUINEA TRUST FUND (1993) (fund organizers are considering levy on mining and petroleum industries); WORLD WILDLIFE FUND, BELIZE: PROTECTED AREAS CONSERVATION TRUST (1993) (fund organizers are considering an \$8 "conservation fee" to be charged to tourists.)

support to eleven national environmental funds through its Biodiversity Portfolio.¹⁶⁶ GEF officials expect that the Facility will provide increased support to national environmental funds in the future.¹⁶⁷

The utilization by affected country Parties of national desertification funds would help them fulfill several obligations in the Convention. National desertification funds could serve the function of both “national coordinating mechanisms” for efficient use of resources, and “participatory processes” that involve NGOs in planning and implementation.¹⁶⁸ Similarly, national desertification funds could fulfill the role of the “operational mechanisms” envisioned by the article on coordination.¹⁶⁹ Fund boards could include representatives from developed country governments, affected country governments, intergovernmental organizations, and NGOs.¹⁷⁰

The funds could also ensure efficient use of financial resources by creating tight links between external aid and needs identified in national action programmes. The legal instruments establishing individual national desertification funds could obligate the fund boards to make disbursements from the fund in accordance with national action programme processes.

Additionally, national desertification funds could be a source of long-term financing for the long-term needs of a national action programme. Even if donors maintain their preference for uncoordinated short-term grants, national desertification funds could accept such grants and transform them into disbursements for several years worth of projects or yearly disbursements for long-term projects that require recurrent support. National desertification funds established as perpetual endowments could accept financial transfers, invest them, and use the interest as an annual budget to support national action programmes. The ability of national environmental funds to finance programs over the long-term has been lauded by the Global Environment Facility.¹⁷¹

166. THE WORLD BANK, FINANCING INNOVATION AND INSTRUMENTS: CONTRIBUTION OF THE INVESTMENT PORTFOLIO OF THE PILOT PHASE OF THE GLOBAL ENVIRONMENT FACILITY 2 (1994). The GEF has contributed directly to the principal of 5 NEFs and financed technical assistance for another 6.

167. *Id.*

168. *A New Idea for Coordinating Desertification Programmes*, ECO No. 9, Jan. 27, 1994, available in Econet conference: inc.desert, topic No. 152.

169. DESERTIFICATION CONVENTION, *supra* note 1, art. 14(2).

170. The board of Bhutan's Trust Fund for Conservation, for example, includes two members from the national government, one member representing local NGOs, a representative from the World Wildlife Fund, and a representative of the United Nations Development Programme. Danish, *supra* note 155, at 158.

171. THE WORLD BANK, ISSUES AND OPTIONS, *supra* note 160, at 7. (“Conservation trust funds have increasing appeal because of their obvious potential to stabilize the flow of resources to meet the recurrent costs of conservation initiatives over the long term.”)

National desertification funds could also enhance the transparency and accountability of the aid process.¹⁷² Boards could make disbursement decisions in open meetings according to agreed-upon and well-publicized criteria. The decision-making process would benefit from a creative tension among board members who may have different interests. With such broad representation, it would be almost impossible for the fund to become the private fiefdom of any party. Moreover, board positions for different groups could rotate so that no one NGO or government ministry would be entrenched as both a voting member and leading recipient of funds. Accountability could be ensured by subjecting national desertification funds to audits.¹⁷³

Despite these clear benefits of national desertification funds as financial mechanisms, they are not a panacea. Experience with national environmental funds has shown that establishing such funds involves significant transaction costs and technical complexity. National environmental fund organizers typically have retained a battery of accountants and lawyers. It is likely that affected developing countries would need significant technical and financial assistance to make national desertification funds operational.¹⁷⁴

These obstacles notwithstanding, national environmental funds hold significant promise as financial mechanisms to support international efforts to combat desertification. Given this promise, how should the Desertification Convention incorporate national desertification funds? The COP should create a protocol or amendment requiring the Parties to undertake the process of developing national desertification funds in the affected African countries. The process should involve the same scope of participation as that of the national action programme process. Developed countries should have obligations to support this process.

The contents of any protocol or amendment establishing national desertification funds as a favored financial mechanism should not impose too many uniform obligations on the funds; the national environmental fund

172. Thus they could contribute to the "qualitative improvement of all national, bilateral, and multilateral funding sources and mechanisms" which the Parties have indicated that they "shall seek". DESERTIFICATION CONVENTION, *supra* note 1, at art. 20(4).

173. See Danish, *supra* note 156 (giving examples of means by which national environmental funds can enhance the contractual environment between donors and recipients).

174. Those funds that operate as perpetual endowments are especially costly to develop and administer. The GEF recommends that national environmental funds that are perpetual endowments should establish a principal of at least \$5-10 million in order to generate an adequate budget from annual interest. In countries with urgent financing needs, tying up such large amounts of capital for small annual returns would be highly inefficient. Such countries should develop mechanisms closer in form to a revolving fund so that resources are available as needed. *Id.* at 168.

experience has demonstrated that one size does not fit all. Depending on the legal system in a particular country, a national desertification fund might take the form of a foundation rather than a trust fund. Depending on the stability of the national currency and risks of attachment, a fund may need to house its assets in another country. Depending on the amount of financial resources available and the urgency of needs, a fund may be more effective in the form of a revolving fund rather than a perpetual endowment.

This necessary heterogeneity notwithstanding, an amendment or protocol should require certain common features for national desertification funds:

- * Each fund board should have authority independent of the national government over spending decisions; however, a national government may require that it have representatives on the fund board.
- * Each fund board should “effectively” represent NGOs, women, and a broad cross-section of land users generally.
- * Board operations should be transparent and accountable. Meetings should be open to the public. Decision-making should be democratic and in accordance with well-publicized criteria. The funds should be subject to audits by external bodies that the COP or the Secretariat would identify.
- * Even if they will not accept obligations to direct new and additional resources to national desertification funds, developed country Parties should have obligations to channel substantial or significant resources into the funds or, at the least, to co-finance fund supported projects. Without such corresponding obligations for developed country Parties, affected country Parties merely will waste scarce financial resources on the administrative costs of creating and operating national desertification funds into which no money is deposited.

VI. CONCLUSION: A PROMISING NEW APPROACH FOR CONFRONTING PROBLEMS OF HARMFUL PATTERNS OF LAND USE

After nearly two decades of political failure, the international community has launched an innovative and promising new initiative to reverse and prevent the mismanagement of the world’s drylands. Where the Plan of Action to Combat Desertification ignored the complex interplay of socio-economic influences behind dryland over-exploitation, the Desertification Convention confronts them directly. The Convention suggests a new holistic and participatory approach that aims to make development of drylands sustainable.

The Convention is not perfect, yet some of its failings can only be expected in the current international political and economic climate. Given worldwide donor fatigue, it should not be surprising that rich countries did not accept a binding pledge to increase official development assistance or commit to transfer to affected countries new and additional funds for desertification initiatives.¹⁷⁵ Additionally, though certain patterns of international trade have been linked to desertification, developed countries predictably hesitated to reopen the battle scars of trade debates within the context of a convention that merely addresses a single international environmental problem.¹⁷⁶ The international-level macro conditions of inadequate aid and predatory trade are merely referenced in the text of the Desertification Convention. It is unlikely that they will be confronted within future protocols. Regarding the national-level macro conditions, the African Annex, at least, includes commitments by the affected countries to reform land tenure with the aim of making land ownership more secure and equitable.

These failures notwithstanding, the Desertification Convention achieves important and promising successes. It has heightened concern about the problem of desertification worldwide. Importantly, the increased awareness of the problem of desertification is also a more enlightened awareness; the Convention gave the international community an opportunity to articulate a clearer identification of the problem.

With a better understanding of the problem of desertification, the Parties have conceived a better approach to addressing it—the bottom-up approach. The bottom-up approach, as developed in the Convention, obligates the Parties to consult with and increase the capacity and welfare of rural people. The bottom-up approach also consists of mechanisms that facilitate the implementation of these obligations.

175. Another reason for the reluctance of rich countries to commit to providing affected developing countries with new and additional money for desertification programs is that, unlike climate change, biodiversity loss, ozone depletion and other international environmental problems, desertification in the third world does not directly harm those in the first world.

176. Unquestionably, national trade policies have significant impacts on the use and abuse of natural resources. The world's major economic powers, however, are hesitant to address these links in the context of international environmental agreements. They do not desire to create binding obligations to reform beef subsidies within an international treaty on desertification. This political failure has provoked scholars and policy-makers to suggest the need for a new kind of international institution which can address these links in a comprehensive fashion. See Jeffrey Dunoff, *From Green to Global: Toward the Transformation of International Environmental Law*, 19 HARV. ENVTL. L. REV. 241 (1995); DANIEL C. ESTY, GREENING THE GATT: TRADE, ENVIRONMENT, AND THE FUTURE (1994).

The core of the bottom-up approach is a leading role for rural land users and NGOs in the planning, evaluation, and implementation of comprehensive national action programmes. The Parties have obligations to cooperate and consult with NGOs in a variety of policy responses. As a result of the Desertification Convention, NGOs have an unprecedented degree of international legal identity, and important recognition of their technical environmental expertise and ability to work with rural communities.

The new mechanisms developed by the Convention and envisioned for later protocols are important additions to the institutions of international environmental law. The Global Mechanism is likely to serve functions of identifying financial needs and sources that could fill those needs. Operational mechanisms and national coordinating mechanisms in each of the affected countries will bring together representatives from donor institutions and donor countries with representatives from affected regions to ensure that resources are channeled to where they are most required. The Conference of the Parties will give greater definition to some of these mechanisms.

The Parties should adopt and endorse a kind of mechanism already in use in many countries of the developing world--the national environmental fund. NEFs in the form of national desertification funds would serve the functions of coordination, increased participation, and financial efficiency which are the clearly-expressed goals for the various mechanisms envisioned by Convention. However, national desertification funds or any kind of new bottom-up financial mechanisms will only be effective if donor countries and affected countries commit to channeling financial resources through them.

The new kinds of obligations and mechanisms that constitute the Desertification Convention's bottom-up approach are a valuable contribution to the progressive development of international environmental law. If the international community is to address harms to human and environmental health from improper rural resource management, it will need to adopt the international law of the bottom-up approach.

Harms caused by unsustainable land use lurk behind international environmental problems to which the international community is just beginning to turn its attention. Prior to 1992, international environmental law, even with its dynamic development, had not confronted this kind of problem. The most prominent agreements in international environmental law before UNCED addressed highly-organized economic activities. The conventions

on transboundary air pollution¹⁷⁷ and ozone depletion,¹⁷⁸ for example, have as their subject environmental damage resulting from industrial activities. Another principal agreement endeavors to limit the exploitation of endangered species occurring through international trade.¹⁷⁹ Among the elements these agreements have in common is their focus on markets and actors--industrial operations and international trade--that are traditionally subject to government regulation.

A set of principles, approaches, and institutions of international environmental law have formed around these pre-1992 agreements. In the agreements on transboundary air pollution and ozone depletion, states have agreed to certain, largely uniform targets for the reduction of emissions and timetables for achieving those reductions. In the agreement on trade in endangered species, the states have agreed to a regime of trade restrictions. The ozone depletion convention has elements of both a targets-and-timetables regime and a trade regime. These agreements have consisted largely of efforts to collectively codify government regulations.

The UNCED agreements address, in part, harms caused not only by actors traditionally regulated by governments but also by traditionally unregulated actors. These actors, as in the case of desertification, are rural, mostly poor people induced by a variety of conditions to over-exploit important resources. In the long run, reductions in greenhouse gases will not only require limiting emissions by factories but also those by cattle farmers and rice growers. Similarly, the Biodiversity Convention acknowledges that species are not only threatened by trade but also by the encroachment of cultivators upon habitats. The process of tropical desertification is strikingly similar to that of desertification. In the 1980s, the principal agents of deforestation were loggers encouraged by government subsidies to extend their operations into tropical forests. Today, some scholars believe that the agent of an equal or greater percentage of tropical deforestation is the poor, slash-and-burn farmer. These farmers are being induced into migrating into the forests by population growth,

177. Convention on Long-Range Transboundary Air Pollution (LRTAP), *done* Nov. 13, 1979, 34 U.S.T. 3043, 1302 U.N.T.S. 217. *See also* Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution; on Financing the Monitoring and Evaluation of Air Pollutants in Europe, *done* Sept. 28, 1984, 24 I.L.M. 484.

178. Vienna Convention for the Protection of the Ozone Layer (with Annexes I & II), *done* Mar. 22, 1985, 26 I.L.M. 1529. *See also* Protocol on Substances that Deplete the Ozone Layer, *done* Sept. 16, 1987, 26 I.L.M. 1541.

179. Convention on International Trade in Endangered Species of Wild Flora and Fauna, *opened for signature* Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243.

inequitable and insecure land tenure, and national policies that favor urban areas.¹⁸⁰

To date, none of the other UNCED regimes has adopted the elements of the bottom-up approach initiated in the Desertification Convention.¹⁸¹ That is not to say that the bottom-up approach is not everywhere in evidence in governmental and non-governmental efforts to reduce non-industrial greenhouse gas emissions, preserve species, and protect forests. International environmental law must give definition to the bottom-up approach in these other contexts. Many national governments, jealously guarding access to power and resources, will not work with NGOs, refuse to make rural development participatory, and do not recognize national environmental funds as legitimate mechanisms. The new international environmental law of the bottom-up approach, as articulated in the Desertification Convention, therefore deserves further development both in the Desertification Convention and other emerging UNCED regimes.

180. See generally Norman Myers, *The Anatomy of Environmental Action: the Case of Tropical Deforestation*, in INT'L POLITICS OF THE ENV'T 430 (Andrew Hurrell and Benedict Kingsbury eds., 1992). Myers asserts that, in the 1980s "shifted cultivators" surpassed commercial logging and ranching enterprises as the principal agents of tropical deforestation. *Id.* at 432. Myers' "shifted cultivators" are poor slash-and-burn farmers forced out of traditional farmlands. Myers cites several factors for their migration, all of which are familiar from an analysis of the causes of desertification: rapid population growth which causes competition for land; inattention of national governments to rural development needs; and urban bias in agricultural price policies. *Id.* at 444-45. Myers also cites inequitable land tenure as an important factor; in Brazil, which contains a third of the world's tropical forests, 5% of the population controls 70% of the country's arable land. *Id.* at 445.

181. The Framework Convention on Climate Change contains no articles that include elements of the bottom-up approach. In the Forestry Principles text, only one paragraph mentions NGOs. Forestry Principles, *supra* note 2, art. 2(d). Though the Forestry Principles text mentions the importance of local participation, it merely states that governments "should promote and provide opportunities" for such participation. *Id.* art. 2(d). The Biodiversity Convention also does not develop a bottom-up approach in its text. It includes only 6 paragraphs that mention local people, NGOs, or women. Biodiversity Convention, *supra* note 2, pmbi., paras. 12, 13, 14; arts. 8(j), 10(c), and 10(d). Only one paragraph mentions NGOs. *Id.* pmbi., para. 14. The Biodiversity Convention includes an article on "in-situ conservation" which is defined as conservation of ecosystems and species in their natural surroundings. *Id.* art. 2. Optimally, governments should be compelled to provide for the effective participation of local people and NGOs in in-situ conservation, yet the relevant articles contain no such obligations.