

## **COMBATING DESERTIFICATION AND DROUGHT IN AFRICA**

**Kwame Ameyaw Domfeh**

*School of Administration, University of Ghana, Ghana*

**Keywords:** desertification, drought, human activities, land degradation, biodiversity.

### **Contents**

1. Desertification
  2. Precipitating Factors
  3. Environmental Bankruptcy
  3. Desertification: Threat or Global Myth?
  5. Consequences of Desertification
  6. Droughts
  7. Combating Desertification
  8. Conclusion
- Glossary  
Bibliography  
Biographical Sketch

### **Summary**

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 the early 1970s. In response to the crisis, the United Nations convened the United Nations Conference on Desertification (UNCOD) in 1977. Delegates to UNCOD adopted a non-binding Plan of Action to Combat Desertification (PACD). Developing and negotiating the PACD surprisingly engendered little controversy, and debate involving only relatively minor amendments with very few differences in views on substantive matters.

The measures adopted at the UNCOD were given further impetus at the Rio Earth Summit, also known as the United Nations Conference on Environment and Development (UNCED), in 1992, when the subject drew greater public attention again. Chapter 12 of Agenda 21, UNCED's comprehensive environment and development action programme, for example, examines the problem of desertification in detail.

This chapter examines the major causes and effects of desertification and drought, in the world in general and Africa in particular. In doing so, the PACD (1977) and UNCOD (1995) were reviewed. In addition to these documents, the paper relies on a variety of publications as source of data and information.

It further describes examples of attempts being made by a number of African countries in terms of finding workable solutions to the menace of desertification. It proposes a wide range of activities that could be adopted to deal with the problem of drought and desertification.

## 1. Desertification

The concept of desertification has different meaning for different people. At the Ad Hoc Consultative Meeting on Desertification held by the United Nations Environment Programme (UNEP) in Nairobi, Kenya in 1990, as many as 13 different definitions of the term could be identified.

A clear understanding of the term is important as a point of reference. Varied concerns about this issue stem from different interpretations as to what desertification entails. For some, desertification is merely thought of as desert encroachment. However, desertification is a larger dynamic.

It refers to the ultimate degradation of drylands, the point at which that land no longer can be returned to a productive state. It results from complex interactions between unpredictable climate variations and unsustainable land use practices.

The consensus reached at the UNEP Consultative Meeting was that desertification means land degradation resulting from the adverse impact of human activities in arid, semi-arid and dry sub-humid areas.

It is the expansion into or creation of desert-like conditions in areas where such conditions do not naturally occur through overgrazing, over-cultivation, deforestation, and poor irrigation practices. It affects primarily agricultural lands and grasslands and is increasing at an alarming rate.

Desertification is man-induced land degradation but in the context of arid, semi-arid and dry sub-humid areas of the earth. According to Meyer (1990):

- ‘Land’ in this definition means soil, water resources, land surface and vegetable or crops;
- ‘Degradation’ refers to the reduction of resource potential systematically over a period of time by one or a combination of processes acting on the land. These processes include water erosion, wind erosion, reduction in the amount of vegetation (deforestation), reduction in the quality of vegetation (biodiversity), hardening of the ground, and so on;
- ‘Time’ is another important component in the definition of desertification since it is a slow process which manifests itself after a long period of time; and
- Finally, there is the issue of reversibility of desertification. It is reversible only in the initial stages.

Desertification is a problem worldwide. According to the Worldwatch Institute (1992), over 6 million hectares become desertified annually.

It has been estimated that over one-third of the earth’s land surface is threatened by desertification. Four actions are particularly well-noted in hot zones to provide desertification: overgrazing, over-cultivation, clear cutting, and incorrect irrigation.

-  
-  
-

TO ACCESS ALL THE 15 PAGES OF THIS CHAPTER,  
Visit: <http://www.eolss.net/Eolss-sampleAllChapter.aspx>

## Bibliography

Blaikies, P. M. and H. Brookfield, (1987). *Land Degradation and Society*, New York: Methuen. [This examines how human activities contribute to land degradation]

Cardy, F. (1994). *Desertification: A Fresh Approach*, Nairobi, Kenya: UNEP. [The author examines the causes of desertification in terms of genetic erosion of plants and other organisms in dry areas of the world]

Chandra, R., (1995). "China —Environment: Desertification Threatens Shrinking Farmlands," Inter-Press [On-Line]. Available: <http://www.lead.org/ips/demo/archive/08-02-95/1.htm>./August 2. [The author explains how government policies sometimes unwittingly promote desertification]

Chomitz, K. M. and C. Griffiths, (1997). "Economic Analysis of Woodfuel Management in the Sahel: The Case of Chad," Environment, Infrastructure and Agriculture Division: World Bank.

Darkoh, M. B. K. (1998). *Desertification: the Scourge of Africa*, Nairobi: Kenyatta University. [An examination of the key causes and effects of desertification in Africa]

Domfeh, K. A. (1997). "Collaborative Forest Management in Ghana," in E. K. Boon and L. Hens (ed.) *Environmental Management in West Africa*, Proceedings of a Seminar Held at Grand Bassam, Cote d'Ivoire (July 24-August 7), pp. 271-288. [This paper traces the causes of deforestation in Ghana and further explains some of the steps being taken to stem the tide]

Ellis, W. S. and McCurry S. (1987). "Africa's Sahel: The Stricken Land," *National Geographic*, 172: 140-179. [The authors provide a critical analysis of the Sahel and the Ethiopian droughts in the 1970s and 1980s, respectively]

Environmental Protection Agency (EPC). (1991). *Ghana: Environmental Action Plan* Volume 1, Accra Ghana: EPC.

Gorse J.E. and Steeds D.R. 1987). *Desertification in the Sahelian and Sudanian Zones of West Africa*, Washington DC: World Bank (Technical Paper: 61). [This is authoritative piece amongst the literature on desertification in the Sahel and West Africa]

Joyner F. (1991). "Status of Desertification and Implementation of the United Nations Plan of Action to Combat Desertification" UNEP/GCSS/3. [This is an in-depth analysis of the UNCOD's Plan of Action to Combat Desertification].

Kaufman D.G. and Franz M. (1993). *Biosphere 2000: Protecting Our Global Environment*, New York: Harper Collins College Publishers, pp. 607. {This is an environmental primer, a foray into the workings and the wonder of the earth and the problems that beset it}

Koohafkan A.P. (1996). "Desertification, Drought and their Consequences" Environment and Natural Resource Service, FAO Research Paper. [The author extensively examines the causes and consequences of desertification and drought]

McCabe J.T. (1987). Drought and Recovery: Livestock Dynamics Among the Ngisonyoka Turkana of Kenya, *Human Ecology* 15(4): 371 89. [The author explains how traditional practices are affected by drought and also how these practices respond to drought]

Meyer P. (1990). "Time is Running Out, Dissent on How to Save the Tropical Rain Forest," *Development and Cooperation*, Number 5, pp.7-9. [The author wonders why national governments and the international community cannot pool their resources to combat desertification and its impacts]

Mitchell B., (1997). *Resource and Environmental Management*, Essex: Addison Wesley Longman Limited. [An in-depth examination of the factors that contribute to soil degradation and biodiversity destruction]

Nelson R. (1990). "Dryland Management: The 'Desertification' Problem," World Bank, Technical Paper: 116. [This is an analysis of the importance of contextualizing technological solutions for desertification in Africa]

Pearce F. (1994). "Treaty Without a Cause?" *New Scientist* (June 25). [The author attempts to explain the 'myth' about the noise being made about desertification in the world]

Shiff, C.J. Minjas and Premji Z. (1996). The implementation and sustainability of insecticide-treated mosquito net (IMN) programs for malaria control in rural Africa, Research Report, Bureau for Africa, Office of Sustainable Development, USAID, Washington, DC. [This paper evaluates the insecticide-treated mosquito programmes. It identifies five key constraints to the IMN programme sustainability and proposes a number of solutions].

Somerville C.M. (1986). *Drought and Aid in the Sahel: A Decade of Development Cooperation*, Boulder, Colorado: Westview Press. [The author tries to explain how terms of international trade can indirectly encourage cash crop production, which ultimately contributes to desertification, especially in Africa]

Tansey G. (1994). "The 'Grass Roots' Strategy for Holding Back the Deserts", *Financial Times*, (October 14): 31. [This discusses the importance of involving local people in responding to the threats of desertification]

Timberlake L. (1991). *Africa in Crisis*, London: Earthscan. [A description of the some of the elements that have worsened the process of desertification in Africa and policies proposals to address them]

United Nations Environment Programme (UNEP). (1992). *UNEP 1992 World Atlas of Desertification*, London: Edward Arnold, a Division of Hodder and Stoughton. [This illustrates graphically the state of desertification in the world]

United Nations Environment Programme (UNEP) (1991). *Status of Desertification and Implementation of the United Nations Plan of Action to Combat desertification*, Nairobi, Kenya: UNEP. [This is an evaluation of the UN Plan of Action to Combat Desertification]

United Nations Sudano-Sahelian Office (UNSSO) (1986) "In Combating Desertification," January. [It describes the reality of desertification situation in the world]

World Commission on Environment and Development (1987) *Our Common Future*, WCED. [An authoritative document about how to promote sustainability in the world]

Worldwatch Institute (1992). *State of the World 1992*, New York: Worldwatch Institute. [This examines the state of the world's environment and its resources]

### **Biographical Sketch**

**Kwame Ameyaw Domfeh**, Ph.D. is a Senior Lecturer in the Department of Public Administration, University of Ghana Business School, (formerly School of Administration) Legon, Ghana, where he has been teaching since 1993. His teaching and research interests include environmental policy and politics, environmental problems in the Third World, sustainable cities, and urban governance.

He was educated in both Ghana and the United States. He holds a Ph.D. in Public Administration. His Ph.D. thesis, 'Private Sector Participation in Solid Waste Management in Accra, Ghana', seeks to explain whether contracting out of public services in particular, and privatization in general, is a viable solution to the related problems of government inefficiency, ineffectiveness and growth.

His most recent publications include:

- "The Fourth Republican Constitution of Ghana and Sustainable Development," *Legon Journal of International Affairs (LEJIA)*, Volume I, pp.120-144 (2004).

- "Managing the environment in a decade of administrative reforms in Ghana," *International Journal of Public Sector Management*, 17(7):606-620 (2004).
- "The New Public Management: The Experience of Ghana," *GIMPA Journal of Leadership, Management and Administration*, 2(1):154-165 (2003).
- "Compliance and Enforcement in Environmental Management: A Case of Mining in Ghana," *Journal of Environmental Practice*, 5(2):154-165 (2003).
- "Enhancing Environmental Management through Capacity Building," *Journal of Management Studies*, Volume 17:51-75 (2002).
- "Environmental Legislation in Ghana: Quantitative Comparison between Military and Civilian Regimes," *Indian Journal of Environmental Protection*, 21(1):1-9 (2001).
- "Intergovernmental Relations and Environmental Management in Ghana," *GIMPA Journal of Leadership, Management and Administration*, 1(1):67-81 (2001).

His vision is to see the promotion and the translation of the key elements of sustainable development into a global reality.