

# Environment of Sudan: How to Conserve

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**Abstract:** Sudan, the largest country in Africa, is a replica to all the environmental problems occurring in several African countries. Several studies, plans and projects addressed the issue of Sudan environment since the 1960s. The Sudanese Environment Conservation Society, established in 1975, had extensive contributions and participated in many of the environmental activities that addressed the conditions of the country. In spite of the extensive documentation of the environmental degradation and the several plans prepared to conserve, the status of the environment in the country looks dim.

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## 1 Introduction

Sudan, the largest country of Africa, is a replica that forecast the environmental dilemma of Africa, south of the Sahara – where drought and desertification, floods, deforestation, loss of biodiversity, misuse of natural resources, tribal and ethnic conflicts and poverty are frequent and jeopardize the livelihoods of the people. Moreover, the expected threats of climate change increase the expectations for major environmental changes to affect the country's fragile environmental conditions.

Human and animal life in Sudan depend on a delicate balance of the soil, water and flora that support it, and disruption of any one of these vital elements creates disaster. Factors such as climatic changes, land exhaustion through over-use or misuse, population growth and/or displacement, disadvantageous changes in land tenure, warfare, or export of resources cause continuing damage to the people, the animals and the environment.

All the following disastrous factors have affected the country within the life-span of one generation:

- Micro- and macro-climatic change (the practically continuous Sahel drought since 1960s).
- Diminishing and erratic rainfall and accelerating desertification (e.g. the floods and torrential rains of 1988)
- Population growth and migration from within and nearby countries for re- settlements in different parts of the country
- Increase of livestock numbers and overgrazing in many areas leading to depletion of grazing lands
- Deforestation on a massive scale for production of charcoal and use of timber
- Aggressive expansion of legal and illegal rain fed mechanized farming
- Desert creep and land erosion along the banks of the Nile, mainly in the northern states
- Civil war in the South, which ended with the Comprehensive Peace Agreement of 2005.
- Conflict in the west (Darfur) and the east (Red Sea area)
- Displacement - both internal and external – due to civil conflicts or environmental conditions.

Several studies, plans and projects addressed the issue of Sudan environment since the 1960s. The Sudanese Environment Conservation Society, established in 1975, had extensive contributions and participated in many of the environmental activities that addressed the conditions of the country.

Recently, SECS joined efforts and contributed in the following studies:

## **1 National Biodiversity Strategy and Action Plan Project, International Union for the Conservation of Nature (IUCN) – May 2000**

Sudan's National Biodiversity Strategy and Action Plan (NBSAP) was finalized mid May 2000. The plan envisages future sustainable development plans to take into consideration the conservation of the natural environment and its constituent biological, ethnic and cultural diversity.

Sudan's NBSAP was presented in three parts:

- Part I which highlights basic background information and the synthesis of the results of biodiversity assessment, specially conducted for the purpose of developing the strategy.
- Part II which points out major threats, opportunities and constraints to biodiversity in Sudan.
- Part III which encompasses strategy, actions, implementation modalities and proposed projects.

## **2 Sudan Post-Conflict Environmental Assessment (PCEA), United Nations Environmental Programme (UNEP) 2005 – 2007**

[http://postconflict.unep.ch/publications/sudan/00\\_fwd.pdf](http://postconflict.unep.ch/publications/sudan/00_fwd.pdf)

The goal of the UNEP assessment was to develop a solid technical basis for medium-term corrective action in the field of environmental protection and sustainable development.

The post-conflict environmental assessment process for Sudan began in late 2005. Following an initial appraisal and scoping study, fieldwork was carried out between January and August 2006. Different teams of experts spent a total of approximately 150 days in the field, on ten separate field missions, each lasting one to four weeks. Consultation with local and international stakeholders formed a large and continuous part of UNEP's assessment work, with the total number of interviewees estimated to be over two thousand. Parties consulted include representatives of federal, state and local governments, NGOs, academic and research institutions, international agencies, community leaders, farmers, pastoralists, foresters and business people.

## **Recommendations**

### **I Invest in environmental management to support lasting peace in Darfur, and to avoid local conflict over natural resources elsewhere in Sudan**

Because environmental degradation and resource scarcity are among the root causes of the current conflict in Darfur, practical measures to alleviate such problems should be considered vital tools for conflict prevention and peace building. Climate change adaptation measures and ecologically sustainable rural development are needed in Darfur and elsewhere to cope with changing environmental conditions and to avoid clashes over declining natural resources.

**II Build capacity at all levels of government and improve legislation to ensure that reconstruction and economic development do not intensify environmental pressures and threaten the livelihoods of present and future generations**

The new governance context provides a rare opportunity to truly embed the principles of sustainable development and best practices in environmental management into the governance architecture in Sudan.

**III National and regional government should assume increasing responsibility for investment in the environment and sustainable development**

The injection of oil revenue has greatly improved the financial resources of both the Government of National Unity and the Government of Southern Sudan, enabling them to translate reform into action.

**IV All UN relief and development projects in Sudan should integrate environmental considerations in order to improve the effectiveness of the UN country programme**

Better coordination and environmental mainstreaming are necessary to ensure that international assistance ‘does no harm’ to Sudan’s environment.

**3 National Plan for Environmental Management – NPEM for post-conflict Sudan (September 2006 to May 2007)**

<http://www.izathut.com/html/res/File/NPEM%20Final%20Report.pdf>

<http://www.izathut.com/html/res/File/NPEM%20English%20Summary.pdf>

**National partners:** Ministry of Environment, Wildlife Conservation and Tourism (GoSS); Ministry of Environment and Physical Development (GoNU).

**International partners:** European Commission (EU); Nile Transboundary Environmental Action Project (NTEAP); United Nations Environment Programme (UNEP)

The NPEM is structured to address the following major issues:

- A. Common program of priority action
- B. Special action to Northern States
- C. Special action to Southern Sudan

The proposed NPEM is therefore structured into common priority actions. Priority actions mainly for both Northern and Southern States as follows:

**Priority Program 1: Capacity Building in Environment Management**

- Reform of Environmental Councils in North and Southern Sudan
- Establishment of National Environment Information Centre in HCENR and the proposed council in the South
- Capacity Building in Environmental Economic Analysis

- Support for the Decentralization of Natural Resource Management
- Environmental Management Training Support Project
- Policy and Legislation Review
- Development of Guidelines and Standards for Environmental Protection
- Capacity Building in Climate Monitoring
- Strengthening of Institutional Capacity for Health and Safety in the Working Environment

### **Priority Program 2: Enhancing Resource (Land and Water) Productivity**

- National Forest Action Plan
- Environmental and Natural Resource Degradation Studies
- Sudan National Soils Survey
- Formulation of the National Land – Use Plan
- Enhancing Soil Productivity through Improved Farming Systems
- Establishment / Rehabilitation of Water Resources Monitoring and Assessment Services
- Fisheries Master Plan
- Community Forestry initiatives
- Improved Dry land Farming Systems VIII
- Pilot Wildlife / Livestock Ranching Scheme
- National Energy Supply and Efficient Utilization

### **Priority Program 3: Biodiversity Conservation and Use**

- Maintain essential ecological processes and life – support systems on which human survival and development depends;
- Preserve genetic diversity on which the functioning of many of the above processes depends;
- Ensure living resource conservation for sustainable development and rational utilization of species and natural ecosystems to support rural communities and industries; and
- Update and implement NBSAP (2000).

### **Priority Program 4: Environmental Education and Public Awareness**

- Primary School Environmental Education Development Project
- Secondary School Environmental Education Development Project
- Environmental Media Network
- Environmental Education Project for Rural Out – of School Youths in Sudan

### **Priority Program 5: Environmental Health and Pollution Management**

- Medical Waste Management
- Assessment of Industrial Pollution and its Impact on the Environment
- Chemical Safety

These priorities are further translated into action plans and programs. In order to properly implement this National Plan for Environmental Management, there is need to reform the

HCENR and to create a similar Council/Authority in Southern Sudan. Moreover, because of financial constraints and poor managerial skills, the NPEM suggest an investment plan and areas for such investment, and it spells out conditions necessary for implementation. These include, enabling political and support climate, availability of financial resources, institutional capacities and public awareness.

#### **4 National Adaptation Programme of Action (NAPA) Higher Council for Environment and Natural Resources, Ministry of Environment and Physical Development – July 2007**

##### **(United Nations Framework Convention on Climate Change)**

[www.unfccc.int/resource/docs/napa/sdn01.pdf](http://www.unfccc.int/resource/docs/napa/sdn01.pdf)

Overall, the country's land and water resources can be classified into the following major ecological regions :

*Arid and semi-arid ecosystems.* Areas in the northern and central parts of the country represent over 50% of total area with about 125 million hectares.

*Savannah ecosystems (clay).* Areas are typified by low rainfall and the prevalence of clay soils; they represent about 5% of total area with about 12 million hectares.

*Savannah ecosystems (sand).* Areas typified by low rainfall and the prevalence of sandy soils; they represent about 3% of total area with about 8 million hectares.

*Southern flood-prone ecosystems.* Areas are located below latitude 10° North; they represent about 3% of the total area with about 8.5 million hectares.

Sudan's NAPA process examined each of the country's ecosystems as distinct zones meriting their own locally-driven assessment of priority interventions to address looming climate risks.

A total of five projects that have emerged from the NAPA consultative process represent the highest priority interventions as determined through a structured multi-criteria assessment process that involved a broad range of stakeholders:

- Project #1 – Enhancing resilience to increasing rainfall variability through rangeland rehabilitation and water harvesting in the Butana area of Gedarf State
- Project #2 – Reducing the vulnerability of communities in drought-prone areas of southern Darfur State through improved water harvesting practices.
- Project #3 – Improving sustainable agricultural practices under increasing heat-stress in the River Nile State
- Project #4 – Environmental conservation and biodiversity restoration in northern Kordofan State as a coping mechanism for rangeland protection under conditions of increasing climate variability
- Project #5 – Strategies to adapt to drought-induced water shortages in highly vulnerable areas in Central Equatorial State

#### **5 Indicators for an Environmental Hazard Map**

The Lobby and Advocacy Programme (LAP III) of the Sudanese Environment Conservation Society – Phase 3 2004 – 2007, funded by Novib (Oxfam - Netherlands).

The overall goal of the programme is for creating a mechanism that links the Sudanese Public with the Policy-making process for a better environmental quality.

The environmental hazards indicators map is a prelude to the more comprehensive environmental hazards map, that will pinpoint environmental hotspots that require more focus. This work was carried out in partnership with the Higher Council for Environment and Natural Resources (HCENR) to contribute to the building of a scientific environmental information system of the country.

The Environmental Hazards studied were :

- Deforestation
- Over grazing
- Desertification
- Conflicts
- Industrial pollution
- Effects of chemicals used in agriculture
- Unsafe drinking water
- Shortage of drinking water
- Lack of sanitation
- Urban problems
- Human diseases

## **6 Conclusion**

As briefly mentioned above, there is abundant information on the threat to the country's environment. Extensive efforts have been spent to identify and quantify the scope of these threats and suggest programmes that will seriously reduce the threats or curtail the harmful effects on the environment.

Several other studies have addressed more localized environmental problems, community awareness and participation in the efforts to conserve the environment.

However, even with all these efforts, it is distinct to any environmentally vigilant that more is needed to be done. Whenever and wherever we go, in cities or villages we can identify several damages on the environment that have been amplified by neglect of authorities and carelessness of individuals. Plastic bags carried by the wind are blots on the landscape everywhere.

