



**FEDERAL REPUBLIC OF NIGERIA**

**COMBATING DESERTIFICATION AND MITIGATING  
THE EFFECTS OF DROUGHT IN NIGERIA**

***National Report on the Implementation of the United Nations  
Convention to Combat Desertification in those Countries  
Experiencing Serious Drought and/or Desertification,  
Particularly in Africa (CCD)***



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## **ACRONYMS**

ADB - African Development Bank

AFC - Anglo-French Commission

AMCEN – African Ministerial Conference on Environment

APCU –Afforestation Project Coordinating Unit

CAPPA- Community Action Programme for Poverty Alleviation

CAZS- Centre for Arid Zone Studies

CBO – Community Based Organizations

(UN) CCD – (United Nations) Convention to Combat Desertification

CILLS – Permanent Inter-State Committee for Drought Control in the Sahel

COP – Conference of Parties

DFID – Department for International Development

ECN – Energy Commission of Nigeria

ECOWAS – Economic Community for West African States

EEC – European Economic Community

EIA – Environmental Impact Assessment

EMP – Environmental Management Plan

EU – European Union

FEAP - Family Economic Advancement Programme

FEPA – Federal Environmental Protection Agency

FDF – Federal Department of Forestry

FMA & NR – Federal Ministry of Agriculture and Natural Resources

FMST – Federal Ministry of Science and Technology

FMWR & RD - Federal Ministry of Water Resources and Rural Development

FORMECU – Forestry Monitoring, Evaluation and Coordinating Unit

FRIN – Forestry Research Institute of Nigeria

GIS – Geographic Information System

HNWCP – Hadejia-Nguru Wetland Conservation Programme

IUCN – International Union for the Conservation of Nature

JCCE – Joint Consultative Committee on Education

JICA – Japanese International Cooperation Agency  
LCBC – Lake Chad Basin Commission  
NAP – National Action Programme/National Policy on Agriculture  
NBSAP – National Biodiversity Strategy and Action Plan  
NCAZAP – National Committee on Arid Zone Afforestation Programme  
NCE – National Council on Education  
NCF – Nigerian Conservation Foundation  
NCCDC – National Coordinating Committee on Desertification Control  
NCS – National Conservation Strategy  
NDE – National Directorate of Employment  
NEAP – National Environmental Action Plan  
NEAZDP – North East Arid Zone Development Programme  
NERFUND – National Economic Reconstruction Fund  
NEST – Nigerian Environmental Action/Study Team  
NFAP – National Forestry Action Plan  
NGO – Non-Governmental Organization  
NNJC – Nigerian-Niger Joint Commission for Cooperation  
NPE – National Policy on Environmental  
NPS – National Parks Service  
NRCAP – National Resources and Conservation Council  
NWRMP – National Water Resources Action Plan  
OPS – Organized Private Sector  
RBDA – River Basins Development Authority  
RSPB – Royal Society for the Protection Birds  
SEAP – State Environmental Action Programme  
SEPA – State Environmental Protection Agency  
UNCED – United Nations Conference on Environment and Development  
UNDP – United Nations Development Programme  
USAID – United States Agency for International Development  
WB – World Bank  
WWF – World Wildlife Fund

## **SUMMARY**

### **Background**

Nigeria is located between latitudes 4°N and 14°N and longitudes 2° 2' and 14° 30' East. By virtue of its spatial extent the country encompasses various climatic regimes and physiographical units representing a wide variety of ecological zones such as rainforest Guinea savanna, Sudan savanna and Sahelian vegetation. The Sudan and the Sahelian savanna lie within latitudes 12° N and 14° N. The semi-arid zone, which comprises the Sudano-sahelian region is by its nature and characteristics susceptible to desertification process. This zone is most vulnerable to climatic and human pressures arising from rapidly increasing population and intensive economic activities. The problem of desertification therefore, requires urgent attention, in a holistic manner, so as to ensure that the semi-arid zone continues to support the socio-economy of the area.

### **Extent and Severity of Desertification**

The extent and severity of desertification in Nigeria has not been fully established neither the rate of its progression properly documented. Nevertheless, it is estimated that the country is currently losing about 351,000 hectares of its landmass to desert conditions annually, and such conditions are estimated to be advancing southwards at the rate of about 0.6km per year. Desertification, which is affecting the 10 northern States is considered as the most pressing environmental problem and accounts for about 73% out of the estimated total cost of about US\$5.110 billion per annum the country is losing arising from environmental degradation.

### **Past National Efforts to Combat Desertification**

The Sahelian drought of 1972/73 set into motion the establishment of afforestation programmes, the construction of dams for irrigation and the establishment of appropriate national institutions. Such institutions include the River Basin Development Authorities (RBDAs), the Forestry Management, Evaluation and Coordinating Unit (FORMECU), and National Coordinating Committee on Desertification Control (NCCDC).

### **National Policies**

Government has taken cognizance of the multi-sectoral problems of desertification. In this regard, it has developed a number of policies and plans ranging from agricultural to energy. Some of the policies relevant to desertification control include the National Policy on the Environment and the National Agricultural Policy.

### **Plans and Strategies**

In addition to these policies, some plans and strategies have been put in place. These strategies and action plans contain elements that address the issue of desertification. Some of these include the Nigerian National Environmental Action Plan (NEAP), and the States Environmental Action Plans (SEAPs). The SEAPs were prepared for each of the 36 States of the Federation and the Federal Capital Territory through participatory processes of planning and action, which seeks to integrate socio- economic and ecological perspectives in to all the States' policies, plans and programmes as well as those of all stakeholders and interests groups within the State. For those States in the

desert-prone region, their SEAP Reports prioritized their environmental problems with desertification ranking as the most important problem.

Others include the National Forestry Action Plan, the National Conservation Strategy, the Natural Resources Conservation Action Plan, the National Water Resources Master Plan, the National Biodiversity Strategy and Action Plan, the Green Agenda of the VISION 2010 Report and the Nigeria's National Agenda 21.

#### Legal Framework

Prior to the coming into force of the UN Convention to Combat Desertification, certain national and state Laws and regulations, which relate directly or indirectly to desertification control or related matters have been in force in Nigeria. In many situations, these Laws contain provisions that address the causes of desertification such as deforestation, over-exploitation of natural resources, inappropriate agricultural practices, bush burning, etc. Such Laws include the Federal Environmental Protection Agency (FEPA) Decree, the National Parks Decree 101 of 1991, the Environmental Impact Assessment (EIA) Decree No 86 of 1992, the Endangered Species (Control of International Trade and Traffic in Fauna and Flora) Decree, 1985 and the National Water Resources Decree No. 101 of 1993.

At the state level, most of the states in the country have forestry, agricultural and wildlife laws, bush burning and grazing reserve regulations. These categories of laws are directed at controlling the notable causes of desertification earlier enumerated. The most significant of these laws relevant to desertification control are the Forestry Laws most of which are outdated and require review.

#### Institutional Framework

Several institutional arrangements have been put in place in the country for management of matters relating to desertification even before the advent of the CCD. Some of the institutions are policy making bodies while some are actually involved in implementation of deliberate government policies and projects to prevent and mitigate the menace of desertification. The Federal Environmental Protection Agency was set up in 1988 and charged with the responsibilities on environmental protection, biodiversity and natural resources conservation including policy matters relating to desertification control and is in fact the National Focal Point for the CCD in Nigeria. Other Institutions relevant to desertification control include the following:

- Federal Ministry of Agriculture and Natural Resources
- Department of Forestry in the Federal Ministry of Agriculture and Natural Resources
- Forestry Management Co-ordinating Committee (FORMECU) established to coordinate and monitor the implementation of Forestry II Programme,
- National Parks Service established to manage all the National Parks in Nigeria. Federal Ministry of Water Resources and Rural Development is responsible, inter-alia, for management of water resources generally in the country including River Basin Development Authorities in the Country established to capture, store and distribute water resources for irrigation, fishing and other agricultural purposes

- Centre for Arid Zone Studies /Centres for Energy Research

#### Bilateral/Multilateral Institutions

Nigeria is involved in a number of bilateral and multilateral relations, which directly or indirectly relate to desertification control. These include Secretariat of CCD, LCBC, NNJC, AMCEN, CILLS, ECOWAS, the USAID and DFID. Others are The World Bank, ADB, UNDP, IUCN, WWF, and RSBP. The Government has also interacted with a number of civil society organisations such as Nigerian Environmental Study Action Team (NEST), Nigerian Conservation Foundation (NCF), Savannah Watch, Farmers Unions, Women Associations, etc.

The primary institution that is charged with the responsibility for desertification control at the State level is the Department of Forestry in the State Ministry of Agriculture and Natural Resources. Other institutions relevant to desertification control include the State Environmental Protection Agencies (SEPAs) charged with the responsibility of protection of the environment and biodiversity conservation. The State Environmental Protection Agencies and the State Ministries of Agriculture and Natural Resources in the 10 states prone to desertification are members of the NCCDC.

#### On-going Measures

There are some on-going interventions that are geared towards desertification control in Nigeria. These are measures to alleviate poverty, conserve biodiversity, restore degraded lands, and promote desertification awareness activities and environmental education programme. Other measures include the development of an environmental information system, conducting research and surveys, promoting energy efficiency and renewable energy technologies, institutional strengthening and capacity building measures.

#### Planned Programmes and Activities

Given the magnitude and extent of desertification in the country, Government future programmes will focus on arresting desertification by protecting desert prone areas, rehabilitate affected areas and institutionalize drought-ameliorating measures. It is also envisaged that by the year 2010, environment friendly technologies such as solar water heaters solar stills solar dryers photo-voltaic water pumping village solar electrification projects solar power refrigerators for rural health centres would have been put in place.

#### Consultative and Participatory Process

In recognition of the need for the involvement of all stakeholders in the preparation of Action Programmes to combating desertification, Government has collaborated with relevant NGOs, CBOs, Organized Private Sector (OPS), and Community leaders, the academic and research institutions, sub-regional and multilateral organization. In general, collaboration has been with ECOWAS, CILLS, LCBC, the World Bank, UNDP, UK (DFID), the United States Government, NGOs such as IUCN, WWF, RSPB, NEST and NCF, etc.

#### Sources of Funds



The Federal Ministry of Agriculture & Natural Resources and the Federal Environmental Protection Agency are the key institutions responsible for the implementation of desertification control in the country. These institutions derive their funding from annual grants in aid through the Federal Ministry of Finance, special grants from the Ecological Fund Office and residual funding assistance either in cash or in kind from bilateral and multilateral organizations. The Ecological Fund is a special fund, made up of 2% of the annual Federation Account is set aside by the Federal Government for the amelioration of ecological problems including desertification.

The major projects funded from annual budgetary allocations include the Arid Zone Afforestation Project and the National Tree Planting Campaign.

#### International Assisted Programmes/Projects

The drought of the 1970s and 80s in the Sahelian zone of the country led to breakdown of biological processes, depleted water supplies, slow growth of trees and loss of livestock and crop production. Government action led to harnessing of Lomé funds to support three programmes in the drought affected areas. These include the Sokoto Environment Programme, the Sokoto Environment Programme and the Northeast Arid Zone Development Programmes.

Other major multi-lateral programmes include the World Bank Forestry II Project and The Hadejia–Nguru Wetlands Conservation Project.

#### Review of Benchmarks and Indicators

Nigeria is in the process of establishing benchmarks and indicators for developmental projects including desertification control programmes and projects. The National Planning Commission is responsible for monitoring all projects. However, the Commission collaborates with the Federal Environmental Protection Agency in monitoring environmental projects. Other various Government agencies are also engaged in monitoring of their respective sectors as part of their responsibilities for the country's developmental efforts.

#### Conclusion

This Report contains a synopsis of the state of desertification in the country, historical trends and past national efforts as well as on-going and planned measures for combating the fast spreading desert conditions. It also highlighted the inability of Government to provide adequate funds for desertification control and emphasized the need for the review and streamlining of policies and legislation targeted at arresting the spread of desert conditions. The Report finally paid a particular attention to the crucial issue of a NAP and the development of indicators and benchmarks for monitoring desertification conditions and progress being made in the execution of programmes of intervention.

## **1.0. BACKGROUND**

Nigeria, which is located between latitudes 4°N and 14°N and longitudes 2° 2' and 14° 30' East has a total land area of 923,773 km<sup>2</sup> and a population of over 100 million. The Country

is bordered by the Republics of Niger and Chad to the north, to the south by the Atlantic Ocean, to the east and west by the Republics of Cameroon and Benin, respectively. By virtue of its spatial extent the country encompasses various climatic regimes and physiographical units that give rise to a wide variety of ecological zones. These zones range from flush forest vegetation in the south to Guinea savanna in the middle belt region, Sudan savanna in the north and Sahelian vegetation in the extreme northern part of the country. Of these ecological zones, the Sudan and Sahelian regimes are most vulnerable to climatic and human pressures.

The Sudan and the Sahelian savanna constitute the semi-arid areas with typical low rainfall and sparse vegetation. They lie within latitudes 12°N and 14°N. Average annual rainfall in these zones varies from as low as 250 mm in the extreme northeastern part to 750 mm in the southern part. In the northern region, the rainfall is largely erratic. The humid areas are found in the southern parts of the country, while sub-humid areas with moderate rainfalls and derived vegetation are found in the middle belt. The geology as well as the soil type also vary markedly across the country.

The semi-arid zone of Nigeria, which by its nature and characteristics is susceptible to desertification process, at the same time constitutes the largest grain producing area of the country. This is in addition to the fact that most of the livestock are concentrated in the area. This zone is regarded, as the locus of human's greatest gamble with nature. In years of good and copious rainfall, the region entices and rewards human advances with bountiful agricultural yields and livestock production. Conversely, in periods of poor rainfall, there is an increasing pressure, which sometime results in food deficit and other social consequences.

Human attempts to exploit the resources of the semi-arid ecosystems in Nigeria, especially in recent times of severe and persistent drought may have set a scene for ecological damage in the region. The situation is being aggravated by the increase in human population, which appears to be stressing the natural support system. In many areas sustainable-yield threshold of the vegetation and soils are being breached.

It is now obvious that the problem of desertification needs to be addressed in a holistic manner in order to ensure that the semi-arid zone continues to support the human and natural resources. The following sections highlight the extent and severity of the problem, national efforts to address it, existing policies and strategies in place as well as the proposed strategies for combating it, and required funding and technical assistance.

## **2.0. EXTENT AND SEVERITY OF DESERTIFICATION**

The extent and severity of desertification in Nigeria has not been fully established neither the rate of its progression properly documented. Nevertheless there is a general consensus that desertification is by far the most pressing environmental problem in the northern parts of the country. The visible sign of this phenomenon is the gradual shift in vegetation from grasses, bushes and occasional trees, to grass and bushes and in the final stages, expansive areas of desert-like sand.

It has been estimated that between 50% and 75% of Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe, and Zamfara States in Nigeria are being affected by desertification. These states, with a population of about 35 million people account for about 35% of the country's total land area. In addition, seven adjacent states to the south are reported to have about 10% to 15% of their land areas threatened by processes of desertification. It is estimated that the country is currently losing about 351,000 hectares of its landmass to desert conditions annually, and such conditions are estimated to be advancing southwards at the rate of about 0.6 km per year. In the absence of concrete remedial and mitigative measures, it is estimated that the total cost of environmental degradation in Nigeria would amount to about US\$5.110 billion per annum out of which, land degradation alone (including desertification and soil erosion) accounts for about 73%.

In Nigeria, population pressure, compounded by consistent influx of migrants from neighbouring countries, results in over grazing and continuous over-exploitation of marginal lands. This has in turn aggravated the twin problems of drought and desertification. Entire villages and major access roads have been buried under sand dunes in the extreme northern parts of Borno, Jigawa, Katsina, Sokoto and Yobe States. The pressure of migrating human and livestock populations from these areas are being absorbed by pressure point buffer states such as Adamawa, Benue, Kaduna, Kwara, Niger, Plateau and Taraba. This action leads to an intensive use of the fragile and marginal ecosystems resulting in further degradation even during years of normal rainfall.

### **3.0. PAST NATIONAL EFFORTS TO COMBAT DESERTIFICATION**

The major concern about the possible southward shift of the Sahara desert into Nigeria was expressed in 1930s. In response, an Anglo-French Commission in 1937 investigated the report in the northern parts of Nigeria, and directed the border emirates to embark on tree planting to stop the encroachment. Thousands of seedlings were distributed at nominal prices.

It was not until the 1940s that a small action programme in the form of a tree planting campaign was launched. The bad situation of the affected areas prompted the establishment of shelterbelts in the northern fringes in the 1960s. The steady deterioration of land in northern Nigeria has continued largely to be ineffectively challenged for several years. The catastrophic Sahelian drought of 1972/73 however, jolted the Federal Government in to action. This drought, which was recognized as a national disaster, prompted an ad hoc relief packages consisting, where feasible, the provision of subsidized food, supply of water by water tanks, bore holes and wells as well as making available seeds at planting time, among others. The drought nonetheless encouraged the establishment of afforestation programmes and the construction of dams for irrigation as well as the establishment of the initial three River Basin Development Authorities (i.e. Chad Basin, Hadejia-Jama'are and Sokoto-Rima).

In 1977, the Federal Government set up a National Committee on Arid Zone Afforestation Project with the responsibility of examining the in-depth problem of desertification and drawing up a suitable programme of afforestation geared towards checking desert encroachment. A programme of shelterbelt plantings for the protection of adjoining agricultural lands against desiccating winds in the extreme northern part of the region was embarked upon, but this committee was dissolved in 1985. Its functions were transferred to Department of Rural Development and River Basin Development Authorities (RBDAs) in the then Federal Ministry of Agriculture, Water Resources and Rural Development.

By 1987, the RBDAs were reorganized and their afforestation functions transferred to the Forestry Department of the Federal Ministry of Agriculture. In the same year, the Forestry Management Evaluation and Coordinating Unit (FORMECU) was established to co-ordinate the World Bank and African Development Bank (ADB) assisted forestry projects in the country.

Other national efforts that have bearing on desertification control include the following:

- Management of Water Resources focussed on the utilization of groundwater to supplement surface water.
- Development and application of planting and tillage techniques that conserve soil moisture as well as the use of cropping systems that enrich and stabilize the soil.
- Promotion of appropriate rain water harvesting techniques.
- Establishment of Strategic Grains Reserves to improve food security.
- Development and promotion of alternative energy sources, as well as energy saving devices, to reduce the pressure on the fuelwood (e.g. solar energy, wood efficient stoves, coal briquetting, biogas, etc.)
- Building national institutional capacity to undertake research and development of data base and technologies in support of desertification control (e.g. Centre for Arid Zone Studies [CAZS], Forestry Research Institute of Nigeria [FRIN], Energy Research Centres),
- Integrated programmes to alleviate poverty (e.g. Better Life for Rural Women)
- Creating awareness and public participation through tree planting campaigns, radio jingles schools conservation clubs, etc.

Since Rio Conference in 1992, Nigeria has made significant efforts in addressing the environmental and sustainable development issues, which were identified and agreed upon at United Nations Conference on Environment and Development (UNCED). Since signing the United Nations Convention to Combat Desertification (UNCCD), in October 1995, a number of initiatives including the establishment of a National Coordinating Committee on

Desertification Control (NCCDC), and an implementation centre have been taken. The NCCDC, which is the national body for the implementation of the Convention in Nigeria, is composed of various stakeholders including government agencies and key environmental NGOs and CBOs.

In line with the relevant provisions of the CCD and the 1<sup>st</sup> and 2<sup>nd</sup> Conferences of Parties, the NCCDC initiated the process of preparing a NAP for the implementation of the Convention in Nigeria with the assistance received from the Secretariat of the Convention through CILLS. Two National Consultants have been identified and recruited to facilitate the process. The Consultants are expected to submit a draft report on NAP, which will be placed before a National Stakeholders' workshop for validation.

### **3.1 National Policies**

Government has taken cognizance of the multi-sectoral problems of desertification. In this regard, it has developed a number of policies and plans ranging from agricultural to energy. Some of these, which contain provisions relevant to desertification control, are highlighted below:

#### **3.1.1 National Policy on Environment**

Launched in 1989, the Policy elaborates a sub-sectoral policy on desertification control, which clearly indicates synergies with other sub-sectors relating to population, culture, housing and human settlements, biological diversity, conservation of natural resources, land-use and soil conservation, agriculture, water resources, forestry, wildlife and protected areas, mining and mineral resources, energy, education, science and technology, flood and erosion control and the cross-sectoral issues of public participation. This policy has been reviewed in 1999 to promote inter-sectoral approaches to combating desertification and other environmental problems.

#### **3.1.2 National Agricultural Policy**

Within the National Agricultural Policy, there are sub-sectoral policies covering livestock, forestry, food production, and land and water resources. The relevant sections of this policy that are relevant to desertification control include:

- The protection of agricultural land from drought, deserts encroachment, soils erosion and flood;
- Protection and conservation of forests, forest regeneration and afforestation and promotion of alternative sources of energy other than wood;
- Ensuring integrated water resources management approaches that promote rational utilization and conservation and protection of the ecosystem;

## **3.2 Plans and Strategies**

In addition to the policies highlighted above, some plans and strategies have been put in place. These strategies and action plans contain elements that address the issue of desertification, some of which are highlighted below:

### **3.2.1 Nigerian National Environmental Action Plan (NEAP)**

With the support from the World Bank, the NEAP was developed as a meaningful framework to assist in the analysis, evaluation, and discussion of the interdependence between the environment and the economy in Nigeria. It also seeks to provide an assessment of Nigeria's environmental priorities and an identification of options for mitigating the impact of environmental degradation in the country. Its implementation gave rise to the World Bank assisted Environmental Management Project (EMP) in Nigeria and helped in strengthening Environmental Agencies at Federal and State levels. It also helped to catalyze the study on costs/benefits of biodiversity conservation, enactment of EIA legislation and the setting up of environmental standards. The implementation of NEAP was also supported by UNDP through the Environment and Natural Resources Management Programme for Nigeria in the form of capacity building and institutional strengthening of Federal and State Environmental Protection Agencies.

### **3.2.2 States Environmental Action Plans (SEAPs)**

It was in the process of implementing NEAP that the State environmental Action Plan (SEAP) was prepared for each of the 36 States of the Federation and the Federal Capital Territory. The SEAP process started in 1995 and was completed in 1998. It is a participatory process of planning and action, which seeks to integrate socio-economic and ecological perspectives into all the States' policies, plans and programmes as well as those of all stakeholders and interests groups within the State. For those States in the desert-prone region including Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe and Zamfara, the SEAP Reports prioritized their environmental problems with desertification ranking as the most important problem. This was followed by deforestation, land degradation, loss of biodiversity and waste management in that order. The Reports also focused on institutional framework and suggested some investment measures and options to tackle the identified problems.

### **3.2.3 National Forestry Action Plan**

The National Forestry Action Plan, which was developed with the assistance of the World Bank and UNDP, is an offshoot of Tropical Forestry Action Programme. It is a framework for halting deforestation and associated destructive impacts and a veritable instrument, which assisted in the elaboration of the Nigeria's National Agenda 21.

### **3.2.4 National Conservation Strategy**

This is to ensure strategic approach to address environmental and natural resources issues in order to guarantee sustainable benefits to the greatest number of people. The aim is to manage the ecosystems in such a way that they yield greatest sustainable benefit to present generations while maintaining the potential to meet the needs and aspirations of future generations in such a way that essential ecological processes and life support systems are maintained. The strategy focuses on the main resources vegetation and forage resources, water resources, marine and fisheries resources, wild animal's resources, and soil resources.

### **3.2.5 Natural Resources Conservation Action Plan**

The Natural Resources Conservation Action Plan aims at collating and evaluating data and knowledge on natural resources with a view to developing a programmes of action for management and sustainable use. The objectives along with others is to identify, describe and analyze current state and status of each resources, misuse and abuse, propose institutional arrangement for effective implementation of the plan and examine man-power, fiscal and legal implication of action plan;

### **3.2.6 National Water Resources Master Plan**

A National Water Resources Master Plan for the period 1995 – 2020 was done with technical assistance of the Japanese Government through the Japanese International Co-operation Agency (JICA). The Master Plan aims at sustainable utilisation of water resources, particularly in the semi-arid zone of the country.

### **3.2.7 National Biodiversity Strategy and Action Plan**

The goals and objectives are to conserve and enhance the sustainable use of the nation's biodiversity resources and to integrate biodiversity-planning considerations into national policy and decision making and the Green Agenda of the Vision 2010. It highlighted various measures at national state, local government levels as well as by the private sector to combat desertification and other environmental problems and mainstream sustainable developmental issues into national plans and programmes.

### **3.2.8 The Green Agenda of the VISION 2010 Report**

The Vision 2010 Report, a comprehensive framework for the attainment of sustainable human development in Nigeria contains a chapter on The Green Agenda, which identifies desertification as major environmental problems in the country. In addition to containing some specific mission/policy statements, the Report also articulated action plans and strategies as well as allocating implementation responsibilities to all stakeholders. The Green Agenda component of the Report contains elements for formulation of plans and strategies on desertification control.

### **3.2.9 Nigeria's National Agenda 21**

In line with the Global Agenda 21, the Nigeria's National Agenda 21 identifies as major priorities the alleviation of poverty, promotion of afforestation programme particularly in the semi-arid zone, the combating of desertification and mitigating the effects of drought. This is essentially designed to integrate environment and development, which seeks to attain sustainable development. Its main focus is on how to redress the major existing environmental problems. Other priorities include the control of soil erosion, the rational use and exploitation of mineral resources, the protection and management of water resources, conservation of biodiversity, sustainable human settlements, sustainable agriculture and rural development and emphasized on issues of funding, management of environmental information, forging of viable partnership among shareholders and the promotion of environmental education and awareness.

### **3.3 Legal Framework**

Prior to the coming into force of the UN Convention to Combat Desertification, certain national and state Laws and regulations, which relate directly or indirectly to desertification control or related matters have been in force in Nigeria. In many situations, these Laws contain provisions that address the causes of desertification such as deforestation, over-exploitation of natural resources, inappropriate agricultural practices, bush burning, etc

#### **3.3.1 Federal Environmental Protection Agency (FEPA) Decree**

At the national level, the Federal Environmental Protection Agency (FEPA) was established pursuant to Decree No. 58 of 1988 as amended by Decree No 59 of 1992 and as further amended by Decree No. 14 of 1999. The Decree places on FEPA the overall responsibility for the protection and development of the environment and biodiversity conservation and sustainable development of Nigeria's natural resources in general. The Agency is also empowered to prepare comprehensive national policy on environment and conservation of natural resources, including procedure for environmental impact assessment for all development projects.

#### **3.3.2 National Parks Decree, 1991**

The Law established the 6 National Parks in the country and a Board for the National Parks Service. By virtue of the provisions of the Decree, the National Parks Service is empowered to carry out in-situ conservation of both fauna and flora. Two of the National Parks, the Yankari National Park and the Lake Chad Basin National Park are located in the Sahel savanna ecological zone of Nigeria. By virtue of their location, these parks are involved in activities relating to desertification control especially through conservation activities in the parks including the buffer zones and such activities assist in checking the indices of desertification.

#### **3.3.3 Environmental Impact Assessment (EIA) Decree, 1992**



The EIA Decree provides generally to the effect that all developmental projects should, from the onset, undertake environmental impact assessment to determine the possible environmental effects of the proposed project before the projects is commissioned. Among the types of projects covered by the provisions of this Law are agricultural and natural resources projects. Some of the projects are subject to mandatory environmental impact assessment and listed in the mandatory study list.

Environmental Impact Assessment is mandatory for all agricultural projects involving 50 hectares and above. For other projects less than that hectarage, the project proponent shall apply to FEPA for scoping and screening of the project so as to ascertain the level of EIA required or whether or not EIA is required at all. One of the aims of the EIA process on agricultural projects is to avoid embarking on indiscriminate activities such as uncontrolled clearing of forest, removal of top soil, indiscriminate bush burning, felling of trees etc. that might propel desertification.

### **3.3.4 Endangered Species (Control of International Trade and Traffic in Fauna and Flora) Decree, 1985**

The objective of the Decree is to protect the species of wild animals and plants considered to be endangered. The relevance of this Decree is the fact that there are reports that certain species of plants and wild animals considered to be endangered are prevalent in the Sahel and savannah ecological zones prone to desertification. Consequently, the implementation of the provisions of the Decree would assist in the protection of plants and animal species, which invariably contribute to desertification control. Regrettably, one of the drawbacks of the Decree is that no plant is currently listed in the Endangered Species Decree. The provisions of the Law relating to penalties are obsolete and some are laden with implementation problems. Arrangement is being made to undertake a systematic review of the Law to adequately take care of the lapses.

### **3.3.5 Land Use Act, 1978**

By virtue of the provisions of the Land Use Decree, all lands located in the territory of each State are vested in the Governor of the State to be held in trust for the benefit of the citizens. Although the Land Use Act does not mention any specific matter relating to desertification, the fact that the consent of the Governor is required as a prerequisite to alienation of any right to the landed property is a clear indication that the Government can control the use of the land through the provisions of the Law. The Governor (where the land is in urban area) or the Local Government Authority (where the land is in rural area) may refuse to grant consent for the use of land that is fragile or that may be prone to desertification.

### **3.3.6 National Water Resources Decree, 1993**

The National Water Resources Decree include provisions to address the inappropriate management of water resources so as to protect the vital resource and thus assist in desertification control.

### **3.3.7 State Laws and Regulations**

At the state level, there are series of forestry, agricultural and wildlife laws as well as bush burning and grazing reserve regulations. These categories of laws are directed at controlling the notable causes of desertification earlier enumerated. The most significant of these laws relevant to desertification control are the Forestry Laws most of which, derive their validity from the old Northern Region Forestry Law. Such laws empower each state to manage its forest estates and grazing reserves as well as reforest their desertified areas. Nevertheless, most of the State Laws especially the Forestry laws are outdated and require review. The lapses in the Laws include low penalty provisions.

## **3.4 Institutional Framework**

Several institutional arrangements have been put in place in the country for management of matters relating to desertification even before the advent of the CCD. Some of the institutions are policy making bodies while some are actually involved in implementation of deliberate government policies and projects to prevent and mitigate the menace of desertification.

### **3.4.1 Federal Environmental Protection Agency (FEPA)**

The Federal Environmental Protection Agency was set up in 1988 by Decree No 58 of 1988 as amended by Decree 59 of 1992 and as further amended by Decree 14 of 1999. By virtue of its enabling Decree, FEPA is charged with responsibilities on environmental protection, biodiversity and natural resources conservation including policy matters relating to desertification control and is in fact the National Focal Point for the CCD in Nigeria.

### **3.4.2 Federal Ministry of Agriculture and Natural Resources**

Federal Department of Forestry in the Federal Ministry of Agriculture and Natural Resources has responsibility for forestry matters including implementation of afforestation programmes and projects as a means of checking the menace of desert encroachment in the country. The Ministry co-ordinates annual Tree Planting Campaigns throughout the country and implements projects on afforestation, wood lot plantations, plant nursery, etc. as measures towards combating deforestation and desertification. The Agricultural Land Resources of the same Ministry has responsibility for land conservation measures.

A Forestry Management Co-ordinating Committee (FORMECU) was established in 1987 as an organ of the Department of Forestry in the Federal Ministry of Agriculture and Natural Resources. Its primary mandate is the co-ordination and monitoring of the implementation of Forestry II Programme, which consists of afforestation, reforestation and desertification control projects. Also established, is an Afforestation Projects Co-ordinating Unit (APCU) primarily to implement afforestation projects in the Sahel and

the Guinea Savannah regions of the country with technical assistance from the World Bank and the African Development Bank (ADB).

The National Parks Service was established to manage all the National Parks in Nigeria. Its responsibilities directly or indirectly aid desertification control activities especially as the success of the in-situ conservation activities is anchored on conservation of forestry ecosystems which serve as habitats to the various animal species being protected in the Parks.

### **3.4.3 Federal Ministry of Water Resources and Rural Development**

The Federal Ministry of Water Resources and Rural Development is responsible, inter-alia, for management of water resources generally in the country. Since water is very crucial to the phenomenon of desertification, the Ministry in collaboration with relevant line ministries and agencies embark on programmes and projects on conservation and management of marine, fresh water, and underground water resources.

There are about 11 River Basin Development Authorities in the Country established by Law to capture, store and distribute water resources for irrigation, fishing and other agricultural purposes. For instance, the Sokoto/Rima and the Hadejia/Jama're River Basin Authorities located in the Sahel and semi-arid areas of the country are playing prominent roles in combating desertification especially through irrigation activities. The River Basin Development Authorities are under the supervision of the Federal Ministry of Water Resources and Rural Development.

### **3.4.4 State Institutions and Organs**

#### a) States Departments of Forestry

The primary institution that is charged with the responsibility for desertification control at the State level is the Department of Forestry in the State Ministry of Agriculture and Natural Resources. The Department is primarily charged with the management of forest estates including the game and grazing reserves.

#### b) State Environmental Protection Agencies (SEPAs)

In each of the 36 States and the Federal Capital Territory, there is a State Environmental Protection Agency (SEPA) charged with the responsibility of protection of the environment and biodiversity conservation. The State Environmental Protection Agencies and the State Ministries of Agriculture and Natural Resources in the frontline states where desertification has been documented are members of the NCCDC. As part of the Public Awareness Master Plans prepared by each SEPA in the country, environmental awareness issues on desertification are prominent in the master plans of the 10 frontline States. The SEPAs also co-ordinate the establishment and operation of Environmental Conservation Clubs in the Secondary schools and Tertiary institutions. The activities of the Conservation Clubs include vigorous environmental awareness

campaigns at the grass root level, tree planting programmes, environmental education, etc.

#### **3.4.5 Centre for Arid Zone Studies (University of Maiduguri)**

The Centre for Arid Zone Studies (CAZS) was established about 15 years ago to undertake studies and research on the problems prevalent in the Sahel and other semi-arid areas of the country and design remediation measures and mechanism to combat the problems. Two of such problems prominent in the affected ecological zones are drought and desertification. The Centre, which is located in the University of Maiduguri, is located in the centre of the Sahel ecological zone of the country. The Centre has developed pilot programmes on combating desertification. Given adequate financial and technical assistance the Centre can substantially provide the required technical assistance to the various agencies and bodies involved in implementing programmes and projects on desertification control.

#### **3.4.6 Centres for Energy Research**

The Centres for Energy Research, supervised by the Energy Commission of Nigeria, are situated at the Usmanu Danfodio University, Sokoto and University of Nigeria, Nsukka. These Centres have been conducting research into alternative sources of energy especially for industrial and domestic use. The outcome of various researches from the Centres has indicated the possibility of using solar energy for domestic cooking. It is envisaged that this will serve as a panacea to the problem of over-exploitation of fuel wood for cooking especially by women in the rural areas of the country. The alternative source to fuel wood will no doubt put less or minimal pressure on the forestry resources in the Sahel and semi-arid zones in the country and thereby allow natural processes to restore degraded land.

#### **3.4.7 Civil Society Organisations**

A number of civil society organisations including local and international NGOs and CBOs have been involved in matters relating to desertification control especially on public awareness and environmental education, ecological restoration and habitat protection. Some of these NGOs and CBOs include Nigerian Environmental Study Action Team (NEST), Nigerian Conservation Foundation (NCF), Savannah Watch, Savannah Conservation, Farmers Unions, Women Associations, etc.

NEST, for example, in addition to its traditional function of sensitising the civil society on socio-economic dimensions of desertification and the need for all stakeholders' participation in combating it is currently co-ordinating the activities of English-speaking West African NGOs (RIOD) involved in desertification issues.

### **3.5 Co-operation with Bilateral/Multilateral Institutions**

Nigeria is involved in a number of bilateral and multilateral relations, which directly or indirectly relate to desertification control. These include the following:

- Secretariat of CCD
- Lake Chad Basin Commission (LCBC)
- Nigeria – Niger Joint Commission for Co-operation (NNJC)
- African Ministerial Conference on Environment (AMCEN)
- Permanent Inter-State Committee on Drought Control in the Sahel (CILSS)
- Economic Community for West African States (ECOWAS)
- The USAID and DFID

The Country has also enjoyed some form of financial and technical assistance from international agencies and NGOs on matters relating to desertification control, some of which include:

- The World Bank
- African Development Bank (ADB)
- United Nations Development Programme (UNDP)
- IUCN - The World Conservation Union
- World Wide Fund for Nature (WWF)
- Royal Society for Birds Protection (RSBP)

#### **4.0 ON-GOING AND PLANNED IMPLEMENTATION MEASURES**

There are some on-going and planned interventions that are geared towards desertification control in Nigeria. These are measures to alleviate poverty, conserve biodiversity, restore degraded lands, and promote desertification awareness activities and environmental education programme. Other measures include the development of an environmental information system, conducting research and surveys, promoting energy efficiency and renewable energy technologies, institutional strengthening and capacity building measures.

##### **4.1 On-going Measures**

The following on-going programmes and activities are considered relevant to the desertification control in Nigeria:

#### **4.1.1 Community Action Programme for Poverty Alleviation**

The thrust of current government policy in the action against poverty is to enable the poor and more vulnerable sections of society living in the affected areas to achieve sustainable livelihoods. The approach is to economically empower communities, families and individual, particularly those living in desert prone areas through a sustained, well co-ordinated and comprehensive programme of poverty alleviation. The National Planning Commission in Nigeria has initiated a Community Action Programme for Poverty Alleviation (CAPPA), which has streamlined on-going activities by Government and Non-Government Organisations.

Existing poverty alleviation measures include the People's Bank, which extends small credits to people in the informal sector of the economy; the Family Economic Advancement Programme (FEAP); the National Economic Reconstruction Fund (NERFUND), which provides easy access to credit by small and medium scale enterprise. Others also include the National Directorate of Employment (NDE), a self employment promotion programme which encourages waste to wealth employment activities; and production of briquettes for fuel and fuel efficient wood stoves, etc.

#### **4.1.2 Biodiversity Conservation and Restoration Measures**

In view of the synergy between the control of desertification and the conservation of biodiversity, government has taken positive steps to conserve the highly threatened plant and animal species, which are still occurring in desert prone areas. Consequently, there are on-going botanical and zoological survey works as well as the establishment of gene banks. Unique wetlands occurring within the semiarid zone of Nigeria have been constituted into special protected areas as a bulwark against desertification.

In line with the provisions of our National Agenda 21, Nigeria has embarked on soil conservation measures with the aim of curtailing soil degradation, either by water and wind erosion or the intensive activities of man in the areas of deforestation. In the semi-arid area, sheet erosion control trails are being established to monitor the occurrence, intensity and mode of control of sheet erosion on farmland. Grass bund, wicker works and use of vertiver grass as well as other agronomic measures like crop rotation are being introduced.

Government has also embarked on some programmes and projects on reforestation and deforestation. These include constitution of forest reserves, establishment of shelterbelts, wood lots, and trees on farms and sand dune fixation.

#### **4.1.3 Environmental Assessment, Monitoring and Research**

Nigerian has embarked an environmental assessment and monitoring programme which has as one of its objectives to help determine the trends in desertification processes in the country. A Geographic Information System (GIS) has been set up to enable increased capacity for monitoring the conditions while soil erosion monitoring posts are to be established. Also, a surface and ground water monitoring programme whose objective is to monitor and study the effect of ground water exploitation in flood plains of the semi-arid areas has commenced. This programme also seeks to ascertain the pollution potentials of the saturated ground water zone due to irrigation.

Other activities related to water resources assessment in the arid zone include an inventory of water resources facility as part of the National water resources master plan preparation, hydrological mapping, and bore hole inventory survey. Furthermore, Nigeria has updated the land-use and regeneration map of the country using satellite data and has established Forestry Resources Information Centre fully equipped with remote sensing and GIS facilities. This has also been replicated in FEPA to monitor desertification and pollution issues. Research activities are on going through the FEPA/University Linkage Centre Programme located at the Centre for Arid Zone Studies, University of Maiduguri.

#### **4.1.4 Environmental Information System**

As a result of the serious dearth of data and very weak resource planning base, Government established a national forestry data bank and information centre to serve as focal point for the development of information exchange system to enhance inter-agency co-operation. FEPA has also established a Data Management and Information unit, which is connected to sectoral nodes dealing with forestry, natural resources, and land and water resources conservation. Furthermore, an Environmental Reference Library has been established while Nigeria is a member of the UNDP global information exchange network (INFOTERRA).

#### **4.1.5 Promotion of Environmentally Friendly Energy Practice**

Under this programme, the Federal Ministry of Science and Technology through its Energy Centres has supported research on the use of solar and wind energy. Already wood efficient stoves are being produced and distributed while other alternatives to fuelwood are being encouraged to check deforestation.

#### **4.1.6 Capacity Building and Institutional Measures**

Government has co-operated with international organisations in capacity building and institutional strengthening to ensure manpower development for desertification control in the country. Capacity building measures relate to the formulation of environmental policies, legislation and enforcement, increased awareness of desertification issues, preparation of sustainable development strategies and action plans as well as training of federal and states staff. FEPA has established an Environmental Enforcement Training Centre in addition to other training centres on soil conservation and afforestation, which are being administered by the Federal Ministry of Agriculture and Natural Resources.

Institutional reforms have been carried out to improve the performance of governmental bodies such as FEPA, the Research Centres and other line ministries and agencies.

#### **4.1.7 Environmental Education**

In August 1988 Nigeria organised the first Conservation Education Conference at Yankari Game Reserve. The objective of the conference is to formulate and plan a National Conservation Education Strategy for Nigeria and both the Joint Consultative Committee on Education (JCCE) and National Council on Education (NCE) in 1992 approved the document. The document proposed the Establishment of conservation education committees at all levels of government and introduced community participatory and schools programme. Another workshop on environmental awareness aimed at drawing up a national master plan to guide the promotion of environmental awareness in the country was held in 1997. The workshop adopted a draft National Environmental Awareness Master plan. This is to enhance environmental awareness and education and also provide the way forward to sustainable development in Nigeria.

More specifically, Nigeria has made some efforts in the field of Desertification Awareness and Environmental Education to combat desertification. Among the efforts made include:

- introduction of Environmental Education in formal and non-formal education sectors both at primary, secondary and tertiary institutions as co-subject;
- setting up of Conservation Education Clubs and Societies both in schools, colleges, universities and NGOs;
- establishment of a Committee for alternative to fuel wood;
- development of a National Conservation Education Strategy (1988);
- preparation of a National Environmental Education Master Plan (1998); and
- production of newsletters, monographs and leaflets on desertification issues.

#### **4.1.8 On-Farm Conservation Project**

Under this project, farmers are being taught on and encouraged to adopt simple, efficient and cost-effective on-farm soil conservation measures. Such include the use of vetiver grass, mulching, contour ploughing, crop rotation, terracing and agro-forestry among others. The measures ensure that soils are not left bare and thus protected against desert encroachment and some other agencies of degradation.

#### **4.1.9 Environmental Management Programme**



This focuses on the monitoring of soil degradation nation-wide. Comprehensive data are being generated in this respect which will make easier, the mapping out of relevant action plans to control soil erosion. The control of soil erosion especially in the drier areas prone to desertification will reduce desert encroachment.

#### **4.1.7 Soil Map Project,**

This project, on completion will produce a reconnaissance soil map of the country guide land users on good land management including land prone to drought and desertification. More information will be generated through this project, which will facilitate the control of the menace of desertification.

#### **4.1.8 Capability Evaluation and Management of Major Soil Types**

This project aims at establishing the potentials of major soil types for agricultural production. This will ensure that soils are not over-exploited, especially in delicate or fragile landscapes.

### **4.2 Planned Programmes and Activities**

Given the magnitude and extent of desertification in the country, Government future programmes will focus on arresting desertification by protecting desert prone areas; rehabilitate affected areas and institutionalise drought ameliorating measures. This is intended to be achieved through:

- Increasing vegetative cover and supporting the management of biotic resources in areas affected or prone desertification;
- Developing and implementing appropriate and complementary economic development programmes that promote poverty alleviation and alternative livelihood systems in areas prone to desertification
- Establishing, strengthening and coordinating institutional frameworks, at various levels of the society, towards protection, development and sustainable management of natural resources in dryland areas and integrate them into national development and Environmental Action Plans;
- Developing comprehensive drought preparedness and management plans that will mitigate the negative impacts of drought; and
- Promoting regional and global cooperation in the generation and exchange of relevant information with a view to understanding the dynamics of desertification and drought process.

It is envisaged that by the year 2010, the following environment friendly technologies in the energy sector would have been produced and distributed:

- 15,000 solar water heaters
- 450 solar stills
- 225 solar dryers
- 1,000 village wind energy electrification projects
- 11,000 photo-voltaic water pumping stations
- 2,000 village solar electrification projects
- 20,000 solar power refrigerators for rural health centres.

## **5.0 CONSULTATIVE AND PARTICIPATORY PROCESS**

A key success to implementing the CCD is the preparation and implementation of action programmes at National, Sub-regional and Regional levels through partnership and participatory processes. The preparation of Action Programmes requires the participation of Stakeholder including the farmers, policy makers and environment NGOs and CBOs. In general, the NGOs, particularly NEST and NCF have been contributing immensely towards fighting desertification in Nigeria. Although limited by funding capabilities, the NGOs are succeeding in raising public awareness on the ecological problems as well as lobbying and campaigning against policies and projects that could have adverse ecological and socio-economic impacts.

In recognition of the need for the involvement of all stakeholders in combating desertification, NAP is being prepared under the auspices of the national coordinating body, the National Coordinating Committee on Desertification Control (NCCDC). The membership of the Committee is drawn from the following:

- Key Federal Ministries represented by the following Departments:
- Agriculture, Forestry, Livestock, Land Resources, Meteorological Services, Soil Erosion and Flood Control, Multi-lateral (Finance) Second United Nations (Foreign Affairs);
- Energy Commission of Nigeria ;
- National Institute for Social and Economic Research;

Center for Arid Zone Studies;

- National Planning Commission
- Ecological Funds Office
- The 10 northern States represented by the Departments of Forestry

- Key environmental NGOs including Nigeria Environmental Action/Study Team, and IUCN (Hadejia-Nguru Wetlands Project)

In appreciation of the fact that Nigeria operates a three-tier system of Government, plans are underway to prepare States Action programmes to serve as framework for combat desertification at State level. It is also envisaged that similar programmes will be developed at the Local Government level in the affected region to ensure the involvement greater grassroots participation.

Government has collaborated with relevant NGOs, CBOs, Organized Private Sector (OPS), and Community leaders, the academic and research institutions. In particular, in the past few years many fora have been organized to raise the level of awareness about the CCD with the aim of ensuring the participation of all in Planning, execution and monitoring of desertification control programmes. These fora, among others, include:

- Organization of Policy Makers/NGOs Fora (e.g. in Kano, November, 1997);
- Mobilizing Non Governmental Organizations Towards the Implementation of the CCD
- for English Speaking West Africa Countries (March, 1998); and
- World Environment Days Celebrations.

The overall impact is that more people are now concerned with the need to address the menace of desertification. In addition, there is a pool of knowledge about the traditional coping mechanisms of the people in the affected areas. In addition to this, Government has been having consultations at the sub-regional and regional levels, such as Economic Community of West African States (ECOWAS), Permanent Inter-State Committee for Drought Control in the Sahel (CILSS), Lake Chad Basin Commission (LCBC), Nigeria-Niger Joint Commission for Cooperation (NNJC), etc. Similar consultations are on going with multi-lateral and bilateral organizations such as the World Bank, UNDP, Department for International Development of the UK (DFID), the United States Government (USAID) etc.

## **6.0 FUNDING AND TECHNICAL ASSISTANCE**

### **6.1 Sources of Funds**

The Federal Ministry of Agriculture & Natural Resources and the Federal Environmental Protection Agency are the key institutions responsible for the implementation of desertification control in the country. While the Primary objectives of the Ministry of Agriculture are focused on physical measures to combat desertification, the Federal Environmental Protection Agency is mainly concerned with Policy formulation, coordination and environmental assessment. However these institutions derive their funding from annual grants-in-aid through the Federal Ministry of Finance, special grants from the Ecological Fund Office and residual funding assistance either in cash or in kind from bilateral and multilateral organization.

### 6.1.1 Budgetary allocations

Funds are released only for projects that have been admitted in the 3-yearly National Rolling Plan. Desertification control programmes have been admitted in the National Rolling Plan since its inception in 1975. The allocations for desertification control are channeled through projects in the Federal Ministries of Agriculture and Natural Resources and that of Water Resources and Rural Development and FEPA, respectively. The projects that relate to desertification control in the Federal Ministries include:

- Fire Monitoring and control in National Parks
- Protection of flora and fauna in National parks
- Wildlife habitat protection and monitoring
- Research into arid and semi-arid zone in afforestation
- Research into afforestation of ecologically degraded sites
- Communal Forestry Development
- Arid zone afforestation
- World Bank Forestry II
- Tropical Forestry Action Programme
- EEC-Assisted Afforestation Projects in Katsina, Borno and Sokoto States
- Building of dams and bore holes in semi-arid areas
- Provision of water for livestock
- Soil erosion control projects

Under FEPA the following projects relate to desertification control.

- Implementation of conventions, protocols and agreements and Environment including Agenda 21;
- Nigerian Environmental Management Project;
- Conservation Assessment and Management Plan;

- UNDP Assisted Environment and Natural Resources Management Programme;
- Environmental Impact Assessment Implementation projects.

### **6.1.2 Ecological Fund**

This is a special fund set aside by the Federal Government in 1981 for the amelioration of ecological problems. Originally, it was 1% of the Federation Account but was later increased to 2%. Funds have been released from this special vote to finance desertification and drought relief projects either through Federal Institutions or State Governments. It is an extra-budgetary source of funding addressed to only mitigating environmental degradation. The Secretariat of the Fund is located in the Presidency and is responsible for processing all request for funds, documentation of all disbursement, monitoring and coordination and general administration of the funds.

### **6.1.3 Bilateral and Multilateral Sources**

These make their funds available to projects through the National Planning Commission for grants and the Federal Ministry of Finance in case of loans. The funds are meant to finance various aspects of desertification control including policy, establishment of vegetation, poverty alleviation, awareness campaigns and other socio-economic activities. The key institutions financing desertification control in Nigeria include World Bank, European Economic Community, African Development Bank, and the Secretariat to the Convention to Combat Desertification and United Nations Development Programme.

## **6.2 Major Projects Funded from Annual Budgetary Allocations**

### **6.2.1 Arid Zone Afforestation Project**

The arid zone afforestation programme is on going in all the arid zone States of Sokoto, Katsina, Kebbi, Bauchi, Zamfara, Yobe, Borno, Kano, Gombe and Jigawa. The main activities are raising of seedlings and establishment of shelterbelts, woodlots, windbreaks and homestead gardens. Between 1998 and 1999 over 8 million seedlings have been raised.

### **6.2.2 National Tree Planting Campaign**

This is an annual programme used to sensitize and mobilize the public to imbibe the culture of tree planting in the country. The programme has also aroused the interest of the public in establishment of orchards, protection of the natural vegetation from fire and popularizing the use of improved stoves and other wood saving devices among the people.

## **6.3 International Assisted Programmes/Projects**

The drought of the 1970s and 80s in the Sahelian zone of the country led to breakdown of biological processes, depleted water supplies, slow growth of trees and loss of livestock and crop production. Government action led to harnessing of Lome funds through the EEC to support three programmes in the drought affected areas.

### **6.3.1 Katsina Afforestation Programme**

This Programme commenced in 1987 with the objective of combating desertification in Katsina State with a view to contributing to improvement in agricultural productivity and provides forest resources such as poles and firewood. The programme was funded to the tune of N90 million.

### **6.3.2 North East Arid Zone Development Programme (NEAZDP)**

This project which commenced in 1988, combined sustainable agricultural development with environmental protection and preservation of unique habitats in Yobe and Borno States. The sum of N336 million drawn from Lome III funds was expended on the projects.

### **6.3.3 Sokoto Environment Programme**

The project, which took off in 1989, was funded with N294 million from Lome III funds. It was based on community participation for the purpose of creating environmental awareness and development of basic skills for the rehabilitation of desertified lands.

### **6.3.4 World Bank Forestry II Project**

Forestry II programme came into existence in 1987 and ended in June 1996. The programme strengthened the structural base of the forestry sub-sector, stabilized soil, sand dunes and improved the supply of fuelwood, poles and fodder by supporting farm forestry and shelterbelt activities. The programme covered ten states: Sokoto, Zamfara, Kebbi, Jigawa, Yobe, Borno, Katsina, Kano, and Bauchi. The physical achievements include the establishment of 5,566 ha woodlots and 2,083 km of shelterbelts. The programme was funded with US\$95.4 million as a loan from the World Bank.

### **6.3.5 UNDP Assisted National Forestry Action Plan**

The National Forestry Action Programme prepared proposals for programmes for translation into national policies and plans for action in area of Forestry relating to agricultural land improvement, fuelwood and wood energy, conservation of tropical ones ecosystems and industrial strengthening and development.

### **6.3.6 The Hadejia–Nguru Wetlands Conservation Project**

This project, which is managed by the International Union for the Conservation of Nature (IUCN), is located in Nguru, Yobe State. It was established in 1987 to maintain the ecological and economic integrity of the Hadejia- Nguru flood plain. The wetland, which

is about 3,500 km<sup>2</sup> in expanse, constitutes a natural barrier to the southern movement of the desert conditions in its Sahelian environment. The main activities of the Project are research, public awareness and education, preparation of management plans and guidelines, advocacy and promoting the wise use of the natural resources of the area.

## 7.0 REVIEW OF BENCHMARKS AND INDICATORS

Nigeria is currently in the process of establishing benchmarks and indicators for developmental projects including desertification control programmes and projects. The National Planning Commission is responsible for monitoring all projects. However, the Commission collaborates with the Federal Environmental Protection Agency in monitoring environmental projects.

Various Government agencies are engaged in monitoring, on sub-sectoral basis, as part of their responsibilities for the country's developmental efforts. Some of these include the Federal Ministries of Water Resources & Rural Development and Agriculture & Natural Resources, the Federal Meteorological Services Department. The benchmarks and indicators to be established in the preparation of the NAP will be used for the monitoring and evaluation of programmes to be implemented under the Action Programme.

## 8.0 CONCLUSION

The Nigerian National Report on desertification control contains a synopsis of the state of desertification in the country, historical trends and past national efforts as well as on-going and planned measures for combating the fast spreading desert conditions. It highlighted the gaps in policy formulation and strategies especially the treatment of desertification concern as a sub-sectoral issue rather than an integrated, holistic issue with synergies with other relevant sub-sectors. The report also noted the inability of Government to provide adequate funds for desertification control and emphasize the need for the review and streamlining of legislation targeted at arresting the spread of desert conditions in the country. Finally, the Report paid a particular attention to the crucial issue of a NAP and the development of a system of indicators and benchmarks for monitoring desertification conditions and progress being made in the execution of programmes of intervention.

Table 1: **Achievements of Afforestation Programme**

Item	Target*	Achievement Quantity      %	Remark**
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<u>Seedling Production</u>				
Nurseries (no) – Project	46	125	272	
- Private	-	6055	-	Kano had 28% of total
Seedling production(million)				
- Project	49.2	118.1	240	
- Private	-	12.8	-	Jigawa had 27% of total
<u>Farm Forestry</u>				
Contact farm families ('000)	197	330	168	Jigawa had 23% of total
Foresters clubs/institutions (no)	-	3964	-	Kano had 34% of total
Self-help Group (no)	-	2667	-	Kano had 50% of total
Woodlot established ha				
- Project	-	684	-	Kano had 31% of total
- Private	-	4882	-	Jigawa had 32% of total
Orchard established (ha)	-	1569	-	Sokoto had 39% of total
Road side planting (km)	-	1194	-	Kano had 56% of total
Women in forestry				
Groups formed (no)	-	204	-	
Gardens/woodlots (no)	-	1742	-	Yobe had 66% of total
Improved stoves (no)	-	3513	-	Borno had 36% of total
Media support				
Radio/TV programmes (no)	-	26.7	-	Kano had 26% of total
Postal/stickers ('000)	-	113	-	Kano had 34% of total
Farmers trained ('000)	-	32	-	Jigawa had 79% of total
Shelterbelts established (km)	1718	2083	121	Sokoto had 27% of total
<u>Funding (US\$m)</u>				
State Governments	5.7	7.4	130	Kano had 23% of total
Federal government	2.8	0.9	32	Kano got 33% of total
Internally generated revenue	-	0.1	-	
Communities	4.1	3.8	93	About 94.5m
World Bank	22.7	26.1	80	
Total	45.3	38.3	85	

\*as specified at appraisal and revised at mid-term review

\*\*indicates states into highest physical achievements

Table 2: **Forestry II Projecting Financing**

Source	Local Costs (US \$m)	Foreign Costs (US \$m)	Total (US \$m)
The world Bank	33.5	37.5	71.0
Federal Government of Nigeria	4.3	0.0	4.3
State Governments			



Community contribution and internally generated revenue	14.2	0.0	14.2
	5.9	0.0	5.9
Total	57.5	37.5	95.4

Table 3: **Distribution Of Vegetation Types in Nigeria**

vegetation types	Area (Km <sup>2</sup> )	% of land area
Sahel	31,460	3.00
Sudan savanna	342,158	35.00
Guinea savanna	400,168	40.00
Low land rain forest		
Fresh water swamp	75,707	8.00
Mangrove forest		
Coastal vegetation	95,372	10.00
	25,563	3.00
	12,782	1.00
Total	983,213	100.00

Source: Sutter (1979)

Table 4: **Forests Reserve By Vegetation Zones In Nigeria**

Zone	Forest reserve (Km <sup>2</sup> )	% of total forest reserve
Sahel savanna	2,571	3.00
Sudan savanna	31,247	31.00
Guinea savanna	38,271	39.00
Derived savanna	3,208	3.00
Moist tropical	20,443	20.00
Fresh swamp	256	3.00
Mangrove	522	1.00
Total	96,518	100.00

Source: Sutter (1979)

Table 5: **Distribution Of Forest Reserves In The Arid And Semi-Arid Zones Of Nigeria**

States	Total land area (Km <sup>2</sup> )	Area under reserve	% of forest reserve
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		(Km <sup>2</sup> )	
Kaduna & Katsina	69,392.85	8,825.19	
Kano & Jigawa	43,743.94	1,979.79	12.72
Sokoto & Kebbi	91,960.06	20,385.21	4.52
Bauchi	65,487.35	8,083.70	
Borno & Yobe	199,132.17	1,823.50	22.17
			12.34
			4.00

Source: Onochi (1983)

**Table 6: Forestry Development Programmes in The Arid And Semi-Arid Zones Of Nigeria 1981 - 1985**

States	Plantation Development (ha)	Natural forest development (ha)	Total (ha)
Bauchi	1,500.00	102,595.00	104,145.00
Borno & Yobe	10,225.00	25,540.00	35,765.00
Kaduna & Katsina			
Kano & Jigawa	32,180.00	33,200.00	66,380.00
Sokoto & Kebbi	57,500.00	94,580.00	152,080.00
	19,000.00	282,280.00	301,280.00

Source: Forth National Plan 1981 - 1985

**Table 7: Plantations and shelter belts in arid and semi-arid zones as at 1980**

State	Wood lots (ha)	Shelter belts (ha)
Sokoto	6,480	520
Kano	4,442	195
Kaduna	2,653	600
Bauchi	1,191	1,574
Borno	5,149	850

Source: Federal Department of Forestry, Lagos

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