



FEDERAL REPUBLIC OF NIGERIA

**NATIONAL BIODIVERSITY STRATEGY AND
ACTION PLAN
2016-2020**



**FEDERAL MINISTRY OF ENVIRONMENT
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Foreword

Nigeria is endowed with enormous biodiversity that includes the freshwater swamp forest, mangrove forest and coastal vegetation, lowland forest, derived savannah, guinea savannah, Sudan/Sahel savannah, and montane ecosystems. Each of these ecosystems has its diverse species of fauna and flora with diverse genetic endowments.

Biodiversity plays vital and diverse roles in our economy, ecology and social lives. We use it as food, fibre, domestic and commercial products, medicine, and for aesthetics and culture, agriculture, knowledge, and industrial processes. We will therefore ensure that it is studied, valorized, conserved and developed in a way that it will bring sustainable benefits to all Nigerians.

However, there are serious environmental challenges that have led to the loss of biodiversity and threatened our existence. Their drivers include all forms of habitat change, over-exploitation, pollution, invasive alien species and climate change. To reverse this situation, we collaborated with the secretariat of the Convention on Biological Diversity (CBD), Global Environment Facility (GEF) and United Nations Environment Programme (UNEP) to revise our National Biodiversity Strategy and Action Plan (NBSAP) and will implement it.

This revised NBSAP will guide the conservation and sustainable utilization of biodiversity, access to genetic resources and the fair and equitable sharing of the benefits arising from their utilization. It is an important document that provides information on biodiversity and their threats and analyzes institutional and legal frameworks that govern biodiversity issues in our country.

It is my hope that this NBSAP will inspire and guide all stakeholders to play their parts towards conservation, and sustainable utilization of biodiversity and the sustainable development of our country.

Amina J. Mohammed (Mrs)

Honourable Minister of Environment

Preface

The preparation and revision of the NBSAPs were done in compliance with Article 6 of the CBD and COP Decision X/2 respectively. The revision process of the NBSAP started with the nomination of the National Project Coordinator and the identification of the NBSAP Revision Team. This was followed by identifying relevant experts and credible consultants who could play a role in the process. Relevant Stakeholders in biodiversity issues were also identified. A work plan was prepared and followed but was reviewed from time to time. Capacity of the members of the NBSAP Revision Team was built through trainings received at inside and outside the country. The Revision Team reviewed draft reports prepared by Consultants. They also organized validation workshops for draft reports. The draft revised National Biodiversity Strategy (NBSAP) was developed through synthesis of the various validated reports of NBSAP components and adopted both by stakeholders and Government. Consequently, Nigeria has adopted 14 SMART National Targets with 21 Impact Indicators and 67 Actions with 123 Performance Indicators and 20 Programmes.

Our revised NBSAP document for 2016–2020 has six chapters: the **Introduction; Status of Biodiversity; Strategy: Principles, Priorities and Targets; Action Plan; Implementation plan; and Institutional, Monitoring and Reporting**. In summary, the revised NBSAP outlines the situation of our biodiversity, the actions we have adopted at home in line with global requirements and our determination to address the threats to biodiversity through the implementation of the NBSAP for the sustainable benefit of our people.

Salisu M. Dahiru
Director of Forestry

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At the national level, the Ministry commends the Nigerian Conservation Foundation (NCF), Natures Copex Nigeria Limited, Bioresources Development and Conservation Programme (BDCP), Quavant Project Limited and PHR Management Consult for providing consultations at various stages of the revised NBSAP. The Ministry will also like to appreciate the efforts of the Multi-stakeholders including the various relevant Federal Ministries, Departments and Agencies; Non-Governmental Organizations; Civil Society Organizations; relevant State Ministries; the Media; and the Press and the Expert Review Team who have been part of the NBSAP revision process for their dedication.

The Ministry commends Professors Maurice Iwu, Elijah Sokomba and Patricia Ori Donli; and Mr Alade Adeleke for their invaluable contributions and patriotism.

Finally, the Ministry is greatly indebted to its past and present High level management including the Honourable Minister of Environment, Amina J. Mohammed (Mrs), Honourable Minister of State for Environment, Alh. Ibrahim Usman Jibril and the Permanent Secretary, Dr Bukar Hassan for their support and encouragement; to the Directors of Forestry: Mr. Peter M. Papka, Mr. Simon Oye Adedoyin, Mr Philip O. Bankole and Mr Salisu M. Dahiru, for their guidance; and to all other relevant Ministry staff members for their immeasurable contributions.

John E. Onyekuru, PhD

NBSAP National Project Coordinator

Executive Summary

Nigeria houses a cornucopia of both plants and animal species which makes it very rich in biodiversity. The considerable levels of endemism and species richness in the country are due to a complex topography, favourable climate and wide range of habitats. These include but are not limited to coastal creeks of the Niger Delta, the rainforests of the Cross River basin and the mountains along the Cameroun border. The Atlantic Ocean forms the southern border part of Nigeria, and with its highly diverse marine and freshwater ecosystems. There exists an inland layout of an array of other forest ecosystems including the Sahel Savannah in the extreme North, Sudan Savannah, Guinea Savannah and Derived Savannah woodland.

Species statistics showed that Nigeria has an endemic flora of 91 species belonging to 44 families with Rubiaceae accounting for the highest numbers. A list of faunal species was also outlined. According to the IUCN Red list 2013, Nigeria has a total of 309 threatened species in the following taxonomic categories: Mammals (26), Birds (19), Reptiles (8), Amphibians (13), Fishes (60), Molluscs (1), other Invertebrates (14) and Plants (168) (Sedghi, 2013). The categories of biodiversity related sites in Nigeria include: 7 National Parks of Old Oyo, Cross River, Gashaka-Gumti, Okomu, Chad Basin, Kainji Lake, and Kamuku; 27 Important Bird Areas including all National Parks and 60% the Ramsar sites; 11 Ramsar Sites; 2 World Heritage Sites of Sukur Kingdom and Osun Osogbo Grove; 994 Forest Reserves; 32 Game Reserves; 1 Biosphere Reserve; and many Sacred groves at varied level of protection.

This document gave information on the status of biodiversity and its contribution to varied sectors of Nigerian economy including tourism, agriculture, water resources, health, commerce and industrial development. It showed how biodiversity impacts on the lives and livelihoods of the people as well. The value of biodiversity to Nigerians and the linkages it has on various sectors of the Nigerian economy was vividly shown. The threats to biodiversity, causes and consequences of biodiversity loss in Nigeria were also identified and analysed. It outlined the Policy, Legal, and Institutional Frameworks on conservation and sustainable use of biodiversity as an integral part of the national policy on environment. There was an elaboration of Stakeholders on Biodiversity management.

This revised NBSAP was developed within the framework of stakeholder's participatory approach involving series of plenary of multi-stakeholders workshop and peer reviews with over 500 stakeholders ranging from international and national experts to officials of sub national entities and managers of natural resources at the grass root. The consultative process included a detailed review of Nigeria's first NBSAP (2001-2010) which provided valuable lessons and guidance for the formulation of this second NBSAP (2016 – 2020).

Some of the key lessons learned from the first NBSAP include the lack of management structures for implementation of the NBSAP and the low level of awareness creation at Federal, State and Local governments during its preparation. Institutional linkages were not properly addressed in the implementation plan of action. Targets and Actions were not set to address identified major challenges although challenges were identified. Strategies for mainstreaming biodiversity into different sectors were weakly analysed in the first NBSAP. These shortcomings of the previous NBSAP form the bases of the lessons learned and the planning process of the current NBSAP has addressed them as critical in the implementation of the revised NBSAP.

Nigeria's Long Term Vision for biodiversity management is: *'A Nigeria with healthy living environment where people live in harmony with nature and sustain the gains and benefits of biodiversity, integrating biodiversity into National programme aimed at reducing poverty and developing a secure future in line with the principle of ecological sustainability and social equity.'* The major focus of this vision is the consideration of genetic materials as a strategic but fragile resource to be conserved, sustainably utilized and perhaps more importantly to be deployed as natural capital for socio-economic development of Nigeria.

Seven principles governing the national biodiversity Strategy were outlined. These are linked to Nigeria's commitment to the CBD that is a genuine appreciation of biodiversity in national development and socio-economic welfare of the Nigerian people. They include specific principles that support global best practices in biodiversity management and in general, the environment and natural resources.

Nigeria considers the five goals of the Global Strategic Plan for Biodiversity 2011-2020 very appropriate and applicable to its situation and adopted them to form the basis of the current NBSAP. It has also adopted **14 SMART National Targets with 21 Impact Indicators and 67 Actions with 123 Performance Indicators and 20 Programmes**. Consequently, Nigeria's current NBSAP is closely aligned to both the CBD Strategic Plan for biodiversity 2011-2020 and its Aichi biodiversity Targets and Nigeria's unique Priorities and features.

The National Targets and related Global Strategic Goals of the NBSAP are as follows:

- Target 1:** By 2020, 30% of **Nigeria's population is aware of the importance of biodiversity** to the ecology and economy of the country.
- Target 2:** By 2020, a comprehensive **programme for the valuation of biodiversity** is developed and implemented, and **payments for ecosystem services (PES)** and goods are mainstreamed into the national budget
- Target 3:** By 2020, adoption of a **national ecosystem-based spatial planning process** and plans, promoting the values of biodiversity and ecosystem services to sustain development

- Target 4:** By 2020, up to 15% of the areas of degraded ecosystems in Nigeria are **under programmes for restoration and sustainable management**
- Target 5:** By 2020, six (6) **management plans are implemented for habitats of endemic and threatened plants and animals**, including sites for migratory species
- Target 6:** By 2020, at least 10% of Nigeria’s national territory is sustainably managed in **conservation areas** at varied levels of authority, with representation of all ecosystem types
- Target 7:** By 2020, the **genetic diversity** of cultivated plants, domesticated animals and their threatened wild relatives, including culturally valuable species, are documented, maintained and valorised in two key institutions in Nigeria
- Target 8:** By 2020, at least 60% of identified **pollution** sources, including those from extractive industries and agricultural inputs, are **brought under control** and guidelines are put in place to mitigate their effects on ecosystems
- Target 9:** By 2020, **invasive alien species** and pathways are identified and prioritized and priority species controlled or eradicated, and measures are in place to manage pathways in the six ecological zones
- Target 10:** By 2015, the Nigerian **NBSAP** has been fully revised and adopted by government as a policy instrument, and its implementation commenced in a participatory manner
- Target 11:** By 2015, the **Nagoya Protocol** on Access to Genetic Resources and the fair and equitable sharing of Benefits Arising from their utilization is acceded to and its implementation through a national regime on ABS commenced
- Target 12:** By 2020, **community participation in project design and management of key ecosystems** is enhanced in one (1) each of the six (6) ecological zones
- Target 13:** By 2020, national-based **funding for biodiversity** is increased by 25%, with effective international partnership support
- Target 14:** By 2020, the **capacity** of key actors is built and gender mainstreaming carried out for the achievement of Nigeria’s biodiversity targets

Supporting systems or components were developed in the revised NBSAP as implementation plans to ensure the development of necessary capacities and inclusive societal engagement in the development, updating and implementation of the country’s NBSAP. The plans developed include: plan for capacity development and technical capacity needs assessment;

communication and outreach strategy including the development of the National Clearing House Mechanism CHM, www.chm-cbd.com.ng that has some translations in the three main Nigerian languages (Igbo, Hausa and Yoruba); and a plan for resource mobilization.

The responsibility for implementing the NBSAP is held by relevant multi-stakeholder institutions identified in the NBSAP document which constitute the Biodiversity Steering Committee (BSC). The Ministry of Environment, through the Department of Forestry which houses the key biodiversity National Focal Points, will be responsible for the direct monitoring of the implementation of this NBSAP.

The Biodiversity Steering Committee will oversee the process of NBSAP implementation and report to the Federal Executive Council (Council of Ministers) and the House Committee on Environment (Parliamentary Committee). The Committee will keep the implementation of the NBSAP under review based on regular reports from the National Biodiversity Monitoring, Evaluation and Coordinating Unit (NBMECU). It will ensure that the activities included in the Action Plan for the implementation of the Strategy are included in the activity plans of the institutions involved in implementing the Strategy.

Monitoring and evaluation will be conducted periodically to enable the tracking of progress during the implementation of the revised NBSAP. Consequently, a monitoring plan was developed in the plenary of multi-stakeholders workshop which has a matrix that is applicable to both the impact indicators and performance indicators. The Monitoring Matrix consists of the: Targets or Action; Impact Indicators or Performance Indicators; Responsibility for activity indicator; Data for indicator (Baseline and Target/Action Data); Data Gathering Methods; Means of Verification, and Collection Frequency for the data. This is to ensure that the national Targets and Actions contribute to the achievement of the Aichi Biodiversity targets and ultimately, the Strategic Plan for Biodiversity 2011-2020.

Table of Contents

Acronyms and Abbreviations

List of Figures

List of Tables

CHAPTER ONE

1.0. INTRODUCTION **1**

1.1. Physico-Geographic and Climate Features 2

1.2. Administrative Tiers of Government and Population 3

1.3. Economy 5

CHAPTER TWO

2.0. STATUS OF BIODIVERSITY IN NIGERIA **6**

2.1. Values of Biodiversity and Ecosystem in Nigeria and their Contribution to Human Well-being 10

2.1.1 Value of Non Timber Forest Products (NTFPs) 10

2.1.2. Biodiversity and Ecotourism 11

2.1.3. Wetlands and Marine Biodiversity 11

2.1.4. Cultural and Aesthetic Values of Biodiversity 12

2.2. Causes and Consequences of Biodiversity Loss 12

2.2.1. High Population Growth Rate 13

2.2.2. Poverty 13

2.2.3. Policy and Legislation Constraints 13

2.2.4. Poor Land Use Planning	14
2.2.5. Governance and Transparency	15
2.2.6. Socio-cultural Characteristics, Food and Trade Connections	15
2.2.7. Effect of Climate Change	16
2.2.8. Unsustainable Agricultural Practices	16
2.2.9. Unsustainable Harvesting of Bioresources	17
2.2.10. Extractive Industries and their Activities	18
2.2.11. Uncontrolled, Illegal and Harmful Mining Practices	19
2.2.12. Pollution	19
2.2.13. Gas Flaring	20
2.2.14. Invasive Species	20
2.2.15. Overgrazing	22
2.3. Constitutional, Legal and Institutional Framework	23
2.3.1. Policy Frame Work	23
2.3.2. Legal Framework	24
2.3.3. Institutional Framework	24
2.3.3.1. Institutions and their Responsibilities	25
2.4. Lessons Learned from the Earlier NBSAP and the Process of Revising the Earlier NBSAP	30
CHAPTER THREE	
3.0. STRATEGY PRINCIPLES, PRIORITIES AND TARGETS	33
3.1. Long Term Vision	33
3.2. Principles Governing the Strategy	34
3.3. Main Goals or Priority Areas	35
3.4. National Targets	36
CHAPTER FOUR	
4.0. NATIONAL ACTIONS TO ACHIEVE THE STRATEGY	39
4.1. Application of the NBSAP to Sub-National Entities	39
4.1.1. Relationship between NBSAP and Sub-National Entities	39
4.2. Sectoral Actions: Mainstreaming Biodiversity into National Development, Poverty Reduction and Climate Change Plans	53
CHAPTER FIVE	
5.0. IMPLEMENTATION PLAN	54
5.1. Plan for Capacity Development and Technology Needs Assessment for NBSAP Implementation	55
5.1.1. Capacity Development Plan	57
5.1.2. Technology Needs Assessment and Plan for Increasing Technical Capacity	59
5.1.3. Identification and Evaluation of Current Technology Status	59

5.2. Communication and Outreach Strategy for the NBSAP	60
5.2.1. Required Communication Actions	61
5.2.2. Strategic Approach	63
5.2.3. Roles and Responsibilities	63
5.3. Plan for Resource Mobilization for the NBSAP Implementation	64
5.3.1. Finance Actors	64
5.3.2. Financing Mechanisms	64
5.3.3. Innovative Funding for the NBSAP	65
CHAPTER SIX	
6.0. INSTITUTIONAL MONITORING AND REPORTING	67
6.1. National Coordinating Structures	67
6.1.1. Considerations for Establishment of NBSAP National Coordinating Structure	68
6.1.2. Monitoring, Evaluation and Reporting Structures	69
6.2. Clearing House Mechanism (CHM)	73
6.2.1. Website Design Process	74
6.2.2. Essence of the Clearing House Mechanism	74
6.2.3. Main Page Type Designs	75
6.3. Monitoring, Evaluation and Reporting Plan	78
6.3.1. Monitoring and Evaluation	78
6.3.2. Reporting Plan	78
6.3.3. Monitoring Plan	80
6.3.4. Evaluation Plan	119
6.3.5. Major NBSAP Challenges	120

REFERENCES

APPENDIX

List of Members of the Multi-Stakeholders Committee

List of Consultants and their profiles

The Peer Review Team

The NBSAP Revision Team

List of participants involved in the process of the revision of the NBSAP

LIST OF FIGURES

Fig. 1.1: Ecological Zones of Nigeria	3
Fig. 1.2: Map of Nigeria	4
Fig 2.1: Map of Nigeria showing vegetation zones and some important sites for Biodiversity	9
Fig. 2.2: Clearing Typha on Nguru channel	21
Fig. 2.3: Number of grazing livestock in Nigeria between 1981 and 2008	22
Fig. 6.1: Website Design Process	74
Fig. 6.2: Early prototype Home Page	75
Fig. 6.3: Close-Out Document Checklist	76
Fig. 6.4: NBSAP Reporting Structure	79

LIST OF TABLES

Table 1.1: Nigeria's Geopolitical Zones	4
Table 2.1: List of Endemic Vertebrate species in Nigeria	6
Table 2.2: Categories of Biodiversity sites in Nigeria	8
Table 2.3: Stakeholders (Policy and Government Institutions) on Biodiversity in Nigeria	28
Table 3.1: National Targets and Related Global Strategic Goals	36
Table 4.1: Strategy and Action Plan for Nigeria's Revised NBSAP	40
Table 5.1: Capacity Assessment Framework	56
Table 5.2: Capacity Development Activities and Actions	57
Table 5.3: List of Identified Technologies	59
Table 5.4: Technology Needs and Required Actions	60
Table 5.5: NBSAP Stakeholders and Required Communication Actions	61
Table 5.6: NBSAP Implementation Team Roles and Responsibilities	63
Table 5.7: Checklist of Sample Financial Mechanisms for NBSAP	64
Table 6.1: NBSAP Stakeholders and Responsibilities	69
Table 6.2: Close-Out Document Checklist	77
Table 6.3: NBSAP Target Monitoring Matrix	81
Table 6.4: NBSAP Actions Monitoring Matrix	87
Table 6.5: Evaluation Activities, Responsibility and Periods	119

LIST OF ACRONYMS AND ABBREVIATIONS

ABS	Access and Benefit Sharing
ADPs	Agricultural Development Projects
BDCP	Bioresources Development and Conservation Programme
BD	Biodiversity
BSC	Biodiversity Steering Committee
CBD	Conference of Biological Diversity
CBO	Community-Based Organization
CCD	Climate Change Department
CENRAD	Centre for Environment Renewable Natural Resources Management Research and Development
CHM	Clearing House Mechanism
COP	Conference of the Parties
CSO	Civil Society Organization
DDA	Desertification Amelioration Department
DPR	Department of Petroleum Resources
EA	Environmental Assessment Department
ECN	Energy Commission of Nigeria
ERA	Environmental Rights Action
FAN	Forestry Association of Nigeria
FCT	Federal Capital Territory
FDF	Federal Department of Forestry
FMA&RD	Federal Ministry of Agriculture and Rural Development
FME	Federal Ministry of Education
FME _{env}	Federal Ministry of Environment
FMF	Federal Ministry of Finance
FMH	Federal Ministry of Health
FMJ	Federal Ministry of Justice
FML&S	Federal Ministry of Lands and Survey
FMWR	Federal Ministry of Water Resources
FRIN	Forestry Research Institute of Nigeria
GCLME	Guinea Current Large Marine Ecosystem
GBO	Global Biodiversity Outlook
GEF	Global environment Facility
IMCABS	Inter-Ministerial Committee on Access and Benefit Sharing
LCBDA	Lake Chad Basin Development Authority
LGAs	Local Government Authorities
MDAs	Ministries, Departments and Agencies
M & E	Monitoring and Evaluation
NABDA	National Biotechnology Development Agency
NAGGW	National Agency for Great Green Wall
NALDA	National Livestock Development Agency
NAN	News Agency of Nigeria
NAQS	Nigerian Agricultural Quarantine Service

NASPA-CCN	National Adaptation Strategy and Plan of Action for Climate Change in Nigeria
NBC	Nigerian Broadcasting Commission
NBSAP	National Biodiversity Strategy and Action Plan
NBMA	National Biosafety Management Agency
NBMECU	National Biodiversity Monitoring and Evaluation Coordination Unit
NBWG	National Biodiversity Working Group
NCC	Nigerian Communication Commission
NCF	Nigerian Conservation Foundation
NCGRAB	National Centre for Genetic Resources and Biotechnology
NESREA	National Environmental Standards Regulation and Enforcement Agency
NEST	Nigerian Environment Study/Action Team
NFP	National Focal Point
NGOs	Non-governmental Organizations
NIFFR	Nigerian Institute for Freshwater Fisheries Research
NIMASA	Nigerian Maritime Administration and Safety Agency
NIOMR	Nigerian Institute for Oceanography and Marine Research
NIPRD	National Institute for Pharmaceutical Research and Development
NNPC	Nigerian National Petroleum Corporation
NOA	National Orientation Agency
NOSDRA	National Oil Spill Detection and Response Agency
NPC	National Planning Commission
NPS	National Parks Service
NTFPs	Non Timber Forest Products
NUC	National University Commission
OSGF	Office of Surveyor General of the Federation
PC&EH	Pollution Control and Environmental Health
PQD	Plant Quarantine Department
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SPDC	Shell Petroleum Development Company
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
WCS	Wildlife Conservation Society

CHAPTER ONE

1.0. INTRODUCTION

Nigeria and the Convention on Biological Diversity (CBD)

Nigeria became a Party to the Convention on Biological Diversity (CBD) in 1994 and thus committed itself to the convention's three objectives: the conservation of biological diversity; the sustainable use of its components; and the fair and equitable sharing of benefits arising from the utilization of genetic resources. Parties to the Convention on Biological Diversity (CBD) are required in Article 6 to prepare and implement a National Biodiversity Strategy and Action Plan (NBSAP). According to the third edition of the Global Biodiversity Outlook (GBO-3) assessment, the pre- 2010 NBSAPs were, among other things, poorly implemented which resulted in continuing poor management and loss of biodiversity. Consequently, at the 2010 or tenth Conference of the Parties (COP-10) held at Nagoya, Aichi Prefecture, Japan, more than 190 countries of the world reached an historic global agreement to take urgent action to halt the loss of biodiversity and adopted the Strategic Plan for Biodiversity 2011-2020 with 5 goals and 20 Targets.

At that historic occasion, Nations affirmed their commitment to ensure that they achieved the adopted global agreement for biodiversity conservation. Parties were urged to revise/update their pre-2010 NBSAPs using this Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets as an overarching, flexible framework in accordance with national circumstances, priorities and capacities. The Strategic Plan is a ten-year framework for action by Parties to the CBD and stakeholders to save biodiversity and enhance its benefits for people. The plan recognizes the importance of biodiversity for sustaining a healthy planet and for delivering essential benefits to people.

The NBSAP is a national instrument for identifying, documenting and addressing the threats to biodiversity in order to prevent its loss. Its objectives are: to address the underlying causes of biodiversity loss by mainstreaming biodiversity across governments, societies and economic sectors; to reduce the direct pressures on biodiversity and promote sustainable use; to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity; to enhance the benefits to all from biodiversity and ecosystem services; and to enhance implementation through participatory planning, knowledge management and capacity building.

Nigeria has an NBSAP, which was launched in 2006 but unfortunately, was not adequately implemented. This pre-2010 NBSAP is now revised in compliance with COP decision X/2 and the guidance adopted in decision IX/9. By this, Nigeria reaffirms its commitment to ensuring that it delivers on these obligations through positive action at home which will promote biodiversity conservation and sustainable livelihoods.

This revised NBSAP will guide our efforts in the conservation and sustainable use of our rich biodiversity over the decade, including setting our target to halt its overall loss by 2020. In the longer term, our ambition is to move progressively from near biodiversity loss to sustainable use of biodiversity.

1.1. Physico-Geographic and Climate Features

Geography

Nigeria is situated in the West African region and lies between longitudes 3°E and 15°E and latitudes 4°N and 14°N. It has a land mass of 923,768 sq.km. It is bordered to the north by the Republics of Niger and Chad. It shares borders to the west with the Republic of Benin, while the Republic of Cameroun shares the eastern borders right down to the shores of the Atlantic Ocean which forms the southern limits of Nigerian Territory. The about 853km of coastline confers on the country the potentials of a maritime power. Land is in abundance in Nigeria for agricultural, industrial and commercial activities.

At her widest, Nigeria measures about 1,200 km from east to west and about 1,050 km from north to south. The country's topography ranges from lowlands along the coast and in the lower Niger Valley to high plateaus in the north and mountains along the eastern border. Much of the country is laced with productive rivers. Nigeria's ecology varies from tropical forest in the south to dry savannah in the far north, yielding a diverse mix of plants and animals.

The broad and mostly level troughs of the Niger and Benue rivers form Nigeria's prominent physical features. The river Niger enters the country from the northwest, the river Benue from the northeast; the two rivers form a confluence in Lokoja in the North Central region and continue south, where they empty into the Atlantic at the Niger Delta. North of the Niger Valley are the high plains of the Country, an area of relatively level topography averaging about 800 m above sea level, with isolated granite out-cropping. The Jos Plateau, located close to Nigeria's geographic centre, rises steeply above the surrounding plains to an average elevation of about 1,300 m.

Climate

Temperature across the country is relatively high with a very narrow variation in seasonal and diurnal ranges (22 - 36°C). There are two basic seasons: wet season which lasts from April to October; and the dry season which lasts from November till March. The dry season commences with Harmattan, a dry chilly spell that lasts till February and is associated with lower temperatures, a dusty and hazy atmosphere brought about by the North-Easterly winds blowing from the Arabian Peninsula across the Sahara; the second half of the dry season, February – March, is the hottest period of the year when temperatures range from 33-40°C.

The extremes of the wet season are felt on the south-eastern coast where annual rainfall might reach a height of 330cm; while the extremes of the dry season, in aridity and high temperatures, are felt in the north third of the country.

Vegetation

In line with the rainfall distribution, a wetter south and a drier northern half, there are two broad vegetation types: Forests and Savannah. There are three variants of each, running as near parallel bands east to west across the country. These include Sahel Savannah in the extreme North, Sudan Savannah, Guinea Savannah, Derived Savannah, Tropical evergreen rainforest, Fresh water swamp and Saline water swamp. There is also the unique vegetation

of the Jos plateau, as well as the montane vegetation of the isolated highlands of Mambilla and Obudu.

The savannah, especially Guinea and Sudan, are the major grains, grasses, tubers, vegetable and cotton growing regions. Fig 1.1 shows the Ecological zones in Nigeria. The Tropical evergreen rain forest belt bears timber production and forest development, production of cassava; and plantation growing of fruit trees – citrus, oil palm, cocoa, and rubber, among others.

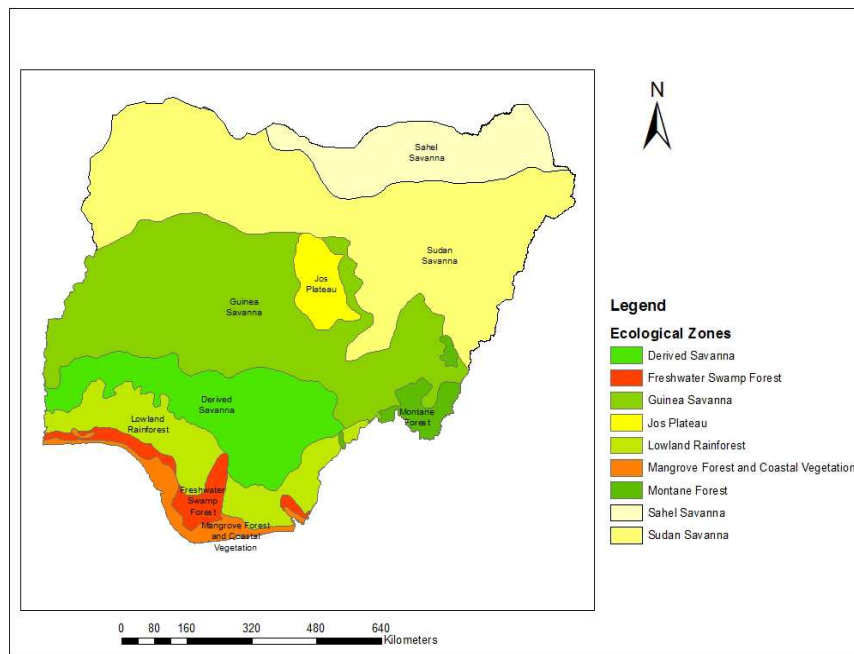


Fig. 1.1: Ecological Zones of Nigeria

1.2. Administrative Tiers of Government and Population

Administrative Structure

Nigeria operates a federal system of government. There is a central government with its headquarters in Abuja. There are 36 states and the Federal Capital Territory (FCT), as shown in Fig. 2, with 774 Local Government Areas that constitute the third tier of government.

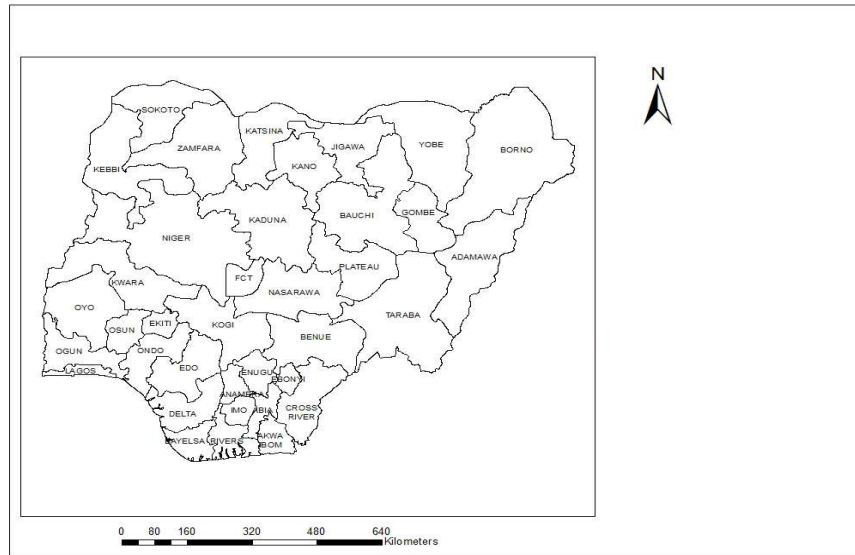


Fig. 1.2: Map of Nigeria

It is now common for reasons of coordination and for representation in national affairs to group the 36 states into six geopolitical zones as follows (indicated in Table 1.1):

Table 1.1: Nigeria's Geopolitical Zones

Zone	Constituent States
North West	Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto, Zamfara
North East	Adamawa, Bauchi, Borno, Gombe, Taraba, Yobe
North Central	Benue, Kogi, Kwara, Nassarawa, Niger, Plateau
South West	Ekiti, Lagos, Ogun, Ondo, Osun, Oyo
South East	Abia, Anambra, Ebonyi, Enugu, Imo
South South	Akwa-Ibom, Bayelsa, Cross-River, Delta, Edo, Rivers
Federal Capital	The Federal Capital Territory (FCT)

The current constitution was adopted in 1999 and amended in 2014. The executive arm is headed by a President, Commander-in-Chief of the Armed Forces, elected by popular vote for no more than two four-year terms. The Federal Executive Council, an appointed body, functions as a cabinet within the executive arm. The legislature is bicameral consisting of the Senate elected by popular vote to serve four-year terms, and a House of Representatives, also elected by popular vote to serve four-year terms.

The judiciary constitutes the third arm of government and is made up of the Supreme Court and the Federal Courts of Appeal with judges appointed by the federal government on the advice of an Advisory Judicial Committee.

A Governor who appoints Commissioners to oversee various state ministries heads the state. It is noteworthy that state ministry structure varies between states and does not necessarily follow the federal model. Local government administrations (LGA's) function as the main supporting bodies for activities within each state and are administered by elected Chairperson.

Population

The population of Nigeria is estimated at 183, 523, 434 people as at July 2015, which is equivalent to 2.51% of the total world population and makes Nigeria number 7 in the list of the total world population (Source: Worldometers). Nigeria is composed of more than 250 ethnic groups: the most populous and politically influential are Hausa and Fulani 29%, Yoruba 21%, Igbo (Ibo) 18%, Ijaw 10%, Kanuri 4%, Ibibio 3.5%, Tiv 2.5%.

1.3. Economy

Nigeria is a middle income, mixed economy and emerging market, with expanding financial, service, communications, technology and entertainment sectors. It is ranked as the 21st largest economy in the world in terms of nominal GDP, and the 20th largest in terms of Purchasing Power Parity. It is the largest economy in Africa; its re-emergent, though currently underperforming, manufacturing sector is the third-largest on the continent, and produces a large proportion of goods and services for the West African sub-region.

Nigeria's economy is struggling to leverage the country's vast wealth in fossil fuels in order to displace the poverty that affects about 33% of its population. Like most developing countries there is the coexistence of vast wealth in natural resources and extreme personal poverty in Nigeria. The economy has enjoyed sustained economic growth for a decade, with annual real GDP increasing by around 7%; it was 6.3% in 2014. The non-oil sector has been the main driver of growth, with services contributing about 57%, while manufacturing and agriculture, respectively contributed about 9% and 21%.

The economy is thus diversifying and is becoming more services-oriented, in particular through retail and wholesale trade, real estate, information, communication and entertainment. The 2015 outlook is for moderate growth of 5%, due to vulnerability to slow global economic recovery, oil-price volatility and global financial developments. The low oil price will lead to a sharp decline in fiscal revenues. Though agriculture has suffered from years of mismanagement, inconsistent and poorly conceived government policies, neglect and the lack of basic infrastructure. Still, the sector accounts for over 26.8% of GDP and two-thirds of employment.

CHAPTER TWO

2.0. Status of Biodiversity in Nigeria

Nigeria is rich in biodiversity and among the regions of the world, houses comparable levels of endemism and species richness due to a complex topography and wide variety of habitats. These include but are not limited to coastal creeks of the Niger Delta, the rainforests of the Cross River basin and the mountains along the Cameroun border with Nigeria (WCS, 2015). Along with the Atlantic Ocean which forms the southern border part of Nigeria, and with its highly diverse marine and freshwater ecosystems, there exists an inland layout of an array of other forest and woodland ecosystems which end up in Sudan Savannah and Sahel/semi-desert belt in the northern part of Nigeria. With very extensive and broad based river systems that emerge out of the two largest Rivers – Niger and Benue, Nigeria has a huge watershed resource which supports agriculture, navigation and commerce. The three major plateaux landscapes in the central part – Jos, the south eastern end – Obudu and the north east – Adamawa and Mambilla contains the topmost peaks of Nigeria where altitude approaches about 1800 m asl. Each of these ecosystems has its own unique characteristics of wild fauna, higher and lower floral species and a huge collection of marine and freshwater aquatic species. In species diversity and endemism, Nigeria is highly endowed. Borokini (2014) reports that Nigerian endemic flora amount to 91 species belonging to 44 families with Rubiaceae accounting for the highest numbers. A breakdown of faunal species is presented in the Table 2.1.

Table 2.1: List of Endemic Vertebrate species in Nigeria

Mammals	Birds	Fishes (Freshwater)	Fish (Marine)	Reptiles
Cercopithecus sclateri (Primates - Cercopithecidae) Sclater's Guenon	Malimbus ibadanensis (Ploceidae) Ibadan Malimbe	<i>Alestopetersius smykalai</i> (Alestiidae) Blue Diamond Tetra	Grammonus longhursti (Bythitidae) Meganthias carpenteri (Serranidae) Yellowtop Jewelfish	Cynisca gansi (Squamata Amphisbaenia - Amphisbaenidae)
Crocidura longipes (Soricomorpha - Soricidae) Savanna Swamp Shrew	Estrilda poliopareia (Estrildidae) Anambra Waxbill	<i>Arnoldichthys spilopterus</i> (Alestiidae) Niger Tetra		Cynisca kigomensis (Squamata Amphisbaenia - Amphisbaenidae)
Dasymys foxi (Rodentia - Muridae) Fox's Shaggy Rat	Lagonosticta sanguinodorsalis (Estrildidae) Rock Firefinch	<i>Ctenopoma argentoventer</i> (Anabantidae) Silver-bellied Climbing Perch		Cynisca nigeriensis (Squamata Amphisbaenia - Amphisbaenidae)
Praomys obscurus (Rodentia - Muridae) Gotel	Vidua maryae (Viduidae) Jos Plateau Indigobird	<i>Ctenopoma nebulosum</i> (Anabantidae) Fog Bushfish		Mehelya egbensis (Squamata Ophidia - Colubridae) Dunger's File Snake
		<i>Aphyosemion deltaense</i> (Aplocheilidae) Delta Killifish		Rhinotyphlops

Mammals	Birds	Fishes (Freshwater)	Fish (Marine)	Reptiles
Mountain Soft-furred Mouse		<i>Epiplatys biafranus</i> (Aplocheilidae) Biafra Panchax <i>Epiplatys longiventralis</i> OC (Aplocheilidae) Banded Panchax <i>Fundulopanchax arnoldi</i> (Aplocheilidae) Arnold's Lyretail <i>Fundulopanchax powelli</i> (Aplocheilidae) Black Aphyosemion <i>Nothobranchius kiyawensis</i> (Aplocheilidae) Kiyawa Nothobranch <i>Parauchenoglanis akiri</i> (Bagridae) <i>Parauchenoglanis buettikoferi</i> (Bagridae) <i>Thysochromis annectens</i> (Cichlidae) <i>Neolebias axelrodi</i> (Citharinidae) <i>Neolebias powelli</i> (Citharinidae) Domino Neolebias <i>Barbus aboinensis</i> OC (Cyprinidae) Aboina Barb <i>Barbus clauseni</i> OC (Cyprinidae) <i>Garra trewavasai</i> (Cyprinidae) <i>Dormitator pleurops</i>		crossii (Squamata Ophidia - Typhlopidae) Cross' Beaked Snake Cnemaspis gigas (Squamata Sauria - Gekkonidae) Perret's Nigeria Gecko Cnemaspis petrodroma (Squamata Sauria - Gekkonidae) Nigeria Crag Gecko

Mammals	Birds	Fishes (Freshwater)	Fish (Marine)	Reptiles
		(Eleotridae) <i>Synodontis guttatus</i> OC (Mochokidae) <i>Synodontis robbianus</i> OC (Mochokidae) Russet Synodontis		

Source: *Wilson & Reeder (2005) for mammals, Dickinson (2003) for birds, the EMBL Reptile Database (2005) for reptiles, Frost (2004) for amphibians, and FishBase 2004 (2004) for fishes*

However, overall, biodiversity in Nigeria is highly threatened due to land use changes from agriculture and overgrazing, over exploitation of natural resources through extractive actors, invasive species and environmental pollution. According to the IUCN Red list 2013, Nigeria has a total of 309 threatened species in the following taxonomic categories: Mammals (26), Birds (19), Reptiles (8), Amphibians (13), Fishes (60), Molluscs (1), other Invertebrates (14) and Plants (168) (Sedghi, 2013).

Conservation scientists observe that immediate attention should be focused on saving what remains of the priority areas for biodiversity in the country. There is also general consensus on where the remaining nexus of biodiversity lies in Nigeria and the first level action is expected to be focused on those areas as shown in Table 2.2.

Table 2.2: Categories of Biodiversity sites in Nigeria

Category of Biodiversity related sites	Number	Comments
National Parks	7	The National Parks are high priority conservation areas and are found in seven locations, namely Old Oyo National park in Oyo State, Cross River National Park in Cross River state, Gashaka-Gumti in Taraba/Adamawa states, Okomu National Park in Edo state, Chad Basin National Park in Borno/Yobe States, Kainji Lake National Park in Niger/Kwara States and Kamuku National Park in Kaduna state. However, these reservoirs of Nigeria's biodiversity suffer from low funding and several management and technical challenges
Important Bird Areas	27	These are identified as important biodiversity areas too. All National Parks have IBAS within them and 60% of Nigeria Ramsar sites are also IBAs
Ramsar Sites	11	Management plans have been developed for four of these sites (Apoi Creek, Lower Kaduna, Oguta Lake and Baturiya) but are yet to be implemented due to lack of funding. The national wetland policy is at draft stage and

Category of Biodiversity related sites	Number	Comments
		there are plans to designate four more sites (Chingurme, Ibom/Cross River estuary, Wawan Rafi Wetlands and Akassa coastal wetland.
World Heritage Sites	2	The Sukur Kingdom in Mandara Mountains in Madagali LGA of Adamawa State in north-eastern Nigeria is the first Nigerian landmark to be listed on the World Heritage Sites, while Osun Osogbo Grove made the list later in 2005.
Forest Reserves	994	50% still maintain their FR status, while the remaining 50% have either been de-reserved or have been encroached upon and converted to either farmlands or residential areas
Game Reserves (State Governments and a few managed by communities)	32	60% under various levels of management
Biosphere Reserve	1	The only named Biosphere Reserve according to UNESCO is in Omo Forest Reserve, Ogun State, Nigeria
Sacred groves	N/A	Many in number and at varied level of protection

Nigerian Conservation Foundation (2012)

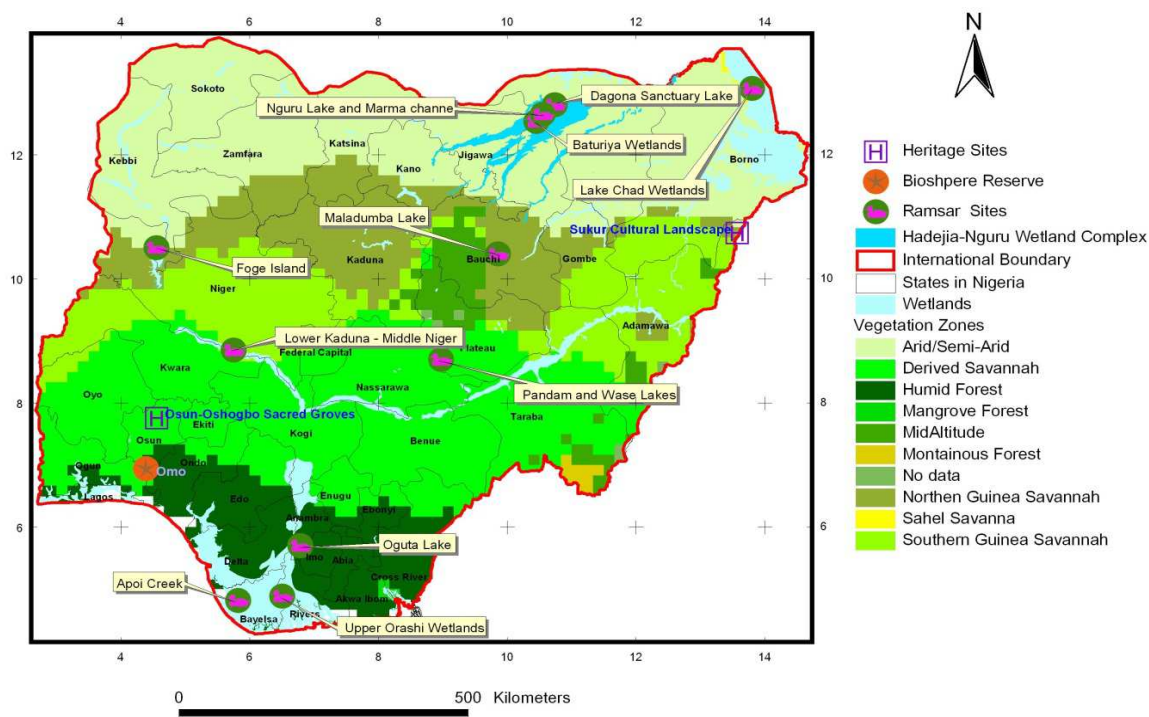


Fig 2.1: Map of Nigeria showing vegetation zones and some important sites for Biodiversity

2.1. Values of Biodiversity and Ecosystem in Nigeria and their Contribution to Human Well-being

Nigeria is rich in biodiversity but unfortunately, many people do not appreciate the function and value of its natural ecosystems. Ecosystem services include those processes and conditions within which nature sustains and otherwise meets the needs of humankind. Nigeria's ample biodiversity and associated habitats are important both locally and globally in a variety of ways going beyond aesthetics to provide valuable ecosystem services, present and future economic benefits and spiritual values which are difficult to quantify. One of the principal means of ensuring that natural resources are managed sustainably lies in placing proper values on such resources. In effect, any management regime which assigns zero value to natural resources runs the risk of overexploitation. Consequently, for any resource to be more effectively managed, the cost of using the resource needs to reflect the total value the society places upon it. The problem of resource depletion and over exploitation is worsened by imbalances in the law and practice of resource valuation in Nigeria especially with regard to capturing the economic value of natural resources.

Nigeria's natural resource endowment comprising a great variety of ecosystems and a number of unique species serve as a major source of wealth and economic empowerment in the country and play a fundamental role in rural development, poverty alleviation and good governance. Trade and traditional occupations associated with biodiversity in Nigeria include wood carving, canoe building, furniture making, basket weaving, local dye industry, bee farming and honey processing, fish smoking, bush meat hunting/processing, oil palm processing, fruit processing and local medicine marketing. Biodiversity is central to the livelihood of Nigerians and despite the fact that crude oil accounts for about 90% of Nigeria's exports and more than 80% of government revenue, poverty in Nigeria has led to a near total dependence of over 90% of the rural population on forests, especially non timber forests products (NTFPs).

2.1.1 Value of Non Timber Forest Products (NTFPs)

The income realised from NTFPs by an average collector has been estimated by Otegbulu (2013), where the amount realised by *Rhizophora racemosa* from 2000 - 2002 is ₦129,950.6 and *Raffia palm* ₦137,777.76. Other NTFPs sourced by local communities in Nigeria include bush meat, snails, as well as wild fruits such as bush mango, edible kola, nuts, vegetables of various types and also condiments and health related food such as cooked leaves, varied species of spices, and honey from bee hives, mushrooms and the basil plant.

Ethno-botanical studies have revealed the importance of hundreds of different kinds of herbs used for curing different kinds of diseases in different parts of Nigeria. Accordingly, trade in medicinal plants and animal parts have grown and now form a major category of merchandise in village markets in rural and peri-urban settlements. The number of people who rely on herb resources is increasing. Consequently, maintaining health standards for millions of Nigerians depends on the protection and sustainable management of biodiversity. The National Institute for Pharmaceutical Research and Development (NIPRD) has reliable data on the medicinal plant resources in Nigeria.

2.1.2. Biodiversity and Ecotourism

Ecotourism can be defined as responsible travel to natural areas that contribute to conserving the environment and sustaining the wellbeing of local people. The advantages of ecotourism for developing countries are as follows:

- It causes minimal environmental impact compared to other options.
- Increases awareness towards the conservation of natural and cultural assets, both among locals and tourists.
- It generates significant foreign exchange and economic benefits to host communities.

Nigeria's forest (particularly the protected areas), marine and wetland resources provide great opportunities for ecotourism, which is widely touted as a viable development strategy for the developing world. For instance, Argungu Fishing Festival remain very popular as a tourist event in Nigeria while the Hadejia Nguru Wetlands in northern Nigeria and some other notable sites in the country have great potential for receiving millions of migratory birds, that could provide huge resource for seasonal bird watching if well developed. Nigeria's iconic large mammals include: the Cross River gorilla (*Gorilla gorilla diehli*), the African elephant (*Loxodonta africana*), the lion (*Panthera leo*) and Nigerian-Cameroon chimpanzee (*Pan troglodytes ellioti*). The country is also a centre for primate diversity and its bird diversity, a record 940 species is among the highest in Africa. However, the economic potentials of ecotourism in Nigeria have been greatly underutilized as compared to other regions in Africa. For instance, in Tanzania, where ecotourism represents the largest source of revenue, gross receipts totaled \$322 million as far back as 1996. Kenya realized \$502 million in gross receipts in 1997 while South Africa received \$2.2 billion in earnings in 1995 (Honey 1999).

2.1.3. Wetlands and Marine Biodiversity

Wetlands are one of the most undervalued ecosystems providing food, water filtration and a unique habitat for a variety of unique species (WWF, 2015). Nigeria's wetlands are estimated to cover 28,000 km² about 3 percent of the 923,768 km² land surface area of the country (Uluocha and Okeke, 2004). Oyebande et al. (2003) and Asibor (2009) have identified fourteen major wetland belts in Nigeria which are as follows: Sokoto-Rima, Komadugu Yobe, Lake Chad, Upper Niger and Kainji Lake, Middle Niger - Lokoja - Jebba - Lower Kaduna, Lower Benue - Markudi, Cross River, Lower Niger, Niger Delta, Benin-Owena and Okomu, Lagos Lagoon and Lekki Peninsula, Yewa Creeks and the transboundary wetlands of the upper Benue. The Lake Chad wetlands for instance is crucial because of its proximity to the edge of the Sahara Desert and its provision of water for over 20 million people in Nigeria and neighbouring countries such as Chad, Cameroun and Niger (Gophen, 2008). These wetlands support fisheries and irrigation giving access for livelihoods and economic activities. Wetlands and their biodiversity contribute to the national and local economies by the provision of natural resources, recreational opportunities, ecosystem benefits such as, climate regulation, flood protection, pollution control and water purification (U.S. EPA, 2006).

2.1.4. Cultural and Aesthetic Values of Biodiversity

Culturally, many ethnic groups in Nigeria have unique and distinct traditions and knowledge which they use in relating with nature. The survival of natural habitats and species are therefore important to Nigerian cultures. There exists a strong integration between cultural heritage and biodiversity. Lifestyles, customs and norms as well as the associated arts, crafts, songs and folklores, reflect the type of biodiversity and natural resources in different communities and societies in Nigeria. The social fabric of life including food, shelter type, skills and traditional knowledge are all enshrined in biodiversity represented in these areas. For example, Ijaws, Itsekiris and the Ilajes of the Niger Delta region are coastal people and are used to the coastal environment. They are skilled in swimming, canoe building, fishing, water regatta and sea-food processing. Similarly, inland Lake People around Lake Kainji, Hadejia-Nguru, Lake Chad, Oguta Lake and the Benue floodplains, are familiar with freshwater fishing, fresh water fish processing and water resources utilisation and management.

In prehistoric times, special attention was placed on areas of high biodiversity protection in support of worship, provision of important herbs and consultation with deities in many parts of Nigeria. Some communities still maintain fetish or sacred forests where spiritual consultations and collection of traditional medicines and herbs for community benefits take place. The recognition of this interaction between biodiversity, culture and natural heritage in Nigeria has earned the country some level of international recognition, leading to the listing of Osun-Osogbo grove in Osun State as a World Heritage Site. The interaction between culture and biodiversity has also assisted in the protection of certain endangered species of wildlife such as the Sclaters Guenon (*Cercopithecus sclateri*), which is not only available in the wild in Taylor Creek and Stubbs Creek Forest Reserves, but also in abundance in sacred forests in Akpogueze community in Anambra State and Langwa community in Imo State.

Apart from the aforementioned benefits, the maintenance of environmental health and sanitation is also an ecosystem service performed by biodiversity, through biological scavengers and decomposers. This ecosystem service is likely to be lost in part, following the recent crash of populations of vultures and other species of scavengers around slaughter slabs, abattoirs and dumpsites in Nigeria, where they provide useful services of eating up waste.

2.2. Causes and Consequences of Biodiversity Loss

Biodiversity in Nigeria is under enormous pressure. For instance, the deforestation rate in Nigeria is about 3.5% per year, translating to a loss of 350,000-400,000 ha of forest land per year (Ladipo, 2010). Recent studies show the remainder forests occupy 923,767 km² or about 10 million ha (Ladipo, 2010). This is about 10% of Nigeria's forest land area and well below FAO's recommended national minimum of 25% (Ladipo, 2010). Drivers of biodiversity loss in Nigeria include agriculture, pollution, extractive industries, construction industries, bush burning, hunting, over fishing, climate change among others. They are discussed as follows:

2.2.1. High Population Growth Rate

Biodiversity loss is a problem in many other countries in the world and most particularly developing countries where poverty is still pervasive. Nigeria is the most populous African country and has one of the highest population growth rates in the world. Biodiversity supports the growing populations in rural and urban areas but the pressure is becoming increasingly higher due to over-exploitation occasioned by high demand.

A small population of people, living at low densities by means of traditional patterns of agriculture, pastorals and hunting-gathering have for many centuries been able to use natural resources sustainably simply by not removing these resources faster than their reproductive or replenishment rates. However, Nigeria's large population is characterized by high percentages of illiteracy, unemployment and poverty, which acts as powerful drivers of increasingly severe demands on the remaining biodiversity in Nigeria. Towns are becoming larger, new villages are being established; farms and wood cutting activities are extending further and further from each settlement. New roads and tracks enable farming, hunting and wood cutting to occur in previously undisturbed habitats.

In addition, several socio-economic factors can be reported to be mediating the relationship between population and natural resource depletion or degradation in Nigeria. For example, critical factors such as access to and patterns of production, distribution, and consumption have had significance influence on Nigeria's biodiversity loss, particularly with the realization that people's perception, attitudes, and values may be more important than sheer numbers of people.

2.2.2. Poverty

According to the Human Development Index Report (UNDP 2008-2009), the number of poor people in Nigeria remains high and the level of poverty rose from 27.2 per cent in 1980 to 65.6 per cent in 1996, an annual average increase of 8.83 per cent over a 16-year period. However, between 1996 and 2004, the level poverty declined by an annual average of 2.1% to 54.4%.

To a large extent, poverty contributes a major threat to biodiversity and in other ways continues to further deepen the level of poverty in most rural areas. As an underlying factor for biodiversity degradation, poverty causes threats to biodiversity for the following reasons. The poor are pushed by the affluent and influential majority to destroy their own source of livelihoods for meagre financial returns and the poor, due to deprivation find it difficult to secure any other alternative than to erode the very foundation of their own long term survival. Biodiversity is always at the receiving end being the readily available option for food, fibre and minimal commercial gain by the rural poor. The need for protection of biodiversity is therefore seen as elitist by the rural poor whose deprivation in terms of food and domestic needs have been pushed to the wall.

2.2.3. Policy and Legislation Constraints

The environment and by implication, biodiversity, lags behind other sectors in policy and legislative reforms. The underpinning value elements of biodiversity as a life support system for millions of Nigerians is yet to receive recognition and serious consideration in national

policy and legislative action. The existing laws relating to biodiversity are obsolete, with the exception of the new laws establishing the National Environmental Standards and Regulations Enforcement Agency (NESREA), that on Climate Change and possibly the Grazing Commission.

The process of policy review on biodiversity related issues is very slow and given little or no consideration in major policy and strategic national discourse. Biodiversity issues have been relegated into the background and have only been the concern of conservationists, scientists and environmentalists despite its significant contribution to the livelihoods of rural and peri-urban communities and the ecosystem services it provides.

International conventions and treaties are entered into and signed by the Federal Government of Nigeria, but implementation has been slow, with huge backlogs of annual contributions to the respective trust funds of these conventions. Low budgetary allocations to implement decisions of the various conferences and meetings of the Parties to these conventions and agreements, coupled with low capacity have resulted in poor implementation.

Poor legislative enforcement has been and still is a glaring setback for biodiversity conservation in Nigeria. The National Parks that are repository of much of Nigeria's biodiversity have faced serious threats of poaching in recent years, losing not only wildlife but also Rangers to poachers. Everywhere in Nigeria, biodiversity related laws are broken openly due to low public awareness on biodiversity and lack of capacity for law enforcement agents to deal with issues of concern. Poor law enforcement on biodiversity has occasionally caused embarrassment for the Government and people of Nigeria. Implementing the domestic enforcement of laws is as important as laying emphasis on international conventions. Nigeria's biodiversity laws if well enforced can assist the action of Nigeria on the national obligations to the international treaties signed.

Poor institutional cohesion, low capacity of States to manage varied biodiversity related portfolios, the lack of commitment to and investments in the Departments responsible for biodiversity matters characterize the biodiversity conservation policy of most States of Nigeria. Wildlife conservation Departments/Units have either been marginalized or are inactive in many States.

In most States of Nigeria, the Biodiversity related legislations such as the wildlife and forestry laws are obsolete, non-implementable and are totally ignored (or not regarded) by the customary, sharia and other courts.

2.2.4. Poor Land Use Planning

Land use and land cover change have emerged as a global phenomenon and perhaps the most significant regional anthropogenic disturbance to the environment. As is the case in Nigeria, rapid urbanization/industrialization, large scale agriculture and major changes in human activities have been identified as the major causes of the dramatic changes in land cover and land use patterns globally. Dramatic land cover and land use changes that would have once taken centuries now take place within a few decades.

Two key land tenure and land use issues that require future consideration include how to mediate/resolve problems that arise between tenure systems; and how, within the various tenure systems, to support policy/institutional frameworks that are capable of promoting the sustainable use of natural resources.

Competing land uses such as agriculture and human settlements are contributing to the decline of forests and woodlands together with the rising demand for fuel wood and charcoal. Over harvesting, agricultural encroachment and unregulated burning are believed to be contributing to the decline of many species in the wild. The depletion and degradation of the natural resource base has extended to less undisturbed areas in the different ecological zones of Nigeria.

Poor land use planning and unclear tenure rights have been identified as a major catalyst to biodiversity degradation and loss in Nigeria. Poor Land Use Planning has not only affected biodiversity but has also resulted in conflicts which has claimed human lives and further impoverished the Nigerian rural community

Major conflicts such as the Jos crisis, the Tiv/Jukun crisis of Benue and Taraba States and the Aguleri/Umuleri crisis in Eastern Nigeria are in one way or the other associated with biodiversity and natural resource access and use.

2.2.5. Governance and Transparency

Biodiversity in Nigeria, as is the case in many countries is largely considered a common 'good'. It is therefore largely affected with the principle of the tragedy of the commons which places exploitation within the range of the survival of the fittest. It has been observed that most of the domestic, commercial and industrial activities carried out in the country impacts heavily on the biodiversity resources.

The issue of biodiversity is multi-faceted and control of its exploitation equally complex. The degree of pressure on natural resources has outgrown the current straight-jacketed approach to its management by most States and local authorities.

Extension services on forestry and biodiversity related matters have collapsed, thereby leaving the governance of natural resources in an open loop. There are however exceptional situations, as is the case in Cross River State, where communities have taken the lead in forest protection, royalty and benefit sharing, forest management, NTFP exploitation control and ecotourism planning.

Corruption is another major factor to blame for creating a threatened future for Nigeria's Biodiversity. The collapse of logging controls in Nigeria is traced to corruption of forestry officials and this indirectly affects all other natural resource based products. Corrupt politicians have aided the de-reservation of many biodiversity rich areas for non-sustainable reasons, thereby jeopardizing all past efforts at saving and protecting biodiversity.

2.2.6. Socio-cultural Characteristics, Food and Trade Connections

As a set of practices or ways of doing things, cultures shape biodiversity through the direct selection of plants and animals and the reworking of whole landscapes (Sauer, 1965 as cited in Pretty et al. 2008). Such landscapes have been described as anthropogenic in nature, their

composition, whether introduced species, agricultural monocultures or genetically modified crops, being a reflection of local cultures and a product of human history including the context in which individuals and groups live their lives (Milton, 1999 as cited in Pretty et al. 2008).

Some cultural practices that exist in Nigeria encourage the use of specific species for festivals and they often limit the population of species occurring in a narrow ecological range. While it is important to remark that in some Nigerian societies, cultural taboos and their sanctions have helped to check abuse of the environment at least among the inhabitants, the abandonment of these traditional cultural practices have done more harm and posed serious threat to the natural environment.

Many Nigerians, especially in the southern parts view the consumption of wild resources as normal and in some cases a delicacy. Bush meat consumption is high and has only reduced in the past few years due to scarcity occasioned by pressure on wildlife resources. The situation is a bit better in some parts of northern Nigeria that is dominated by Islam, where consumption of some types of wildlife is prohibited. However, field reports on bush meat trade have confirmed that apart from primate species, other large games and a large variety of flora are used as food and traditional medicines in northern Nigeria.

The 'juju' market or traditional medicine market is also responsible for a high percentage of biodiversity in-take from the wild in Nigeria. The current report on the global scarcity of vultures by Birdlife International is a special case for concern. In Nigeria, field reports continue to support the fact that vultures are mostly harvested and used in traditional medicine. A study of the national status of vulture species in Nigeria reveals that there is large scale utilization of vulture body parts for traditional medicine (Akagu and Adeleke, 2012).

2.2.7. Effect of Climate Change

The National Adaptation Strategy and Plan of Action for Climate Change in Nigeria (NASPA-CCN 2011) revealed that climate change is already having significant impacts on Nigeria. According to the report, recent estimates suggest that in the absence of adaptation, climate change could result in the loss of between 2% and 11% of Nigeria's GDP by 2020, rising to between 6%-30% by the year 2050.

The impacts of climate change are expected to exacerbate the impacts of human pressure on biodiversity. This will further diminish the ability of natural ecosystems to continue to provide ecosystem services and may cause invasion of strange species that are favoured by climate change.

2.2.8. Unsustainable Agricultural Practices

Conversion to agriculture is occurring in many protected areas, in community-owned land, and in state-managed forests without control. Rainforests and savannah woodlands are under the greatest threat from agricultural conversion. Communities in and around protected areas continue to encroach on these protected areas in total disregard to their protection status.

Until more sustainable agricultural practices are put in place, the process of slash-and burn agriculture continues requiring the clearing of new lands for continued harvests. Mangroves are also heavily harvested for fuel-wood and for construction materials.

In areas where particular species, such as hardwood trees, rattans, medicinal and food plants, and other non-timber forest products, are harvested unsustainably, not only are these species lost but also a myriad of associated plants, such as insects and fungi, that require these specific hosts to meet their own ecological requirements for survival.

2.2.9. Unsustainable Harvesting of Bioresources

About 70% of Nigerian households mainly in rural and semi-urban areas depend largely on fuel wood consumption for their domestic and to a large extent commercial energy needs. The demand for fuel-wood is higher in the less vegetated north and in urban cities where most poor who cannot afford other cost of other sources of energy supply use fuel wood for food production. Charcoal production is also in high demand from the highly populated cities and is the most critical cause of forest degradation in some parts of the country, with a rapidly growing population, increasing poverty and relatively low industrialisation rate, Nigeria should develop mechanisms to diversify the alternatives to meeting the energy requirements in rural and semi-urban areas as part of the strategies to save biodiversity and increase the size of the national vegetation cover.

The Nigerian Government is currently concerned about rising deforestation and environmental degradation, which is estimated to cost the country over \$6 billion a year. However, government has failed to put in place effective measures to curb illegal logging and only 6% of the land area is protected. Timber concessions have been granted in some of Nigeria's forest areas and oil-palm plantations have replaced forest areas. Large areas of natural forests are being exploited for species such as *Khaya spp.*, *Nauclea diderrichii* (Opepe), *Terminalia ivorensis* (Odigbo), *Terminalia superba* (Afara) and *Triplochiton scleroxylon* (Obeche). High intensity of logging and illegal exploitation of these and other species has continued to pose serious threats to the country's forest resources.

The tree-fall gaps in logged areas has also led to the establishment of secondary growth that often cannot fully replicate the lost trees and the demand for commercial timber does not allow for natural regeneration. There is also the case of genetic erosion, when the largest and most vigorous trees are selectively logged, leaving the genetically poor trees behind to reproduce.

The on-site conversion of logs into lumber using chainsaws (Chainsaw milling), is supplying a large proportion of local timber markets with cheap lumber. While it offers socio-economic opportunities to local people, it is often associated with poor timber quality and it also encourages corruption and other illegalities. Regulating and controlling the practice has therefore become a great challenge in the country due to the mobility of these chainsaw milling operations.

The Wildlife Conservation Society (WCS) brokered an agreement between Nigeria and Cameroon, in September 2008, to protect the habitat of the endangered Cross River gorilla by cracking down on illegal logging and the bush meat trade, by strengthening and

improving law enforcement and monitoring in the Cross River National Park (Nigeria) and Takamanda National Park (Cameroon). In addition, the two countries agreed to increase community involvement in conservation activities as well as strengthening conservation education and public awareness on conservation.

Aquatic resources are also overexploited. Ayeni (1985) posited that Nigeria has an extensive inland water mass of about 12.5 million hectares that can produce over 500,000 tons of fish under adequate management. According to Anon (1984) Nigeria needs 1.6 million tonnes of fish protein annually but her national fish output is only 400, 000 tons annually, due to unsustainable harvesting practices and incidences of pollution.

2.2.10. Extractive Industries and their Activities

Extractive industries in Nigeria are those companies that search for, and exploit resources which are naturally stocked in the earth's crust. Some of the non-renewable resources of Nigeria that are regularly exploited include crude oil and gas; the nation's major source of energy and foreign earning, solid minerals, and salts.

The petroleum industry accounts for over 90 percent of Nigeria's national income. The Niger Delta is the seat bench of oil and gas production in Nigeria. Virtually all aspects of oil and gas exploration and exploitation have deleterious effects on the ecosystem and local biodiversity. Nenibarini (2004) reported that seismic activities through massive dynamiting for geological excavation have had serious effects on the nation's aquatic environment. The use of dynamites produces narcotic effect and mortality of fish and other fauna.

The destabilization of sedimentary materials associated with dynamite shooting also causes increment in turbidity, blockage of filter feeding apparatuses in benthic fauna and reduction of photosynthetic activity due to reduced light penetration.

The process of burying of oil and gas pipelines in the Niger Delta is equally known to fragment biodiversity rich ecosystems such as rainforest and mangroves. Apart from the reduction in habitat area, clearing of pipeline tracks reduces natural populations, which might in turn distort breeding.

Oil spillages occur routinely in the Niger Delta. Sources of oil spill are varied, including, pipeline leakage and rupturing, accidental discharges (tank accident) discharges from refineries and urban centres.

The recent UN Report on Shell Petroleum Development Company (SPDC) and Ogoni land released in August 2011 revealed that the occurrence of oil spills on land brings about fire outbreak that leads to the killing of vegetation and creation of crust over the land, making remediation and re-vegetation very difficult (UNEP, 2011). It was further reported that areas directly impacted by oil spills will be damaged, and root crops, such as cassava, will become unusable. When farming recommences, plants generally show signs of stress and yields are reportedly lower than in non-impacted areas. The overall effects of oil on ecosystem health and biota are many. Oil interferes with the functioning of various organs and systems of plants and animals. It creates environmental conditions unfavourable for life.

Oil exploration in the Niger Delta and in coastal areas, gas emissions and other pollutants from the petroleum industry have therefore caused considerable environmental pollution and forest degradation, thus attrition of the biodiversity of Nigeria.

2.2.11. Uncontrolled, Illegal and Harmful Mining Practices

The history of mining activities in Nigeria dates back to the tin mines on the Jos Plateau for tin and bauxite and the coal mines of Enugu. The tin deposits on the Jos plateau had been extracted through open cast mining, until when surface deposits were depleted. Today, deeper underground ores cannot be extracted economically as world market prices of tin have fallen. This has left the coast clear for artisanal and illegal miners to flourish.

The mining of coal on the other hand, was stopped in favour of cleaner energy sources such as oil and gas. Since the withdrawal of foreign investment in the 1970's, the contribution of the mining sector to the GDP dropped to less than 1% (Seven Year Plan, 2002).

The emphasis on mining also changed from big foreign companies, to small local companies and artisan miners who provided raw materials for the local market. The local mining and processing of these raw materials have had major socio-economic, infrastructural development of these areas, associated with major negative physical, biological, hydrological as well as environmental impacts.

Small-scale, largely illegal mining have had similar widespread negative impacts in most other areas in Nigeria. The influx of mining operators without adequate monitoring of production and documentation does not augur well for conservation of the vegetation cover, minerals and land use systems. The erosion problem created in the mining sites is on a steady increase, leading to development valleys. Solid mineral mining in Nigeria has left behind, abandoned and un-reclaimed mine sites, to the detriment of the surrounding communities, the environment and biodiversity.

2.2.12. Pollution

The production and use of toxic chemicals pose a major and relatively new threat to humankind and the environment. Emissions from vehicles, industrial processes, liquid and solid waste, pesticides and chemical fertilizers for agricultural and domestic purposes release toxic substances into the air, soil or water thereby affecting aquatic and other organisms in the environment.

Heavy metals and persistent organic pollutants such as polychlorinated biphenyls, dioxins and DDT are of particular concern since they do not degrade easily in the environment. They accumulate and are lethal to plants, animals, fishes and human beings resulting in the disruption of the ecosystem and loss of species. Pollution has become one of the most serious problems of our time and water pollution is one of the prime reasons for the loss of aquatic genetic diversity.

This view is further confirmed by the UNEP (2011) reports that concludes that pollution of soil by petroleum hydrocarbons in Ogoni land in Nigeria is extensive in land areas, sediments and swamp land. Most of the contamination is from crude oil although contamination by refined product was also found at three locations. Oil pollution in many

intertidal creeks has therefore left mangroves denuded of leaves and stems, leaving roots coated in a bitumen-like substance sometimes 1 cm or more thick. Mangroves are spawning areas for fish and nurseries for juvenile fish and the extensive pollution of these areas is impacting on the fish life-cycle. With oil spill on land, fires often break out, killing vegetation and creating a crust over the land, making remediation or re-vegetation difficult. The UNEP investigation also found that the surface water throughout the creeks contains hydrocarbons, with floating layers of oil varying from thick black oil to thin sheets.

2.2.13. Gas Flaring

Due to the lack of gas utilization infrastructure, Nigeria flares approximately 75% of the gas it produces and re-injects only about 12% for enhanced oil recovery. Gas flaring contributes to both the production of the acid in acid rain and increased carbon emissions into the atmosphere. One study (Pollutec 1996) estimated that 12 million tons of methane gas is released into the atmosphere in Rivers and Delta States. It subjects flowering plants to heat radiation, high temperatures and excessive light and gas deposits (dry and wet depending on the season). In the Niger Delta affected plants show signs of chlorosis (leaf discoloration), scorching, browning and desiccation, stunting and death after prolonged exposure (Pollutec, 1996). The same study also noted that gas flares attracted yam beetles and grasshoppers that destroy crops.

2.2.14. Invasive Species

Invasive species inhibits ecological processes and reduces the value of the environment, thereby limiting livelihood options available to people living and dependent on such ecosystems. They are also termed as plant invaders, as alien plants that invade and replace native vegetation. Some of the common invasive species in Nigeria are *Nypa palm (Nypa fruticans)*, Water hyacinth (*Eichhornia crassipes*) and Typha grass (*Typha latifolia*).

Invasive weeds have however impacted negatively on their new area of invasion exerting untold hardship on the people, particularly poor farmers, biodiversity, including entomofauna and phyto-flora. Most of these weed species smother out the native species into extinction while others produce allelopathic substances that eliminate other species around them (Adebayo and Uyi, 2010).

Nypa palm was introduced into Nigeria in 1906 from Singapore Botanic Gardens, to control coastal erosion. It grows up to 10 m tall and produces large buoyant propagates that are dispersed by ocean currents. This invasive species has invaded the Nigerian coastal environment and has displaced the native mangroves of the Niger Delta, causing loss of biodiversity and hardship to coastal communities who depend on the biodiversity and the dynamics of the mangrove ecosystem for their livelihood.

The species invades deforested and exposed mudflats and forms dense mono-specific stands that out-compete native mangrove species. The lack of stilt roots, absence of leaf litter and dense structure reduces estuarine habitat and has negatively affected native biodiversity.

It is a major weed in several regions of the world having climatic regions similar to its native habitat. In many countries where it is a pernicious weed, it has been found to interfere with

river transportation, irrigation channels, pumps and access to water by riverine communities and recreational activities. Water hyacinth has become a major weed in Nigeria having successfully invaded and established itself on the entire Badagry Creek, the Yewa Lagoon, Ologe Lagoon, the Lagos Lagoon and the waterways of the riverine areas of Okitipupa. As a result of water hyacinth invasion, Akinyemiju (1987) gave a rough estimate that more than one third of Nigeria's local fish supply has become threatened by the mats of water hyacinth.

It is known in Nigeria for example that the salinity of the Lagos Lagoon usually drops drastically during the raining season thereby enhancing a build-up of the weeds during this season. The conducive temperatures and high rate of reproduction coupled with the seasonally low salinity of the Lagos lagoon made the water hyacinth an especially dangerous threat to the continued use of the affected Nigerian waters as a resource, unless appropriate and effective control is adopted and implemented forthwith.

The Federal Government of Nigeria has made attempts to maintain focus on the control of invasive species, most particularly water hyacinth and Nypa Palm. Apart from data and information sharing, there is need for much more investments in research, stakeholder participation in the control of invasive species and seeking opportunities for converting waste to wealth approach to management.

Typha grass (*Typha latifolia*) is a native plant species of North and South America, Europe, Eurasia, and Africa. *T. Latifolia* generally grows in flooded areas where the water depth does not exceed 0.8m. However, it has also been reported growing in floating mats in slightly deeper waters. Typha is often among the first wetland plants to colonize areas of newly exposed wet mud, with its abundant wind dispersed seeds. The buried seeds can also survive in the soil for long periods. It germinates best with sunlight and fluctuating temperatures, which is typical of many wetland plants that regenerate on mud flats. It also spreads by rhizomes, forming large interconnected stands. Hence, it has three interlocking reproductive strategies: dominance of local habitats by clone growth, survival of long inhospitable periods with buried seeds, and dispersal to new sites with wind-dispersed seeds.



Fig. 2.2: Clearing Typha on Nguru channel

This may explain in part why the species is so widespread. It is considered to be a dominant competitor in wetlands, and often excludes other plants with its dense canopy. Although this is a natural species of wetlands, there is growing concern about the degree to which it is replacing other native species. Today, it is a native invasive plant species devastating the watersheds of the Chad Basin and Hadejia-Nguru wetlands, causing flooding, loss of farmlands and conflict among farmers, herdsman and fishermen.

2.2.15. Overgrazing

Overgrazing occurs when plant material is grazed faster than it can naturally regenerate, often leading to the permanent loss of plant cover. It is a common effect of too many animals grazing on limited range land and also occurs when plants are exposed to livestock grazing for extended periods of time without sufficient recovery periods. It reduces the usefulness of the land and is one of the causes of soil erosion and desertification.

Overgrazing can occur under continuous or rotational grazing. It can be caused by having too many animals on the pasture land or by not properly controlling their grazing cycle. It reduces plant leaf areas which prevents sunlight from reaching the plant and affects the plant growth. Plants become weakened and have reduced root length.

EPI (2011) reports that one indicator that helps in the assessment of grassland health is changes in the goat population relative to those of sheep and cattle. As grasslands deteriorate, grass is replaced by desert shrubs. In such a degraded environment, cattle and sheep do not fare well but goats, being particularly hardy ruminants, are able to forage on these desert shrubs.

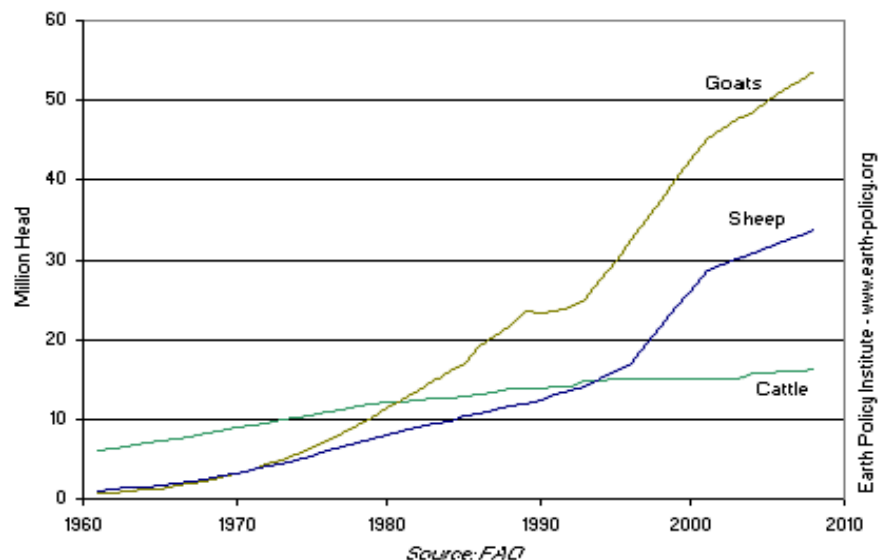


Fig. 2.3: Number of grazing livestock in Nigeria between 1981 and 2008

Nigeria, Africa's most populous country, reports losing 867, 000 Ha of range land and crop land to desertification each year (EPI, 2011). As human and livestock populations increase, herders and farmers compete for the limited land for farming and grazing. The goat population in particular has skyrocketed as the soil has eroded. If Nigeria's human and livestock population continues to grow as they are today, the associated land degradation will eventually undermine the nation's capacity for farming and livestock production.

The Federal Government's concern over this threat has resulted in the introduction of a draft bill to the National Assembly for an Act establishing a National Grazing Reserves Commission; with powers to acquire and develop land for grazing and livestock routes in any part of the country. This bill is yet to be passed by the National Assembly.

2.3. Constitutional, Legal and Institutional Framework

Nigeria's National Policy on Environment provides the major constitutional legal and institutional platform for the conservation and management of the environment in Nigeria. It derived its powers from the constitution of the Federal Republic in Nigeria and upholds the mandate and goal to 'ensure environmental protection and the conservation of natural resources for sustainable development',

The National Policy on Environment was formulated in 2001 and reviewed in 1999. The policy which underwent review in 2014 places the mandate to coordinate environmental protection and natural resource conservation on the Federal Ministry of Environment (FMEnv) and has the following strategic objectives:

The Ministry has the mandate to coordinate environmental protection and natural resource conservation for sustainable development; and specifically to secure a quality environment adequate for:

- Good health and wellbeing;
- Promote sustainable use of natural resources;
- Restore and maintain the ecosystem and ecological processes and preserve biodiversity;
- Raise public awareness and promote understanding of linkages between environment and development; and
- Cooperate with government bodies and other countries and international organisations on environmental matters.

2.3.1. Policy Frame Work

The national policy on conservation and sustainable use of biological diversity is an integral part of the national policy on environment. The national policy on environment which was reviewed in 2006/7 further strengthened biodiversity conservation. The policy was first developed in 1989 following the promulgation of the Federal Environmental Protection Agency (FEPA) decree no 58 of 1988 and revised in 1999. The decree provides the legal framework for the implementation of the policies on environmental protection, natural resources conservation and sustainable development. The 1999 National Policy on Conservation of Biological diversity is aimed at:

- integrating Biological Diversity considerations into national planning, policy and decision making and
- conserving and enhancing the sustainable use of the nation's biological diversity.

With the creation of the Federal Ministry of Environment (FMENV) in 1999, FEPA was absorbed and the Ministry became the highest policy making body responsible for addressing environmental issues in Nigeria, including conservation of biodiversity.

In pursuit of the policy objectives as enunciated, an overriding concern is to alleviate poverty and increase the per capita income of Nigerians. Consequently, the country has developed strategies and programmes for sound and sustainable management of biodiversity involving the most vulnerable groups particularly women and children. The strategies have been designed to promote sustainable and adequate levels of funding and focus on integrated human development programme, including income generation, increased local control of resources, strengthening of local institutions and capacity building including greater involvement of community based and nongovernmental organizations, as well as the lower tiers of government as delivery mechanisms. The achievement of some of the above strategies has been through the intervention project known as Local Empowerment and Environmental Management Programme (LEEMP); it is for the empowerment of rural populace while protecting the environment. There is the 2006 National Forestry Policy and 2006 Biosafety Policy to give guidance for the protection and conservation of Biodiversity in the Country.

2.3.2. Legal Framework

One of the significant outcomes of Nigeria's participation in the United Nations Conference on Environment and Development (UNCED) was the signing of the Convention on Biological Diversity. Nigeria, thus assumes obligations under the provision of the treaty in accordance with customary international law. The Nigerian constitution makes fundamental provision for environmental protection and clearly identifies important components of environment. Section 20 of the constitution of the Federal Republic of Nigeria contains the country's environmental objectives that are meant to "protect and improve the environment and safeguard the water, air, land, forest and wildlife".

In recognition of the need to protect its biological resources, Nigeria has put in place a number of legislations including the Forestry Ordinance and the National Parks Act, the Environmental Impact Assessment Act, National Oil Spill and Detection Agency, National Environmental Standards and Regulations Enforcement Agency among others. However the implementation of these laws have been weak apart from the fact that some of these laws need review. Nigeria now has a Biosafety Act which will further strengthen biodiversity conservation in the country.

2.3.3. Institutional Framework

A number of institutions and organizations have been designated to carry out activities that could facilitate the implementation of the CBD in Nigeria. The Federal Ministry of Environment coordinates the activities of these institutions. The creation of the Ministry is a deliberate design by the Federal Government to achieve a well-articulated, effective and

efficient and efficient outfit that will adequately address and manage environmental issues in Nigeria in a holistic manner, devoid of duplication of efforts and competition among various government agencies.

The Federal Ministry of Environment has the responsibility to ensure that all developmental projects are subjected to Environmental Impact Assessment before they are embarked upon, to control land degradation including soil erosion, combat desertification, abate pollution, and embark on reforestation and conservation of biological diversity. The National Parks Service a parastatal of the Federal Ministry of Environment, has the overall responsibility for the protection and conservation of biodiversity in the national parks. At the state level, Ministries have been established for the protection of biological diversity and general environmental management. Private initiatives include the establishment of botanical/zoological gardens and support for biodiversity programmes through provision of financial grants. There has also been a marked increase in the number of non-Governmental Organizations (NGOs) that are concerned with the environment and conservation of biological diversity.

The Prominent NGOs include the Nigerian Conservation Foundation (NCF), Nigerian Environment Study/Action Team (NEST), Savannah Conservation (SC), Forestry Association of Nigeria (FAN), Centre for Environment Renewable Natural Resources Management Research and Development (CENRAD), Environmental Rights Action (ERA), the Nigeria Field Society and Bioresources Development and Conservation Programme (BDGP). These institutions have made substantial success on their various mandates but have been constrained by inadequate funding for the implementation of their programmes.

2.3.3.1. Institutions and their Responsibilities

- Federal Ministry of Environment: advises Federal Government on all matters pertaining to the conservation utilization and regeneration of forests resources. It has overall responsibility for environmental management in the country, protection and management of biodiversity/resources through stakeholder participation. It also assists in the development of trained manpower to meet the demands of environmental management. The Federal Government has established National Environmental Standards Regulation Enforcement Agency (NESREA) to effectively enforce all environmental laws in the country. Other Agencies are National Parks Service, National Oil Spill and Detection Agency, under the Federal Ministry of Environment.
- Forestry Department: Constitution and protection of forest lands through enforcement of relevant legislation, develop regeneration programmes and harvesting systems for biological resources.
- State Ministries of Environment. The state Ministries of Environment also play the role of protecting the environment and Conserving Biodiversity at the state level.
- Forestry Research Institute of Nigeria: has the responsibility of improving genetic value of species of economic potentials, improvement of methods of cultivating, harvesting and processing of forest products. Its role is to also improve knowledge of the ecology of plants and animals, the methods of pest control and management of biodiversity in

natural forest. Furthermore, its role is to integrate the cultivation of wild plants and wild animals of economic importance into the farming systems in different ecological zones to yield positive socio-economic benefits to the rural populace.

- Local Government Department of Agriculture and Natural Resources: Establish Local Government Forest Reserves, mobilize rural communities to support environmental and conservation programmes.
- Ministry of Agriculture: Supports biodiversity conservation in grazing reserves through control of hunting and harvesting of plants, encourage and promote the consolidation of scattered and fragmented farm holdings, encourages production of agricultural crops and commodities to ensure food and nutrition security in the country and for export.
- Ministry of Water Resources: development of surface and underground water for multipurpose uses and management of water sheds.
- Universities/Technical Schools: conducts research on the control and management of species under in situ and ex situ conservation methods and train manpower for the execution of conservation programmes of government.
- Non-Governmental Organizations: support biodiversity conservation through awareness campaigns, interpretive education and research, lobby governments to support environmental and biodiversity conservation programmes, direct participation in preparation and implementation of management plans, report writing and in seeking for international funds to support biodiversity conservation.
- Linkage Centre for Forest Conservation and Biodiversity (Federal Ministry of Environment/University of Agriculture, Abeokuta (UNAAB): environmental monitoring of conservation plots and agricultural lands, wildlife domestication, aquaculture, and conservation of medicinal plants and lost crops and research on species of Botanical and Zoological Gardens.
- National Institute for Pharmaceutical Research and Development (NIPRD) Ethnobotanical/Ethno medical survey of medicinal plants for industrial utilization and their conservation: documentation, training and evaluation of herbal products and traditional medical practice.
- Agricultural Based Research institutions:
 - ✓ Rubber Research Institute of Nigeria (RRIN): in-situ conservation of species of rubber, ex situ seed gene bank, live field gene bank and in-vitro for rubber.
 - ✓ Cocoa Research Institute of Nigeria (CRIN) Ibadan Conservation of in-situ species of cocoa, ex situ Seed gene bank, live field gene bank and in-vitro for cocoa.
 - ✓ Nigerian Institute for Oil Palm Research (NIFOR) Benin: conservation of in-situ species of oil palm, ex-situ seed gene bank, live field gene bank in vitro for oil palm.

- ✓ National Cereals Research Institute (NCRI) Badagi: conservation of ex-situ gene bank and live field gene bank for all cereals.
- ✓ National Root Crops Research institute, Umudike: conservation of live field gene bank on farm for cassava, potato, sweet potato, ginger and coca yam.
- ✓ Institute of Agricultural Research, Samaru Zaria: conservation of gene bank for various food crops.
- ✓ Institute of Agricultural Research and Training Moor Plantation, Ibadan: conservation of live gene bank for various crops for training and development.
- ✓ National Horticultural Research Institute Ibadan: conservation of seed gene bank, and live field in vitro for horticultural food crops.
- ✓ National Centre for Genetic Resources and Biotechnology, Ibadan: conservation of seed field gene bank in vitro for forest trees, fruit trees, vegetable and ornamentals.
- ✓ International Institute of Tropical Agriculture (IITA) Ibadan: conservation of ex situ seed gene bank and field gene bank for agricultural crops, and multipurpose trees.
- ✓ Lake Chad Research Institute Maiduguri: conservation and genetic improvement of cereals, ex situ seed gene bank and field gene bank.
- ✓ National Agricultural Extension and Research Liaison Services (NAELS), Zaria: public awareness on the conservation of crop gene banks on the field and the use of environmentally friendly agricultural practices.
- ✓ National Animal production Research Institute (NAPRI) Zaria: conservation gene banks in livestock species.
- ✓ National Institute for Freshwater Fisheries Research (NIFFR): genetic improvement of freshwater fisheries and conservation.
- Federal Government Project Initiatives
 - ✓ National Biosafety Frame work (NBF): the Federal Government of Nigeria has developed NBF with the collaboration of UNEP-GEF to ensure the safe management of living modified organisms (GMOs) to ensure they do not have adverse impact on the conservation of biodiversity and human health.
 - ✓ Local Empowerment and Environmental management program (LEEMP) is for the empowerment of rural populace while protecting the environment.
 - ✓ Guinea Current Large Marine Ecosystem (GCLME): it's a project in collaboration with UNIDO for the implementation of pilot phase of mangrove reforestation and Nypa palm utilization method in the Delta area of Nigeria. It's aimed at conserving biodiversity, improving the socio-economic life of the coastal communities.
 - ✓ Integrated Management of Invasive Aquatic weeds project: this is a project with collaboration of ADB for the control of invasive aquatic weeds.

- ✓ Climate Change Programme: this is a Federal Government Programme to address climate change problems. A special unit has been established to handle the issues of climate change in the country. Towards ameliorating the problem of climate change the Federal Government has directed that 60% of the Ecological fund of the Nation be dedicated to reforestation programs. Forestry Projects are been developed currently in the country. A climate change bill has been passed by the Parliament awaiting Presidential assent.
- ✓ Desertification and Drought Amelioration Department under the Federal Ministry of Environment; this is a Department established to address issues of drought and desertification in the country.
- ✓ Fadama Integrated Land Management Project: This project empowers the Rural People on how to utilization wetlands in sustainable manner
- ✓ Biodiversity Surveys: Biodiversity surveys in Nigeria have come in various forms such as botanical surveys, zoological surveys, forest resources surveys, wildlife inventory and aquatic resources surveys. Results of such surveys have been utilized in the preparation of Conservation Strategies and Action Plans. The following Conservation Strategies and land have benefited from the result of such surveys: National Conservation Strategy 1985, Natural Resources Conservation Action Plan 1992, National Biodiversity Strategy and Action Plan 1998, State Environmental Strategy and Action Plan 1997. Nigeria however needs to make the survey continuous and systematic as different from the existing practice of discontinuous assessment. Under the State of the Environment Assessment and Reporting Programme, the country is placing special attention on biological diversity, forests and coastal and marine resources. The programme commenced in year 2001 and was expected to provide input into the UNEP's Global Environment Outlook.

For effective linkages on biodiversity conservation, the following Government Ministries, agencies and institutions are significant stakeholders with the Federal Ministry of Environment on biodiversity matters:

Table 2.3: Stakeholders (Policy and Government Institutions) on Biodiversity in Nigeria

S/N	Policy and Government Institutions	Action on Biodiversity
1	Federal Ministry of Water Resources	Watershed management, IBA's, Migratory waterfowls, Management of inland water resources, dam and biodiversity issues, Coastal and inland protected areas.
2	Federal Ministry of Health	Environmental and Public Health; role of biodiversity in public hygiene, traditional medicine, biodiversity and traditional knowledge, bio-prospecting and health implications, wildlife and medical research vaccine production.
3	Federal Ministry of Agriculture	Land Use Planning, Agriculture and Fisheries project design and management, agricultural design for biodiversity sensitivity, agricultural production, certification, trade and biodiversity connection. Agro-forestry; human wildlife conflict management.

S/N	Policy and Government Institutions	Action on Biodiversity
4	Federal Ministry of Transport and Nigerian Maritime Administration and Safety Agency	Coastal and marine biodiversity related issues including impacts of pollution, ship wrecks and coral reefs, sea-based endangered species, such as sea turtles, manatees, whales and dolphins.
5	Federal Ministry of Education	Environmental education and awareness, Curricular development.
6	Ministry of Works and Housing	Infrastructure development, the impact of and /or biodiversity regarding in respect of Environmental Impact Assessments.
8	Ministry of Solid Minerals	Mining and impacts on biodiversity, mining and protected area principles.
9	Ministry of Power and Steel	Energy production and biodiversity implications, power lines and biodiversity issues.
10	Ministry of Culture and Tourism	Tourism development, heritage and indigenous people's right on biodiversity.
11	Ministry of Aviation	Biodiversity considerations, wildlife hazards and bird strikes.
12	National Communication Commission	Communication masts and birds biodiversity.
13	Nigerian National Petroleum Corporation, Department of Petroleum Resources; & Oil companies	Biodiversity issues in oil resource extraction and petroleum exploration, oil pollution impacts on biodiversity.
14	Nigerian Agricultural Quarantine Service	Plant and animal species export and import to and from Nigeria, role of invasive species in Biodiversity management, pests and pesticides.
15	Ministry of Science and Technology; and National Agency for Genetic Resource and Biotechnology	Genetic Resource conservation and management; Biosafety.
16	The Ecological Fund Office and the National Planning Commission	Ecological Fund and support for biodiversity management initiatives.
17	Ministry of Police Affairs and the Nigerian Police Service	Enforcement of Environmental Laws and those associated with trade in Endangered Species in collaboration with the National Environmental Standards and Regulations Enforcement Agency (NESREA).
18	Nigerian Custom Service	Border checks and awareness on international trade on endangered species in collaboration with NESREA on Biodiversity; Wood/wood product export control.
19	Central Bank of Nigeria	Biodiversity connections with the currently developed Nigerian Sustainable Development Banking Principles – Guidelines on Agriculture, Oil and Gas.
20	National Planning Commission	Mainstreaming biodiversity in National Development planning.
21	National Space Agency	Satellite imagery, remote sensing application to biodiversity management.
22	National Environmental Standards and Regulations	Enforcement of biodiversity related laws.

S/N	Policy and Government Institutions	Action on Biodiversity
	Enforcement Agency (NESREA)	
23	National Park Service	Focal point for National Parks, promotion of ecotourism.
24	Forestry Institute of Nigeria	Forestry research and development.
25	NIOMR – Nigerian Institute of Oceanography and Marine Research	Marine biodiversity research & development.
26	Federal Department of Fisheries in the Federal Ministry of Agriculture and Rural Development	Fisheries and Aquatic Ecology.
26	NIFFR – Nigerian Freshwater Fisheries Research Institute	Freshwater biodiversity research and development.
27	NIHORT – Nigerian Institute of Horticultural Research.	Horticultural plants research & development.
28	National Centre for Genetic Resources and Biotechnology (NACGRAB)	Genetic biodiversity data bank and research.
29	NCRI & Root Crops Research Institute & NIFOR	Agricultural research and development.
30	National Council of Women Societies (NCWS)	Gender issues in biodiversity management.
31	Biodiversity-minded NGOs	Advocacy, education and awareness-raising; complementary field work and research.
32	Community-based Organisations	Community-level actions; advocacy.
33	National Institute for Pharmaceutical Research and Development (NIPRD)	Traditional medicine development and research.
34	Institute of Oceanography, University of Calabar	Estuarine, coastal& mangrove ecosystem biodiversity research and development.

2.4. Lessons Learned from the Earlier NBSAP and the Process of Revising the Earlier NBSAP

The first NBSAP was prepared to develop appropriate framework and programme instruments for the conservation of Nigeria's Biological Diversity and enhance its sustainable use by integrating biodiversity consideration into national planning policy and decision-making processes. It recognized the need to conserve and sustainably use its biodiversity including agro-biodiversity. It outlined the status of biodiversity, national efforts at biodiversity conservation, and strategies for biodiversity management in Nigeria, plan of action for the Nigerian biodiversity, financial support policy and the elements of biodiversity monitoring.

However, it lacked clear cut implementation plans: capacity development plan; technology needs assessment; and a communication plan. There was no national coordination structure put in place for its implementation, no national Clearing House Mechanism (CHM), no performance/implementation indicators for the planned actions, no Monitoring and Evaluation (M&E) framework and no reporting plan. There was low level of awareness creation at Federal, State and Local governments during its preparation and the NBSAP was inadequately implemented, hence the poor management of biodiversity in the country.

These shortcomings of the previous NBSAP form the bases of the lessons learned and the planning process of the current NBSAP has addressed them as critical in the implementation of the revised NBSAP.

In the COP decision X/2, Parties were urged to: “Review, and as appropriate update and revise, their national Biodiversity Strategy and Action Plans, in line with the Strategic Plan and the guidance adopted in decision IX/9, including integrating their national targets into their national Biodiversity Strategies and Action Plans, adopted as a policy instrument, and report thereon to the Conference of the Parties at its eleventh or twelfth meeting”. The Strategic Plan for Biodiversity 2011-2020 therefore is an overarching framework and consists of a shared vision and mission, 5 goals and 20 Aichi Biodiversity targets.

Based on the above, Nigeria requested the Secretariat of the CBD to commence the revision of its previous NBSAP. The revision started with the nomination of the National Coordinator from the focal Department in the Federal Ministry of Environment; the choice of UNEP as the implementing agency; capacity building of the Coordinator through participating in regional capacity building workshops; the acquisition of funds from Global Environment Facility (GEF); and the naming of the project team.

The NBSAP revision was done stepwise: one component after the other. The first component was Biodiversity Status Assessment. An NGO, the Nigerian Conservation Foundation (NCF), was engaged to undertake the assignment through consultations and awareness raising and review. Under this assignment, information were gathered and analysed and a report produced on: Values of Biodiversity and Ecosystem Services in Nigeria and their contribution to human well-being; Causes and consequences of Biodiversity loss; Constitutional, legal and institutional Framework; Lessons learned from the earlier NBSAP; process of developing the revised NBSAP; identification of stakeholders and an updated baseline data. Thereafter, a peer review meeting was held on the draft report submitted and this was followed by a multi-stakeholder workshop for the validation and adoption of outcomes.

The next was the Setting of National Targets, Principles, and Main Priorities of the strategy and the development of the Strategy and Action Plan, which was undertaken by another Consultant NGO, Natures Copex Nigeria Limited. Under this assignment, the Long term vision, Principles governing the strategy, Main goals or priority areas, National Targets (SMART), were outlined and the Strategy and Action Plan was developed. Similarly, a peer review meeting on the draft report produced was held and thereafter, a multi-stakeholder workshop to validate and adopt it.

The development of the National Clearing House Mechanism CHM, www.chm-cbd.com.ng, was undertaken by the Consulting Firm, Quavant Projects that also trained some members of staff. The national CHM can be used to create awareness on biodiversity at even the grassroots level since it has some translations in the three main Nigerian languages: Igbo, Hausa and Yoruba. Notifications of meetings were posted there and visits to the site are increasing on daily bases. Apart from the use of the CHM, both the electronic and print media are engaged during validation workshops and technical meetings for awareness creation and information dissemination.

The consulting Firm, Bioresources Development Conservation Programme (BDCP), carried out the Development of implementation plans and related activities. They prepared the capacity development plan; technology needs assessment; communication plan and the national coordination structure. BDCP, in the plenary of the multi-stakeholder workshop validated the draft impact and performance indicators prepared by the National NBSAP revision team and UNEP-WCMC. In addition to this, and in the plenary of the multi-stakeholder workshop, BDCP developed the Monitoring and Evaluation (M&E) framework. The synthesis of all these components was also undertaken by the Bioresources Consulting Firm.

On the production of the draft NBSAP document, a multi-stakeholder workshop was held for the validation and adoption of the document. Thereafter, a high- powered delegation, from among key players in the NBSAP revision process, met with the Honourable Minister of Environment for the adoption and implementation of the revised NBSAP.

The revision process of the Nigerian NBSAP was open, participatory and transparent. Relevant Ministries, NGOs, Civil Society Organizations, the Academia, Oil companies, State Governments and Development partners (ECOWAS, World Bank, UNDP, FAO etc) and others were involved. In the course of the NBSAP revision process a council memorandum on the need for sub-nationals (State and Local Governments) to prepare and implement Sub-national BSAPs was presented and adopted at the ninth meeting of the National Council on Environment. Since then some States have complied. All these were to ensure that the NBSAP was jointly developed, adopted and owned and implemented by the full range of Stakeholders.

CHAPTER THREE

3.0. STRATEGY PRINCIPLES, PRIORITIES AND TARGETS

Nigeria is a growing and emerging economy with high hopes for economic diversification, increased industrialization and improvement in energy efficiency and agricultural transformation. Nigeria's huge populations about 60% of which live in rural areas depend highly on varied forms of biodiversity endowments of the country. The need for best practices in biodiversity management through strategic planning becomes more paramount, given the status of Nigeria as a leading country in the mineral extraction sector involving oil and gas as well as solid minerals of various types.

The natural environment and biodiversity resources in Nigeria have been severely damaged and are under threats. The overall objective of biodiversity conservation is to set in place as soon as possible, measures that would conserve the dwindling resources and avoid further damage, and over a long term, taking necessary steps to reverse the trend of damage done. The most important element of the National Biodiversity Strategy and Action Plan is to mainstream biodiversity into development planning to enhance sustainable development.

3.1. Long Term Vision

'A Nigeria with healthy living environment where people live in harmony with nature and sustain the gains and benefits of biodiversity, integrating biodiversity into National programme aimed at reducing poverty and developing a secure future in line with the principle of ecological sustainability and social equity.'

A key focus of this vision therefore is the consideration of genetic materials as a strategic but fragile resource to be conserved, sustainably utilized and perhaps more importantly to be deployed as natural capital for socio-economic development of Nigeria. It will explore the policy elements necessary for the transformation of biological diversity to biological resources, as an asset base. It attempts to proffer methods to capture an equitable share of benefits arising from access to, and the use of Nigeria's genetic and biochemical resources for the Nigerian economy and communities. It has deliberately involved the private sector and the civil society as partners in development in harnessing Nigeria's biological resources to create wealth, generate employment and contribute to the general economic development of the country. Regarding environmental resources as an asset raises the possibility that it can be shared or transferred across generations and as a resource it can be drawn upon, built upon, traded and developed.

For Nigeria to be able to do this requires full strengthening of existing institutions and the establishment of new institutions and organizations that are capable of translating this complex knowledge to action, to engage in bold priority setting and transforming the Nigerian economy into a sustainable knowledge based economy. The strategy recommendation will require mobilization of the entire nation and all stakeholders in this new mission of economic renewal and sustainable development. The transformation will require the establishment and formalization of the "Development Triad" involving the government, the civil society and the private sector.

3.2. Principles Governing the Strategy

Nigeria's commitment to the Convention of Biological diversity (CBD) is a genuine appreciation of biodiversity in national development and socio-economic welfare of the Nigerian people. National Environment Policy incorporates specific principles that support best practices in environment and natural resource management, including biodiversity. Following are the underlying principles for supporting Nigeria's Biodiversity and the implications of the National Biodiversity Strategy:

- The physical environment; including soil, water, air and mountains together with the associated living organisms – plants, animals and microbes provide the life support services for our people and constitute the foundation upon which our agriculture, water resource, energy needs and food security of our people are based.
- Nigerians depend on biodiversity for a good array of goods and services, and will accord priority to its conservation, management and sustainable use.
- The conservation and sustainable utilization of Nigeria's biodiversity are key to improvement of agricultural productivity and sustainability, thereby contributing to national development, healthcare, tourism, trade, education and livelihood.
- The need to set best practices in mineral exploration and exploitation is crucial for Nigeria's biodiversity in order to retain the biodiversity conservation to provide better living standard for the people.
- Nigeria's biodiversity is better conserved in-situ but development of ex-situ conservation approaches will be encouraged to support the natural and wild biodiversity pool. Nigeria is fully conscious of the intrinsic values of biodiversity.
- Conservation goals are best achieved through ecosystem and landscape approaches, while encouraging indigenous people and community participation in ecosystem management is crucial for the survival of species and protection of biodiversity. Traditional methods of biodiversity protection have critical roles to play within the scope of NBSAP in Nigeria.
- Nigeria believes in the integration of technological innovations into the management of biological resources and is fully committed to the implementation of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (CBD) which provides, among other things, that products of biotechnology do not impact negatively on the environment and human health.
- NBSAP is a coherent framework for the coordination and sustainable management of biodiversity by all stakeholders, working in synergy to protect the genetic base of Nigeria's biodiversity through integration into national development planning.
- Utilization of Nigeria's biodiversity will be transparent, equitable and efficient. Access to genetic resources will be given in line with our commitment to the Nagoya Protocol on Access to genetic resources and the fair and equitable Sharing of the Benefits arising from their utilization to the Convention on Biological Diversity (CBD).

3.3. Main Goals or Priority Areas

Nigeria considers the five goals of the Global Strategic Plan for Biodiversity 2011-2020 very appropriate and applicable to her situation and adopts and applies the elements as follow:

Nigeria's National Goal 1: Address the underlying causes of biodiversity loss by mainstreaming biodiversity into national planning and societal values

The rate of decline in biodiversity, including species, habitats and ecosystems will be slowed down and Nigeria will design an integrated approach to land use planning in support of the rehabilitation of critical ecosystems such as mangroves, grasslands, montane vegetation, woodlands, tropical rainforests, watersheds, wetlands, rivers and lakes.

Nigeria's National Goal 2: Reduce the direct pressures on Nigeria's biodiversity resources and promote sustainable use.

Concerted efforts will be made to promote sustainable practices of land use for agriculture, mining, crude oil exploration, aquaculture, tourism, housing development and industrialization. Nigeria will encourage investment in alternative energy sources and promote environmental education among the populace.

The use of Nigeria's biodiversity, including its benefits such as ecosystem services or by-products, will be sustainable. Multi-agency cooperation will be central to the assessment, monitoring and regulation of conservation processes.

Nigeria's National Goal 3: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Concerted effort will be made to conserve important ecosystems, habitats and species across the entire landscape of Nigeria. Adequate representation of all ecosystems will be made a national priority in setting up conservation areas. Endemic and Endangered species will be well conserved and sufficient action will be put in place to control invasive species and weeds.

Effective legislation and enforcement as well as environmental education will be given adequate attention in the efforts to support biodiversity. Multi-agency collaboration and information sharing will be given priority in natural resource management issues.

Nigeria's National Goal 4: Ensure fair and equitable sharing of the benefits from biodiversity and ecosystem services to all.

Policies on sharing of benefits derived from the use of Nigeria's biodiversity resources are to be formulated and implemented, at the same time balancing the twin goals of biodiversity conservation and sustainable use. Essential mechanisms will be put in place at the three tiers of government to address conflicts on biological resource use.

Nigeria's National Goal 5: Promote participatory planning, knowledge management and capacity building as an integral part of implementation of biodiversity management

Nigeria will make stakeholders participation in planning and designing of biodiversity management processes and actions a major priority. Communities, relevant government agencies, State and Local Governments, private groups, corporate businesses, civil society organizations and the media will be involved at varied levels on biodiversity planning and actions.

Multi-agency involvement in biodiversity monitoring will be given adequate attention in biodiversity related issues.

3.4. National Targets

The priority strategies for biodiversity conservation which are based on the needs of the people and globally agreed strategic goals of the CBD have fourteen corresponding priority targets for the Period 2016 to 2020. The targets were the outcome of a review meeting by the NBSAP stakeholders' review process. The following fourteen targets spread across the twenty Aichi Biodiversity targets and the five Strategic Goals for the Strategic Plan for Biodiversity 2011 – 2020.

Table 3.1: National Targets and Related Global Strategic Goals

SN	National Targets	Related Aichi Target	Related Strategic Goals
Target 1	By 2020, 30% of Nigeria's population is aware of the importance of biodiversity to the ecology and economy of the country.	Related Aichi Target - 1	Relevant Strategic Goal – 1
Target 2	By 2020, a comprehensive programme for the valuation of biodiversity is developed and implemented, and payments for ecosystem services (PES) and goods are mainstreamed into the national budget.	Related Aichi Target- 1	Relevant Strategic Goal – 1
Target 3	By 2020, adoption of a national ecosystem-based spatial planning process and plans, promoting the values of biodiversity and ecosystem services to sustain development.	Related Aichi Targets- 5, 6, 7	Relevant Strategic Goals – 1, 2, 3
Target 4	By 2020, up to 15% of the areas of degraded ecosystems in Nigeria are under programmes for restoration and sustainable management.	Related Aichi Targets- 5,14,15	Relevant Strategic Goals – 2, 3, 4

SN	National Targets	Related Aichi Target	Related Global Strategic Goals
Target 5	By 2020, six (6) management plans are implemented for habitats of endemic and threatened plants and animals , including sites for migratory species.	Related Aichi Targets- 4,6,9,12	Relevant Strategic Goals – 1, 2, 3
Target 6	By 2020, at least 10% of Nigeria's national territory is sustainably managed in conservation areas at varied levels of authority, with representation of all ecosystem types.	Related Aichi Targets- 5 & 11	Relevant Strategic Goals – 2 & 3
Target 7	By 2020, the genetic diversity of cultivated plants, domesticated animals and their threatened wild relatives, including culturally valuable species, are documented, maintained and valorised in two key institutions in Nigeria.	Related Aichi Target- 13	Relevant Strategic Goal – 3
Target 8	By 2020, at least 60% of identified pollution sources, including those from extractive industries and agricultural inputs, are brought under control and guidelines are put in place to mitigate their effects on ecosystems.	Related Aichi Target- 8	Relevant Strategic Goal – 2
Target 9	By 2020, invasive alien species and pathways are identified and prioritized and priority species controlled or eradicated, and measures are in place to manage pathways in the six ecological zones.	Related Aichi Target- 9	Relevant Strategic Goal – 2
Target 10	By 2015, the Nigerian NBSAP has been fully revised and adopted by government as a policy instrument, and its implementation commenced in a participatory manner.	Related Aichi Targets- 2 & 17	Relevant Strategic Goals – 1 & 5
Target 11	By 2015, the Nagoya Protocol on Access to Genetic Resources and the fair and equitable sharing of Benefits Arising from their utilization is acceded to and its implementation through a national regime on ABS commenced.	Related Aichi Target- 16	Relevant Strategic Goal – 4
Target 12	By 2020, community participation in project design and management of key ecosystems is enhanced in one (1) each of the six (6) ecological zones.	Related Aichi Targets- 1,7,11	Relevant Strategic Goals – 1, 2, 3

SN	National Targets	Related Aichi Target	Related Global Strategic Goals
Target 13	By 2020, national-based funding for biodiversity is increased by 25%, with effective international partnership support.	Related Aichi Target- 20	Relevant Strategic Goal – 5
Target 14	By 2020, the capacity of key actors is built and gender mainstreaming carried out for the achievement of Nigeria's biodiversity targets.	Related Aichi Targets- 2,14,19	Relevant Strategic Goals – 1, 4, 5

CHAPTER FOUR

4.0. NATIONAL ACTIONS TO ACHIEVE THE STRATEGY

The National Actions to Achieve the Priority Targets and Strategies will be implemented within a period of 5 years (2016 - 2020) and will involve working with a wide range of relevant MDAs as shown in table below. Applications of the NBSAP to Sub-national entities are contained in the last column of the table.

4.1. Application of the NBSAP to Sub-National Entities

The sub-national entities will be supplementary to the NBSAP. This is to make it more effective since broader issues identified as national Priorities will be thematic in sub-national plans. For instance issues such as sustainable livelihoods which were addressed generally at the national level will be further defined and explored on the sub-national level.

4.1.1. Relationship between NBSAP and Sub-National Entities

The sub-national plans will strengthen the broad national plans in the following way:

- The national policy framework will highlight national priorities and action; however, it cannot specify and prioritise actions at local levels. Sub-national strategies will feed into the national policy framework to achieve this;
- NBSAP implementation and coordination requires considerable human, institutional, administrative and financial resources. Sub-national entities will be used to decentralised the process and reduce the heavy burden on resources at the national level;
- Sub-national strategies will better involve the public at the grass root level to ensure sustainability, acceptance and ownership of conservation initiatives;
- Sub-national strategies will be better internalized among sub-national governments, as they are more reflective of local needs and realities. This will help to clear impediments to implementation;
- Sub-national strategies will also provide better exchange of knowledge and sharing experience, contributing to both individual and institutional capacity building;
- The task of reviewing sub-national strategies is not as cumbersome as national strategies, and hence the ease in identifying gaps, reprioritizing issues and monitoring progress will be more defined.
- Sub-national strategies and governments are more aptly placed to involve local communities in the conservation effort;

The application of the national strategy action plan to NBSAP is presented in Table 4.1.

Table 4.1: Strategy and Action Plan for Nigeria's Revised NBSAP

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
Target 1. By 2020, 30% of Nigeria's population is aware of the importance of biodiversity to the ecology and economy of the country. Lead Institution: Federal Department of Forestry (FDF) Related Aichi Target - 1 Relevant National BD Goals - 1	Promote Environmental Awareness and Good Environmental Governance.	1.1. Conduct outreach and awareness campaigns (radio, jingles etc), information sharing and public discussions on Nigeria's biodiversity and its significance to ecology, economy, life and services, with specific emphasis on indigenous and local communities	NOA	2016-2020	To be adapted at the States, Local Government Areas (LGAs) and Community levels
	Support and Promote Community Based Institutions on sustainable biodiversity resource use efforts.				
	Support and promote the activities of civil society organisations, corporate media groups; and the National and State Information management institutions on informal environmental education programmes and activities.	1.2. Produce and distribute publications in appropriate local languages and dialects on biodiversity and ecosystem services for the public, especially women and youth.	NOA	2016-2020	To be adapted at the States LGAs and Community levels
	Promote the values of ecosystem services in the context of awareness creation on environment and biodiversity.	1.3. Inclusion of the subjects and texts on biodiversity conservation into the national primary and secondary education and the General Studies (GS) of tertiary institution curricula	FME	2016-2020	To be adapted at the States level

Table 4.1: Strategy and Action Plan for Nigeria's Revised NBSAP

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
		1.4. Host a Bi-annual National Forum on Biodiversity for legislators and other sectors of the economy	FDF	2016-2020	Host an annual Forum on Biodiversity for legislators and other sectors of the economy at the States and LGAs levels
		1.5. Host an annual National Biodiversity dialogue, and Press Conference.	FDF	2016-2020	Host an annual Biodiversity dialogue, and Press Conference at the States and LGAs levels
		1.6. Promote environmental social media networking among the Nigerian youth.	FDF	2016-2020	Involvement of States and LGAs
Target 2. By 2020, a comprehensive programme for the valuation of biodiversity is developed and implemented, and payments for ecosystem services (PES) and goods are mainstreamed into the national budget. Lead Institution: FDF Related Aichi Target- 1 Relevant National BD Goals – 1	Integrate biodiversity conservation considerations into national development plans. Strengthening the processes on Access and Benefit Sharing to ensure that biodiversity conservation is considered in the granting of access to Nigeria's genetic resources. Enhancing National Biodiversity assessment	2.1 Conduct Economic Valuation of Biodiversity and national studies on 'The Economics of Ecosystems and Biodiversity' (TEEB).	NCF	2016-2020	Active stakeholders (states LGAs and Communities) involvement

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
	capabilities	2.2 Integrate valuation of biodiversity into national accounts, strategies and planning process.	Budget and NPC	2016-2020	Sub-national entities to conduct economic valuation of Biodiversity in special ecosystems in their areas
		2.3 Establish and implement a national procedure for Payment for Ecosystem Services (PES), to enhance private sector investment and corporate social support to Nigeria's biodiversity protection.	FDF	2016-2020	States, LGAs and Communities to adapt national procedures to suit their specific needs
		2.4 Strengthen and implement the provisions of Environmental Impact Assessments (EIA).	EA	2016-2020	Sub-national entities to strengthen their environmental assessments processes
Target 3. By 2020, adoption of a national ecosystem-based spatial planning process and plans, promoting the values of biodiversity and ecosystem services to sustain development.		3.1 Conduct a National Biodiversity survey, to identify habitats of high biodiversity and ecosystem services value and priorities for ecosystem restoration and new conservation areas.	NPS	2016-2020	Sub-national entities to adapt and conduct biodiversity surveys in their areas

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
Lead Institution: FDF Related Aichi Target- 5, 6, 7 Relevant National BD Goals – 1, 2, 3		3.2 Establish a government process for ecosystem-based spatial planning.	Office of the Surveyor General of Federation (OSGF)	2016-2020	Sub-national entities to establish a government process for ecosystem-based spatial planning adapted to their localities
		3.3 Establish Grazing Reserves and Pastoral Routes as an important element of local, National and Sub-regional land use planning.	NALDA (KADUNA)	2016-2020	Stakeholders (States, LGAs and Communities) involvement in such designation
		3.4 Safeguarding of wildlife corridors as part of spatial development/habitat connectivity axes/Green Infrastructure.	NPS	2016-2020	Sub-national entities (forest/game reserves) to safeguard wildlife corridors as part of spatial development
Target 4. By 2020, up to 15% of the areas of degraded ecosystems in Nigeria are under programmes for restoration and sustainable management. Lead Institution: FDF Related Aichi Target- 5,14,15 Relevant National BD Goals – 2, 3, 4	Support the implementation of the Great Green Wall Sahara Programme Establishment of a National terrestrial, river and wetlands Rehabilitation Programmes.	4.1 Establish a National Forest and Vegetation Recovery Programme, including mangroves and other coastal areas.	FDF	2016-2020	Sub-national entities to develop and establish recovery programmes based on their specific challenge
		4.2 Review and strengthen the National Forest Policy, to improve production efficiency whilst promoting conservation of high-biodiversity habitats and restoration of degraded areas.	FDF	2016-2020	Stakeholders (States, LGAs and Communities) participation and involvement in such designation is required

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
		4.3 Resuscitate the National Forest Development Committee and Forest Utilization Centres, as part of the strengthened National Forest Policy.	FDF	2016-2020	Same as above
		4.4 Develop a national strategy for the conservation of agricultural biodiversity and promotion of agro-forestry.	FDF	2016-2020	Same as above
		4.5 Establish a National Rivers and Wetlands Rehabilitation Programme, linked to reduction of pollutants in Target 8.	FDF	2016-2020	Same as above
		4.6. Support the implementation of the Great Green Wall Sahara Programme.	DDA	2016-2020	States, LGAs and Communities to be actively involved
		4.7. Promote alternative livelihoods for communities in protected areas and ecosystem restoration areas.	FDF	2016-2020	Active involvement of all Sub-national entities
		4.8. Develop pilot community-based sustainable energy-efficient production facilities e.g. bio-gas, solar energy etc. around protected areas and ecosystem restoration areas.	Renewable Energy Unit	2016-2020	Active involvement of all Sub-national entities

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
Target 5. By 2020, six (6) management plans are implemented for habitats of endemic and threatened plants and animals, including sites for migratory species. Lead Institution: FDF Related Aichi Target- 4,6,9,12 Relevant National BD Goals – 1, 2, 3	Stock assessment and prepare a National Action Plan for Nigeria's endemic species Conservation of High Altitude Habitats Conservation of Important Wildlife corridors and Migratory Sites	5.1. Conduct and publish an assessment of the conservation status of Nigeria's endemic and threatened species.	NPS	2016-2020	Active involvement of all Sub-national entities
		5.2. Identify priority sites requiring management actions for Nigeria's endemic and threatened species.	NPS	2016-2020	Same as above
		5.3. Identify important sites for migratory species and their conservation needs.	NCF	2016-2020	Same as above
		5. 4. Produce a Strategy for Conservation of High Altitude Habitats, linked to Targets 2, 3, 4	NCF	2016-2020	Active involvement of all Sub-national entities
Target 6. By 2020, at least 10% of Nigeria's national territory is sustainably managed in conservation areas at varied levels of authority, with representation of all ecosystem types. Lead Institution: FDF Related Aichi Target- 5,11 Relevant National BD Goals – 2, 3	Strengthening the capacity of the National Parks in Nigeria Development of Biodiversity Conservation Strategy for the Niger Delta	6.1 Identify sites for new or expanded conservation areas from the relevant surveys and strategies under Targets 3, 4 and 5.	NPS	2016-2020	Active involvement of Sub-national entities

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
		6.2 Upgrade the status of ten forest reserves/game reserves and sanctuaries to National Park status, including marine ecosystems.	NPS	2016-2020	Active involvement of Sub-national entities
		6.3 Implement the Conservation Strategy for Biodiversity in the Niger Delta.	Ministry of Niger Delta	2016-2020	Active involvement of Sub-national entities
		6.4 Assess the status of biodiversity resources in the designated new National Parks.	NPS	2015-2020	Active involvement of all Sub-national entities
		6.5 Prepare and implement management plans for the Designated New National Parks.	NPS	2015-2020	Active involvement of all Sub-national entities
		6.6 Document and map the indigenous and local communities' conservation areas and strengthen their management plans.	FDF	2015-2020	Active involvement of all Sub-national entities
		6.7 Implement the full plan for the paramilitary status of the Nigerian National Parks to enhance the level of biodiversity protection in protected areas.	NPS	2015-2020	Active involvement of all Sub-national entities
Target 7. By 2020, the genetic diversity of cultivated plants, domesticated	Stock assessment and Preparation of a National Action Plan for Nigeria's	7.1 Establishment of a national centre / institute for knowledge and sustainable	BDCP	2015-2020	Sub-national entities to participate actively in establishing such centre

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
animals and their threatened wild relatives, including culturally valuable species, are documented, maintained and valorised in two key institutions in Nigeria. Lead Institution: NABDA Related Aichi Target- 13 Relevant National BD Goals – 3	endemic species	Use of Biodiversity.			
		7.2 In-situ conservation of wild relatives of cultivated plants and domesticated animals.	FRIN	2015-2020	Active involvement of all Sub-national entities
		7.3 Establishment of Nigerian National gene bank for cultivated plants and domesticated animals.	NABDA	2015-2020	Active involvement of all Sub-national entities
		7.4. Establishment /Rehabilitation of Community Herbal Heritage Centres.	FDF	2015-2020	Active involvement of all Sub-national entities
Target 8. By 2020, at least 60% of identified pollution sources, including those from extractive industries and agricultural inputs, are brought under control and guidelines are put in place to mitigate their effects on ecosystems. Lead Institution: PC&EH Related Aichi Target- 8 Relevant National BD Goals – 2	Pollution reduction programme in Nigeria.	8.1 Promote measures to reduce agricultural wastes, fertilisers and agro-chemicals entering rivers and wetlands.	PC&EH	2015-2020	Sub-national entities to participate actively in programmes to promote best agricultural practices in their locality

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
		8.2. Identify the pollutant sources and purification capacity of Nigeria's wetlands, rivers and coasts, for restoration measures in Action 4.5.	PC&EH	2015-2020	Active involvement of all Sub-national entities
		8.3. Strengthen national water quality guidelines	FMWR	2015-2020	
		8.4. End gas flaring and manage oil spillage.	NOSDRA	2015-2020	
Target 9. By 2020, invasive alien species and pathways are identified and prioritized and priority species controlled or eradicated, and measures are in place to manage pathways in the six ecological zones. Lead Institution: FDF Related Aichi Target- 9 Relevant National BD Goals – 2	Control and Management of Invasive Alien species in Nigeria	9.1. Strengthen the capacity of the Plant Quarantine Services Department for effective border control.	PQD	2015-2020	To be replicated at the States level.
		9.2. Establish a national framework for the control and management of Invasive Alien Species (IAS).	FDF	2015-2020	To be replicated at the States level.
		9.3. Promote the utilization of IAS in Nigeria.	FDF	2015-2020	Active involvement of all Sub-national entities
		9.4. Strengthen research on the impacts of IAS and update the existing baseline on IAS status.	FRIN	2015-2020	Active involvement of all Sub-national entities
		9.5. Establish an early warning and rapid response mechanism for IAS at the ports and border crossings.	PQD	2015-2020	To be replicated at the States level.

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
Target 10. By 2015, the Nigerian NBSAP has been fully revised and adopted by government as a policy instrument, and its implementation commenced in a participatory manner. Lead Institution: FDF Related Aichi Target- 2,17 Relevant National BD Goals – 1 & 5		10.1. Revise the NBSAP and adopt it as a policy instrument.	FDF	2015-2020	Active involvement of all Sub-national entities
		10.2. Establish and strengthen a Biodiversity Steering Committee.	FDF	2015-2020	Active involvement of all Sub-national entities
		10.3. Establish and implement Sub-national (State and Local Government) levels of the Biodiversity Strategy and Action Plan, promoting stakeholder participation.	State Governments	2015-2020	To be replicated at the States level.
		10.4. Strengthen Multi Stakeholders Committees on biodiversity-related conventions and protocols.	FMEnv (Planning Research and Statistics Department)	2015-2020	Active involvement of all Sub-national entities
		10.5. Establish synergy among focal areas in the environment sector.	FMEnv (Planning Research and Statistics Department)	2015-2020	Active involvement of all Sub-national entities
Target 11. By 2015, the Nagoya Protocol on Access to Genetic Resources and the fair and equitable sharing of Benefits Arising from their utilization is acceded to		11.1. Accede to the ABS Protocol.	FDF	2015-2020	Active involvement of all Sub-national entities
		11.2. Develop a National ABS framework or legislation.	FDF	2015-2020	Active involvement of all Sub-national entities

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
and its implementation through a national regime on ABS commenced. Lead Institution: FDF Related Aichi Target- 16 Relevant National BD Goals – 4		11.3. Designate appropriate structures of protected areas for sustainable harvesting of non-timber products by local people, to ensure benefits to them and guarantee protection of resources	NPS	2015-2020	Active involvement of all Sub-national entities
		11.4. Develop and implement policy guidelines for bio-prospecting, access and benefit sharing, and associated traditional knowledge (intellectual property rights).	FDF	2015-2020	Active involvement of all Sub-national entities
		11.5. Develop and implement a Sub-national (State and Local Government levels) regime on ABS.	State Governments	2015-2020	Active involvement of all Sub-national entities
Target 12. By 2020, community participation in project design and management of key ecosystems is enhanced in one (1) each of the six (6) ecological zones. Lead Institution: FDF	Promotion of Gender and Community participation in biodiversity management	12.1. Strengthen the capacities of local Communities to participate in natural regeneration of wetlands, arid zone vegetation, forests, mangroves & other priorities identified in Targets 3, 4, 5 & 6.	Local Communities	2015-2020	Active involvement of all Sub-national entities

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
Related Aichi Target- 1,7,11 Relevant National BD Goals – 1, 2, 3		12.2. Survey the flora and fauna outside protected areas, including sacred groves, community lands, abandoned farmlands and homesteads, and assist local communities in the sustainable management of these sites.	FDF	2015-2020	Active involvement of all Sub-national entities
		12.3. Strengthen the implementation of guidelines for Community-based sustainable forest management, including conservation and sustainable use of biodiversity.	FDF	2015-2020	Active involvement of all Sub-national entities
		12.4. Develop a national framework and mechanism for community participation in ecotourism planning and development.	NPS	2015-2020	Active involvement and participation of all Sub-national entities
Target 13. By 2020, national-based funding for biodiversity is increased by 25%, with effective international partnership support. Lead Institution: FDF Related Aichi Target- 20	Establishment of Nigeria Biodiversity Trust Fund	13.1. Conduct an NBSAP resource needs assessment.	BDCP	2015-2020	Active involvement of all Sub-national entities
		13.2. Establish a national funding mechanism for biodiversity.	FMEnv (Planning)	2015-2020	Active involvement of all Sub-national entities including PPP
		13.3. Integrate biodiversity conservation into national appropriation.	FMF	2015-2020	To be adapted at the States level

BIODIVERSITY TARGET	National Programmes	Actions	Implementing Institution/Time Frame		Application to Sub National Entities
			Institution	Time frame	
Relevant National BD Goals – 5		13.4. Strengthen the government partnership with development partners (e.g. GEF, UNDP and UNEP.)	FDF	2015-2020	Sub-national entities to participate in partnership building
Target 14. By 2020, the capacity of key actors is built and gender mainstreaming carried out for the achievement of Nigeria's biodiversity targets. Lead Institution: FDF Related Aichi Target- 2,14,19 Relevant National BD Goals – 1, 4, 5	Capacity Building of key actors in Biodiversity	14.1. Determine prioritised capacity building needs for government agencies, NGOs and local communities to implement the NBSAP.	BDCP	2015-2020	All stakeholders including Sub-national entities to participate actively in prioritising capacity building needs
		14.2. Develop training guides and modules for prioritised capacity building needs.	NGO	2015-2020	Sub-national entities to be involved in developing training guides and modules
		14.3. Build capacity of government officials and individuals for prioritised NBSAP implementation capacity development needs in relevant organizations including NGO's through meetings, seminars and conferences both locally and internationally.	Development Partners	2015-2020	To be replicated at the Sub-national levels

4.2. Sectoral Actions: Mainstreaming Biodiversity into National Development, Poverty Reduction and Climate Change Plans

The following steps would be taken to integrate biodiversity issues into national development policies relevant to poverty reduction and climate change mitigation and adaptation in the forestry, food and agriculture, commerce & industry, environment, health, and education sectors of the economy:

- Review policies, plans and budgets in the key sectors of the economy that need to change to support improved biodiversity management;
- Create awareness to policy and decision makers on the economic implications of improved biodiversity management;
- Influence Lawmakers to make/review laws relevant to biodiversity management for sustainable economic development;
- Enhance the understanding of key personnel of sectoral stakeholders with capacity to influence budgets to support projects that would improve biodiversity management and create climate resilient ecosystems to reduce poverty and climate change impacts;
- Influence the creation of a network of stakeholders to enhance integrated biodiversity management through participatory planning, knowledge sharing and capacity building across all levels of government;
- Establishment of an Inter-Agency Committee to develop sustainable financing mechanism to generate revenues for biodiversity programmes;
- Integration of biodiversity education into national curricula at all levels

CHAPTER FIVE

5.0. IMPLEMENTATION PLAN

Nigeria has since the ratification of the Convention on Biological Diversity (CBD) produced its first NBSAP report in 2006. Consequently, the revision of the first NBSAP report is expected to be completed by the end of 2015. However, for the NBSAP to be completed there is the need to address and develop the supporting systems, which are actions needed to achieve the NBSAP national targets. These supporting systems or components were developed as implementation plans to determine who does what, where and how.

The plans developed for NBSAP implementation include:

- The plan for capacity development and technical capacity needs assessment, which detailed the human and technical needs to implement the NBSAP and how they may be mobilized;
- A communication and outreach strategy for the NBSAP, detailing how the NBSAP will be promoted in the country among decision makers and the public at large; and
- A plan for resource mobilization for NBSAP implementation; this analyzes the financial resources needed to implement the NBSAP and how they will also be mobilized. Finance mobilization options examined include, domestic budget, external assistance (where relevant) and innovative financial mechanisms.

The main objective of these plans is to ensure the development of necessary capacities and inclusive societal engagement in the development, updating and implementation of the country's NBSAP.

Target Stakeholders

Gender Issues

Gender can be simply put as a social construct of men and women's behaviour, which refers to the roles and responsibilities that are created in our families, our society and our culture. It is therefore needful to sensitize coordinators of NBSAP to integrate gender issues in its activities. Also, to bridge the gender gaps in NBSAP implementation, the coordinators shall adopt the following means:

- Gender analysis of biodiversity programmes and projects;
- Gender responsive planning and policies for integrating women in resource management decision making;
- Development of a comprehensive plan for integrating gender issues for women and youths empowerment through measures of positive discrimination;
- Organizing workshops/conferences on gender issues and compile comprehensive gender statistics.

5.1. Plan for Capacity Development and Technology Needs Assessment for NBSAP Implementation

The Capacity Assessment Framework (Table 5.1) reflects the interplay among the following three dimensions ((i) Enabling Environment; (ii) Organizational; (iii) Individual). They are the three levels at which capacity is nurtured.

Capacity development at enabling environment level

Nigeria operates a presidential system of government with bicameral legislative system (the Senate and the Federal House of Representatives). She also has three levels of governance, the national, State and the local governments. The responses for developing capacities at the enabling environment level include those CD initiatives which relate to the development of policies, laws, rules and norms relevant to official governance procedure in Nigeria.

Capacity development at organizational level

Organizational arrangements in Nigeria also exist at the three levels. Public sectors are organized into ministries at the federal and state levels. There are also other government agencies and commissions as well as non-governmental organizations (NGOs). The capacity development responses for developing organizational capacities relate to organizational structures, processes, resources and management issues.

Capacity development at individual level

The capacity development initiatives aim at developing capacities of the individual employees in the country. The CD tools and techniques have been chosen keeping in view the individual levels of knowledge and skills in the relevant fields, their qualifications and motivation relevant to the Nigerian context.

Core Capacity Issues: Along the three points of entry mentioned above, there are several core issues to be explored for the capacity assessment. These also provide a comprehensive set of issues from which capacity needs will be developed.

Table 5.1: Capacity Assessment Framework

Core Biodiversity Capacity Issues	Capacity for development and maintenance of the protected areas system		Capacity for research of the biodiversity components and monitoring		Capacity for biodiversity rehabilitation		Capacity for multi sectoral consultation processes		Capacity for integration of Biodiversity conservation in different sectors and cultural settings		Capacity for collection of relevant data for NBSAP and emerging issues in Biodiversity conservation		Capacity for biodiversity financing, resource mobilization utilization and economic evaluation of biodiversity	
Capacity	AC	ND	AC	ND	AC	ND	AC	ND	AC	ND	AC	ND	AC	ND
Enabling Environment														
Policies		✓		✓		✓	✓			✓		✓		✓
Program	✓			✓		✓	✓			✓		✓	✓	
Regulations	✓			✓		✓		✓		✓		✓		✓
Coordination/ Communication		✓		✓		✓		✓		✓		✓		✓
Organizational														
Structures	✓			✓		✓	✓		✓			✓	✓	
Processes and practices		✓		✓		✓		✓		✓		✓		✓
Resources		✓		✓		✓	✓			✓		✓		✓
Leadership/ Management	✓		✓			✓	✓			✓	✓		✓	
Individual														
Qualification		✓		✓		✓		✓		✓		✓		✓
technical knowledge/skills		✓		✓		✓		✓		✓		✓		✓
Motivation, Incentives, Awards		✓		✓		✓		✓		✓		✓		✓

AC – Acceptable; ND – Need Development

5.1.1. Capacity Development Plan

The capacity development plan is a response to address the key capacity deficits identified in the capacity needs assessment. Its core components consist of the prioritized capacity needs which need to be addressed to improve the core capacity issues. The capacity development activities and actions are listed below.

Table 5.2: Capacity Development Activities and Actions

Core Capacity Issues	Individual and Institutional Capacity Needs	Specific Actions
<i>Capacity for development and maintenance of the protected areas system</i>	Strengthen enforcement of Protected Areas(PAs)	Work with State and local governments to strengthen enforcement of PAs
	Improve planning and resource mobilization	✓ Develop template for planning and resource mobilization ✓ Hold joint planning sessions with groups of MDAs
	Improve training and review of Staff development	✓ Create ‘train-the-trainers’ program within the competency curriculum to train key staff on PA management ✓ Provide training in modern PA management techniques
<i>Capacity for research of the biodiversity components and monitoring;</i>	Increase funding opportunities	✓ Create fund fora to bring together government agencies, Universities and research institutions with donors ✓ Work with donors and private sector towards the creation of multi-year funding agreements for research
	Improve strategic leadership and direction	✓ Develop strategic planning templates for research institutions ✓ Establishing management systems for performance, monitoring and review
	Provide training	✓ Provide training in research techniques ✓ Create peer-to-peer networks to ensure ongoing learning of new techniques.
<i>Capacity for biodiversity rehabilitation</i>	Promote better policies and legislations	Lobby legislative members to formulate better laws and policies
	Improve strategic leadership	Create effective strategic planning template for senior management
	Provide training	Provide training and create peer-to-peer networks to ensure ongoing learning of new techniques.
<i>Capacity for multi sectoral consultation processes</i>	Improve national structures and mechanisms	✓ Develop coordination mechanism, structures and instruments at Federal, State and Local levels ✓ Make organizational structures result and client oriented
	Encourage better coordination of Programs and objectives	✓ Establish baseline development data, indicators, benchmarks ✓ Ensure that planning is both top-down (clarity of direction) and bottom-up (taking account of feedback from the clients on priorities)

Core Capacity Issues	Individual and Institutional Capacity Needs	Specific Actions
	Improve coordination of team work among agency personnel	Provide clarity of positions, roles and responsibilities
Capacity for integration of Biodiversity conservation in different sectors and cultural settings	Promote better policies	Lobby legislative members to formulate better laws and policies
	Promote coordination between sectors	✓ Convene a planning and coordination workshop for different sectors ✓ Create operational biodiversity coordinating units within key stakeholder sectors
	Provide training for personnel in different sectors	✓ Provide training on biodiversity conservation to personnel across different sector ✓ Create 'train-the-trainers' program for personnel within different sectors
Capacity for collection of relevant data for NBSAP and emerging issues in Biodiversity conservation including ecosystem approach to services, sustainable utilization, climate change and biodiversity etc.	Increase funding	✓ Create fund fora to bring together government agencies working on NBSAP with donors to promote understanding of mutual benefit of agencies working together ✓ Link data collection to national development in order to attract more funding ✓ Ensure accountability and provision of regular reports to donor agencies
	Improve strategic leadership	Establish management systems for performance, monitoring and review, reporting and assessment outcomes and outputs
	Provide training	✓ Provide training on emerging issues and data collection ✓ Create peer-to-peer networks to encourage ongoing learning of new techniques.
Capacity for biodiversity financing, resource mobilization utilization and economic evaluation of biodiversity	Promotion of good policies	✓ Clarify policy priorities based on the MDAs strategic direction and needs of the people ✓ Monitor policy implementation and impact
	Improve resource mobilization and utilization	✓ Link budgets with priority service program priorities ✓ Build and use effective budgets, including project and donor budgets, and cash flow forecasts ✓ Integrate the annual and multi-year planning and budgeting processes
	Provide training in biodiversity financing, E.g. The Economics of Ecosystems and Biodiversity' (TEEB).	✓ Develop curriculum on biodiversity financing ✓ Create a 'train-the-trainers' program within the competency curriculum to train key personnel in biodiversity financing and economics

5.1.2. Technology Needs Assessment and Plan for Increasing Technical Capacity

Technology needs assessment (TNA) defines the human and technical capacity needs to implement the NBSAP and how they may be mobilized. The overall goal of the TNA is to facilitate the NBSAP implementation process by identifying and analyzing the priority technical capacity needs.

5.1.3. Identification and Evaluation of Current Technology Status

The technologies taken into the prioritization exercise are listed below. Current status shows that the technologies are at various levels of utilization. The technologies are also known to have been used in one form or the other to address specific NBSAP concerns.

Table 5.3: List of Identified Technologies

S/No.	Technologies for NBSAP Implementation
1	Awareness creation through various media
2	Integration of biodiversity in EIA process
3	Management of community forest and protected areas
4	Establishment of gene banks to conserve biodiversity
5	Sustainable utilization of biodiversity
6	Use of geographic information system (GIS) for land use mapping
7	Use of survey tools such as ArcGIS software, satellite imageries, etc.
8	Isolation of indigenous cultivars for in-situ conservation of plant species and wildlife in various ecosystems
9	Management of unique land forms such as wetlands and arid zones
10	Networking and transfer of data management, monitoring and spatial analysis
11	Management of invasive alien species
12	Biotechnology research
13	Integrated Biodiversity Assessment Tool (IBAT)
14	Climate change mitigation
15	Reforestation techniques
16	Agroforestry
17	Forest user groups
18	Conservation techniques and practices
19	Management of freshwater ecosystem
20	Ecosystem Services Evaluation Tool (EcoSET) or The Economics of Ecosystems and Biodiversity (TEEB)
21	Management of zoological and botanical gardens
22	Preservation and regeneration of marine biodiversity and ecosystems

Prioritization of the needed technical capacity was therefore vital in determining which capacity to promote for effective NBSAP implementation.

Following the prioritization six technical capacity needs were identified for effective implementation of the NBSAP.

- Management of community forest and protected areas;
- Operation of gene banks to conserve biodiversity;
- Sustainable utilization of biodiversity;
- Isolation of indigenous cultivars for in-situ conservation of plant species and wildlife in various ecosystems;
- Management of unique land forms such as wetlands and arid zones; and
- Networking and transfer of data management, monitoring and spatial analysis.

Table 5.4: Technology Needs and Required Actions

Technology	Actions or Alternative
Management of community forest and protected areas	Create enabling environment to promote protected areas management, both legal and incentives to enhance livelihoods
Operation of gene banks to conserve biodiversity	Establish gene bank centers in the country
Sustainable utilization of biodiversity	Embark on massive sensitization programme to educate the general public
Isolation of indigenous cultivars for in-situ conservation of plant species and wildlife in various ecosystems	Establishment of conservation centers for indigenous species
Management of unique land forms such as wetlands and arid zones	Create buffer zones to protect wetlands and arid zones
Networking and transfer of data management, monitoring and spatial analysis	Encourage establishment of biodiversity associations and conduct trains on data management and spatial analysis

5.2. Communication and Outreach Strategy for the NBSAP

The communication and outreach strategy sets overall communication objectives develop and sustain effective channels of communication, which will serve the exchange of information among all key stakeholders and enhance the coordination mechanism of NBSAP ensuring that the listed goals and targets are promptly met.

5.2.1. Required Communication Actions

The required communication actions for NBSAP are detailed below:

Table 5.5: NBSAP Stakeholders and Required Communication Actions

Stakeholder	Responsibility	Means of engagement	Means of information dissemination	Time frame
National Coordinating Committee	✓ Provide administrative support for NBSAP implementation ✓ Provide implementation guidance and advice	Meetings' agenda, minutes, reports	Email, telephone, Skype, teleconference, website, newsletters	Minimum once before and after meetings
National Agencies	✓ Mainstream biodiversity at national level ✓ Enhanced countries engagement in NBSAP	Workshops and e-learning materials Workshops reports Publications Regional Facilitators Follow-ups	Email, telephone, Skype, teleconference, National website e-newsletter	As required by the Capacity Building Strategy
Civil Society organizations (i.e. national NGOs and indigenous people organizations) Institutions of learning Schools, CBOs	✓ Mainstream biodiversity work ✓ Implementation of national and regional projects	Participation in development projects	✓ Town hall meetings ✓ School essay competitions ✓ Conferences, Seminars, Workshops ✓ Side events at International meetings	✓ When outputs are launched
Business and industry	✓ Expand the sectoral scope of the Partnership ✓ Engage with new sectors to bring for which finding indicators in the environment sector has proved difficult	✓ Further explore the opportunities of cross-sectoral indicator mainstreaming	✓ Thematic storylines on linked indicators on website and e-newsletters	✓ Thematic storylines – timing dependent on availability of resources
Mass media	✓ Educate the public on the importance of biodiversity	✓ Key messages, attractive graphics and products, interesting stories/case studies	✓ Press releases ✓ Press conference	Occasionally (to be determined by events)

Stakeholder	Responsibility	Means of engagement	Means of information dissemination	Time frame
Faith Based Organizations	✓ Mainstream biodiversity work through education of the public and members on the importance of biodiversity	Participation in development projects	✓ Conferences, Seminars, Workshops	Occasionally (to be determined by events)
CBD Secretariat	Develop a much closer integrated working relationship between national authorities for NBSAP implementation	✓ Maintain CBD website and make it accessible ✓ Newsletters	✓ Email, telephone, Skype, teleconference, website ✓ Face-to-face meetings ✓ CBD, NBSAP Forum , and other relevant International meetings	✓ Minimum monthly communication, but more often as required ✓ More frequent before CBD meetings ✓ Before outputs are launched
NBSAP Forum	✓ a key player in NBSAP revision process	✓ Engagement with CBD, UNEP, UNDP and other Parties	✓ NBSAP Forum meetings	✓ Quarterly updates to forum on progress, planned activities and new resources
Other Conventions (i.e. Ramsar, CMS, UNCCD, UNFCCC)	✓ Enhance efforts to increase engagement with other Conventions ✓ Develop relevant indicators for specific MEAs	✓ Website tool for filtering indicators for specific MEAs and visualizing synergies ✓ Encourage Partners to engage with MEAs stakeholders and share information on indicators	✓ Email, telephone, teleconference, Skype ✓ Global website ✓ Specific publications/ reports ✓ Special newsletter edition ✓ MEAs and other international meetings	✓ Bi-annual special e-newsletter ✓ Follow-up contacts for Ramsar, CMS, UNCCD, and UNFCCC ✓ Focus on technical advisory bodies, National Focal Points and COPs

Stakeholder	Responsibility	Means of engagement	Means of information dissemination	Time frame
UN agencies and other Donors	National biodiversity mainstream work	National and regional development projects	✓ MDG (Goal 7) ✓ Rio+20 SDG ✓ Human Development Report ✓ World Development Report ✓ Annual reports FAO, WHO, UNESCO, etc.	✓ Contact production teams according to schedules

5.2.2. Strategic Approach

This strategic communication plan is particularly devoted to support the NBSAP and will contribute to a well-defined purpose.

This strategy will operate in three levels mainly:

- Intra stakeholder communication;
- Communication with the public; and
- Communication with international bodies

5.2.3. Roles and Responsibilities

The understanding of roles and responsibilities by the implementation team will enable efficient and successful implementation of all the NBSAP actions.

Table 5.6: NBSAP Implementation Team Roles and Responsibilities

Implementation Team	Roles and Responsibilities
Country Focal Point	• Coordinating communication activities; • Reviewing and revising on an annual basis the Communication Strategy; • Identifying communication opportunities; • Maintaining mailing and contact lists; • Development of all information materials, press releases, etc. • Tracking progress and collecting materials for communication outputs (documents, photographs, interviews, etc.); • Diffusion and dissemination of all communication outputs; • Providing the appropriate materials to the website administration.
National Coordination Unit	• Overall supervision and coordination of the communication team activities; • Quality management of all communication activities and outputs; • Direction for the website development; • Direction for the development of all outputs including information materials, press releases, etc.; • Preparing and monitoring communication budget;

The actual specific guidelines will be developed by the National Focal Points ensuring that the minimum important information is collected by all relevant actors (e.g. government agencies, NGOs, partners, private sector, etc.).

5.3. Plan for Resource Mobilization for the NBSAP Implementation

The Aichi Biodiversity Target 20 calls for countries to assess their financial resource needs and mobilize financial resources and incentives in respect of those national activities which are intended to achieve the objectives of National Biodiversity Strategies and Action Plans. The overall objective is to provide the countries' NBSAP planners with an approach to assessing the costs of implementation, and to mobilizing financial resources in order to fill financial gaps. It will also ensure that the actors systematically understand the cost implications for implementing the strategies within the revised NBSAP.

5.3.1. Finance Actors

The list of financial actors for NBSAP implementation in Nigeria includes:

- Domestic funding
 - ✓ The Federal Government of Nigeria
 - ✓ Private sectors
 - ✓ Fund raising events
- International Agencies
 - ✓ Donor agencies, e.g. GEF, UNEP, UNDP

5.3.2. Financing Mechanisms

In order to sustain the gains to be made through NBSAP implementation, public funding will remain the dominant financial source. This include government national budget for environment ministries and ecological funds. Innovative financial mechanisms will also be employed as well as other domestic sources of support, and external funding.

Table 5.7: Checklist of Sample Financial Mechanisms for NBSAP

Financial Mechanisms	Description
Positive tax incentives	Develop tax credits and tax deductions for behaviors, products and services that cause positive changes in ecosystem management
Negative tax incentives	Develop taxes on behaviors, products and services that cause positive changes in ecosystem management
Dedicated funds	Develop funds to pay for sustainable management of ecosystems
Reduction of subsidies	Reduce or remove harmful subsidies, such as on fertilizers, and increase subsidies that have beneficial impacts on ecosystems
Caps and limits on trade	Set limits on certain ecosystem goods and services, such as water use
Procurement policies	Design procurement policies for public and private entities to promote the purchase of goods and services that promote sustainable ecosystem management
Payments for ecosystem services	Develop schemes that allow a group of beneficiaries to pay for the costs of maintaining ecosystem services (e.g., water payments for ecosystem services that allow downstream users to pay for forest protection upstream)

Financial Mechanisms	Description
Independent certification	Promote market-based certification systems for sustainably produced goods and services using agreed upon standards and verifiable chain-of-custody
Biodiversity offsets and wetlands banking	Biodiversity offsets promote a framework for reducing biodiversity loss by allowing companies from different sectors (e.g., mining) to protect equivalent areas of land and biodiversity using agreed upon standards
Fines and levies	Establish punitive fees and fines that discourage environmentally harmful behavior, such as bottom trawling practices
Conservation easements	Establish long-term agreements between landowners and third-party organizations, such as land trusts, to foster conservation on private lands
Voluntary and mandatory fees	Develop voluntary fees (such as a hotel or tourism fee) that allows individuals to contribute to sustainable management, and develop mandatory fees (such as airport departure fees) that can be directed toward sustainable management

5.3.3. Innovative Funding for the NBSAP

The actions expounded below will constitute new ways of generating funds for the NBSAP implementation:

Promoting Participation of the Entire Gamut of the Nigerian Citizenry in Biodiversity Conservation, Through the Mechanisms of **Crowd funding**: Crowd funding is a financing method that uses the tactics of soliciting moderately modest contributions from a group of individuals to generate funds for a cause. This mechanism will be used to raise funds for NBSAP as follows:

- For prescribed handsome amounts of money, naming facilities/sites or visible components of Conservation (Protected) Areas after individuals, firms/corporations by way of an organized honour scheme.
- Operating a “build and operate” scheme for private entrepreneurs willing to participate in running of visitors’ centers in national parks, forest reserves and other Conservation (Protected) Areas where emphasis is on biodiversity conservation.

Organizing Regular Periodic Biodiversity-based **Lotteries**: With the guidance of the National Lottery Regulatory Commission, lotteries will be organized, with a special one on World Biodiversity Day (WED), to generate funds for biodiversity conservation. A lottery is a kind of betting or gaming with three important features:

- some payment is required of participants;
- one or more prizes may be won by participants, the prizes are won by chance;
- Profits from the lottery will be ploughed into biodiversity conservation projects of the NBSAP, such as maintenance of infrastructure in national parks and game or forest reserves.

Establishment of a Mechanism for Collection of Biodiversity **Taxes** from Direct Users of Biodiversity: Developing and operationalizing a revenue generating system that is based on taxation of the direct beneficiaries from biodiversity exploitation; for example:

- Various categories of visiting tourists (i.e., game-viewers/photographers and researchers etc.) will be made to pay commensurate Entrance and Use- fee charges.
- Also various categories of industries will be made to pay biodiversity taxes, commensurate with the magnitude of disturbance (e.g., noise, air and water pollution, etc.), they cause in the environment.

Increasing **Biodiversity Conservation Support** by Accessing Funds from International Donor Agencies: The arrowhead of this action will be Universities, Research Institutes and NGOs, through increased well-articulated grant applications to UN agencies and private Foundations that encourage environmental conservation. The FMEnv will jumpstart this process by organizing training workshops on “How to Prepare/Write Good Research Grant Applications”, in the major ecological zones of the country, namely: Sahel Biome, Afrotropical Highland Biome, Sudan-Guinea Biome, and Guinea-Congo Rainforest Biome.

Establish **Ecological Fund** equivalents at the State and Local Government levels: Increasing the scope of fund generation for the Ecological Fund, to include contributions from multinational business outfits operating in Nigeria, and State and Local Governments Edicts and Ordinances at the State and LGA levels will be needed to domesticate the Ecological Fund at these levels of government. Each of the three tiers of government will, on an annual basis set aside, a prescribed percentage of its annual revenue into a Trust Fund that it will establish for biodiversity conservation. At each of these levels of government, a special BD Management Committee will be established to manage the Fund.

Promoting **Ecotourism**: This will be done through government and private sector support for biodiversity based festivals such as the Argungu Fishing Festival, the Biseni Fishing Festival and others of its kind in the Niger Delta, etc. The Ministry of Culture and Tourism will take a lead in this activity. Profits from organizing these fiestas will partly be used to enhance conservation of biodiversity at festival sites and their environs.

Establishment of a **National Biodiversity Trust Fund**: To succeed a strong legislative backing will be pursued for this purpose. Though this will require some time as the legislative Act will pass through the Nigerian legislative houses.

CHAPTER SIX

6.0. INSTITUTIONAL MONITORING AND REPORTING

Monitoring and Evaluation (M&E) is an essential aspect of the NBSAP implementation. It provides for periodic assessment, updating and utilisation of data for corrective and adaptive management. It ensures efficiency, effectiveness and positive impact of the NBSAP on the management of biodiversity. Varied methods of assessment and data collection, validation and circulation among stakeholders will be integrated into the framework. Nigeria will adopt and use the M&E framework in a transparent and accountable manner and will reinforce varied levels of stakeholder involvement and participation in the M&E process.

Nigeria will sustain a Monitoring and Evaluation process that is integrated into Biodiversity management both at the planning and the implementation stages. This will ensure adaptive management during project implementation and lead to the achievement of targets. However, capacities will be mobilized and, where necessary, built to enable adequate monitoring and evaluation of the programmes and actions of the NBSAP.

The process of NBSAP reporting in Nigeria started in 2001 with the completion of the first national report. It is now at the stage of development of plan of actions and the synthesis of the fifth national report. However, lack of efficient coordination mechanisms has been identified as one of the major challenges limiting the implementation of NBSAP in the country.

To this effect this section clarifies the necessary actions to establish and strengthen the national coordinating structures for NBSAP. It also outlines the roles and responsibilities of the various NBSAP institutional actors.

Periodic Assessment Platforms will be created to enable timely assessment and acquisition of data that will assist measurement of actions and impacts. The Periodic Assessment Platform will provide opportunity for monitoring of habitats, species, benefit sharing, collaborative management and physical environment situations.

More so, transparent information sharing network will be coordinated by the Nigerian Biodiversity Clearing House mechanism, www.chm-cbd.com.ng, which will be sustained for effective information management and transparency. The public: varied economic sectors, including civil society organisations, corporate organisations, and communities will have access to M&E periodic assessment report and will have roles to play in contributing to validation, sharing and development of data and information on biodiversity.

6.1. National Coordinating Structures

Objective

The main objective is to strengthen coordination of NBSAP activities for effective implementation and also to ensure that the set out national goals and targets for NBSAP are met.

6.1.1. Considerations for Establishment of NBSAP National Coordinating Structure

The following options should be considered in establishing an effective and efficient national coordination structure.

- High-level inter-ministerial and stakeholder steering committees shall be established for the implementation of the NBSAP and as elements of an overall national implementation mechanism.
- The cross-sectoral nature of biodiversity planning requires strong coordination structures. On paper, most existing NBSAPs provide for coordination structures across ministries and interest groups, but often these have had limited or no effect on coordination and implementation. A high-level inter-ministerial body and a stakeholder committee, or a combination of the two, should be established to ensure comprehensive coverage and political buy-in for the development of the NBSAP and subsequently to oversee implementation. Whether these are deliberative or advisory bodies is for the country to decide; the important thing is to ensure the broadest level of participation and buy-in, create permanent fora for considering new scientific information and policy options, and ensure effective monitoring and oversight. Where there are sub-national NBSAP process in place, similar mechanisms should also be established at the appropriate level.
- NBSAPs shall also provide for sub-national levels (State and local governments) decisions and actions that affect biodiversity are often taken at the local level, and the overall NBSAP will only be implemented if corresponding strategies and action plans are also developed and implemented at the relevant sub-national level(s). Decentralization of biodiversity planning to sub-national levels has been largely neglected in existing NBSAPs and this is one of the main causes of poor NBSAP implementation.
- NBSAPs shall be an instrument for implementation of all the biodiversity-related conventions and thereby promote coherence in national implementation of these. The country should promote coordinated and coherent action at the national level to meet their commitments under the various conventions. NBSAPs should provide the overall framework for national biodiversity planning and should be an instrument for achieving the objectives of all the global biodiversity-related conventions to which the country is a party.
- NBSAP support mechanism should be established to assist countries to develop and implement their NBSAPs and to monitor and analyze the experience of implementation. To maximize the opportunities for meeting the goals and targets of the new Strategic Plan for Biodiversity, greater efforts should be made to promoting coordination and coherence. There need to be arrangements in place for ensuring that available capacities are effectively employed to the greatest effect, that an overall picture of ongoing support initiatives is available, that gaps and unmet needs are identified, and that lessons learned are systematized and disseminated.

6.1.2. Monitoring, Evaluation and Reporting Structures

The responsibility for implementing the NBSAP is held by relevant multi-stakeholder institutions identified in the NBSAP document which constitute the Biodiversity Steering Committee (BSC). The Ministry of Environment, through the Department of Forestry which houses the key biodiversity National Focal Points, will be responsible for the direct monitoring of the implementation of this NBSAP.

Monitoring and evaluation entities, consistent with the established NBSAP national coordinating structure outlined in Table 6.1, on NBSAP Stakeholders and Responsibilities, that will regularly use indicators to track progress and ascertain results, will be established. Based on data collected and systematized, the entities will develop an annual report on the implementation of the NBSAP. Also, the monitoring and evaluation entities will inform the Government on the progress made and results achieved in implementing the NBSAP.

Table 6.1: NBSAP Stakeholders and Responsibilities

S/No.	National Actors	Suggested Roles and Responsibilities	Make up
1	The Steering Committee or National Coordinating Unit	Oversee the process of NBSAP implementation	Civil servants, bureaucrats, senior scientists, community leaders
2	Coordinating Agency	- Initiates and coordinate the process of preparing / drafting the NBSAP - Liaise with CBD secretariat and with other national and international agencies on NBSAP - Source for resource persons, including scientists, NGOs, and Consultants are specialists/experts on the various ecosystems and thematic/crosscutting issues identified - Budget implementation and identification of appropriate funding sources - Review exercise, monitoring and evaluation	Federal Ministry of Environment (Biodiversity Unit). The country focal points are: CBD NFP, CHM NFP, SBSTTA NFP, Resource Mobilization NFP, ABS NFP, Biosafety NFP, Protected Areas NFP, Coastal and Marine Biodiversity NFP.
3	Other national agencies	Play leading role in the process of NBSAP implementation	Ministries include education, finance, agriculture and rural development, justice, water resources, culture and national orientation, science and technology etc.

S/No.	National Actors	Suggested Roles and Responsibilities	Make up
4	Non-Governmental Agencies (NGOs)	- Contribute to community mobilization and capacity building - Ensure wide spread community sensitization and awareness creation - Participate in stakeholders brainstorming	Civil Society Organizations, CSOs and NGOs focusing on biodiversity conservation
5	Local Communities, Community Based Organizations (CBOs)	- Participating in brainstorming process to elicit reactions/response and commitments - Bridging forth special knowledge about opportunities in their locality; - Local-level involvement in planning to generate increased support and commitment, stimulate self-help, and mobilize local resources including lands	Traditional leaders Occupational groups Youths Women groups
6	Consultants and Researchers, the University Community	- Stocktaking and assessment to identify major gaps that emerge through NBSAP implementation process - Contribute to various ecosystems and thematic / crosscutting issues identified	University lecturers Individual consultants and professionals
7	National and State Governments	Provide funding for NBSAP implementation	The federal government of Nigeria, 36 federating States and FCT Abuja
8	International Agencies and Donors	Provide technical support and funding	CDB Secretariat, GEF, UNDP, WWF, World Bank etc.
9	Private and Corporate Sector	Provide other sources of funding i.e. Voluntary contributions	Private organizations, e.g. oil and gas companies

The Federal Ministry of Environment (Federal Department of Forestry), the Government Ministry with the mandate for Environment and in particular, biodiversity conservation, will be the lead agency for coordinating, promoting and facilitating the implementation of the NBSAP. The Federal Department of Forestry, other Government Departments and Ministries, State Governments, Non- Governmental Organisations, academics, and research institutions and Civil Society organisations that are implementing agencies (i.e. agencies implementing NBSAP projects) will identify Focal Points and each take responsibility for the implementation of their own projects or project components. The State Governments, Local

Community Based Organisations, Faith Based Organisations, Private and Corporate sector, Other NGOs not implementing any project, International Agencies and Donors will play roles as outlined in Table 6.1, on NBSAP Stakeholders and Responsibilities.

Biodiversity Steering Committee

The Biodiversity Steering Committee will oversee the process of NBSAP implementation and report to the Federal Executive Council (Council of Ministers) and the House Committee on Environment (Parliamentary Committee). The Committee will keep the implementation of the NBSAP under review based on regular reports from the National Biodiversity Monitoring and Evaluation Coordinating Unit (NBMECU). It will ensure that the activities included in the Action Plan for the implementation of the Strategy are included in the activity plans of the institutions involved in the implementation of the Strategy.

It will be constituted by the Honourable Minister of Environment, senior government officials, technocrats, senior scientists, community leaders and NGOs as outlined Table 6.1, on NBSAP Stakeholders and Responsibilities and their meetings presided over by the Honourable Minister of Environment. The Honourable Minister of Environment will also host the Secretariat.

National Biodiversity Monitoring and Evaluation Coordination Unit (NBMECU)

The actual monitoring and evaluation of the NBSAP implementation will be led and coordinated by the National Biodiversity Monitoring and Evaluation Coordinating Unit (NBMECU), established under the Federal Ministry of Environment, Biodiversity Conservation Unit of the Federal Department of Forestry. The establishment of the NBMECU is fundamental to the overall success of NBSAP implementation.

Composition of the Members of NBMECU

Members of the NBMECU will consist of eight full-time government personnel that are National Focal Points involved in the implementation of the objectives of the CBD. They include:

- (i) CBD NFP;.....Coordinator
- (ii) CBD CHM NFP;.....Member
- (iii) CBD SBSTTA NFP;.....Member
- (iv) CBD Resource Mobilization NFP;Member
- (v) CBD PoW Protected Areas NFP;.....Member
- (vi) CBD Access and Benefit Sharing (ABS) NFP;Member
- (vii) CBD Coastal and Marine Ecosystem NFP; and.....Member
- (viii) CBD Bio safety NFP.....Member

Functions of the NBMECU

The NBMECU will:

- Report to and work on the advice of the Biodiversity Steering Committee;
- Coordinate with donors for securing funds for implementation of the NBSAP;
- Report to the National Planning Commission (NPC),

- Prepare and disseminate national status report on NBSAP implementation including an annual report to the public through the national CHM: www.chm-cbd.com.ng;
- Allocate resources, approve plans and regularly supervise activities of the National Biodiversity Working Group (NBWG);
- Provide technical support to members of NBWG implementing projects of the NBSAP;
- Prepare National Positions for CBD events such as Conference of the Parties (COP) and the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA);
- Coordinate the overall implementation of the NBSAP including hosting the Secretariat of the National Biodiversity Working Group;
- Convene annual workshop for members of the NBWG to share information on advances made to support their projects;
- Document the different implementation indicators of the NBSAP and produce an annual NBSAP implementation report, as well as other relevant reports required by government; and
- Maintain the established national biodiversity CHM including links to existing biodiversity related databases.

National Biodiversity Working Group (NBWG)

A National Biodiversity Working Group (NBWG) will be established where all relevant stakeholder institutions that agree to become implementing partners of the NBSAP will meet to discuss issues relevant to the achievement of its objectives and goals. Members of the NBWG will share information, comments and activities that contribute to the implementation of the NBSAP and are specifically required to report on implementation of their projects to the NBWG and submit periodic reports to the NBMECU in an agreed format to enable the full and proper monitoring and assessment of NBSAP implementation.

Composition of the National Biodiversity Working Group

Membership of the NBWG will include Focal Points from the: Federal Department of Forestry, other relevant Government Departments and Ministries, Non-Governmental Organisations, academics, and research institutions and Civil Society organisations that are implementing agencies (i.e. agencies implementing NBSAP projects) and experts identified by NBMECU. The Federal Department of Forestry will serve as Secretariat for the National Biodiversity Working Group.

Functions of the National Biodiversity Working Group

Members of the NBWG will:

- Share information on support advanced to their biodiversity projects;
- Ensure effective monitoring and evaluation through regular monitoring and periodic assessment of their projects;

- Coordinate with State Governments, Local Community Based Organisations, Faith Based Organisations, Private and Corporate sectors, other NGOs not implementing any project, International Agencies and Donors to determine progress status, outcomes and lessons learned from their related projects and programmes, annually; and
- Meet, at least twice a year, to assess the overall progress and identify lessons learned and submit a report to NBMECU, annually.

Other Relevant Organisations

Other Relevant Organisation involved in the implementation of the NBSAP, as stated in Table 6.1, on NBSAP Stakeholders and Responsibilities are: the State Governments, Local Community Based Organisations, Faith Based Organisations, Private and Corporate sectors, other relevant institutions and NGOs not implementing any project, International Agencies and Donors.

Partnership with various organizations and donors will ensure effective implementation of the NBSAP in Nigeria and also contribute to sustainable development and reduction of poverty. Furthermore, it will also stimulate the necessary ingredient to mainstream biodiversity across sectors of the government and society; promote biodiversity-friendly practices by business; and promote synergy and coherence in the implementation of multilateral environmental agreements. Partners may include, among others, other conventions and multilateral/bilateral agencies, foundations, women, local communities, non-governmental organizations, civil society and the public sector.

6.2. Clearing House Mechanism (CHM)

In relation to the convention, it was initially planned to set up an agency supplying information on biodiversity. But the idea of actively 'brokering' information proved unrealistic. Hence, rather than being a gigantic data-bank, the CHM is an information network made up of electronic and non-electronic media.

Article 18.3 of the Convention commits the contracting parties to establishing a Clearing-House Mechanism to facilitate and promote technical and scientific co-operation. The task of the CHM is to provide necessary information, or to indicate where such information is available and of what quality it is. The CHM helps avoid duplication of work, promotes the transfer of technology, and enables formulated objectives to be achieved more quickly

At the first Conference of the Parties (COP) in December 1994, it was decided that a Clearing-House Mechanism should be set up, under the authority of the contracting states. There are now 152 National Focal Points in convention countries; 117 of these have e-mail facilities and 20 have their own web site (as of May 2001). The CBD Secretariat plays a central coordinating role. A whole host of instruments, services, and modes of co-operation have now been developed. These include: partnerships between industrial and developing countries in establishing National Focal Points; a functioning electronic network; list-servers; a 'toolbox' to help contracting states with website construction; and booklets, a newsletter, and other information material.

The BDCP has successfully instituted the CHM. A website that brings the Bioresource endowment of the nation and activities of the BDCP to your doorstep.

6.2.1. Website Design Process

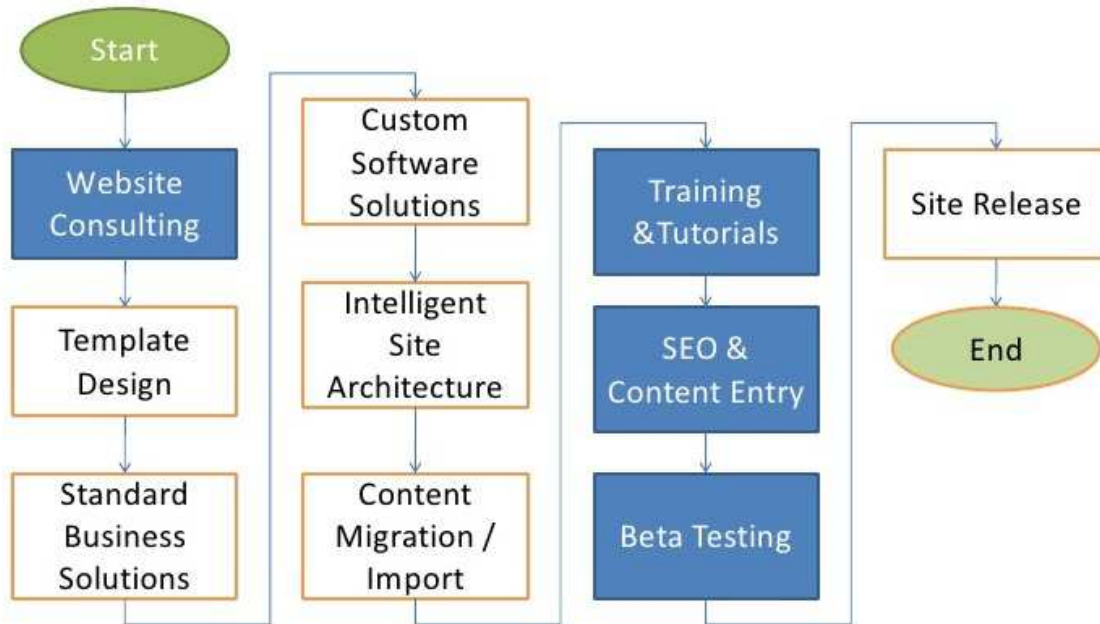


Fig. 6.1: Website Design Process

6.2.2. Essence of the Clearing House Mechanism

- Providing a brief online version of the latest NBSAP and national report for easy reference (e.g. executive summary).
- Providing news on major national events related to biodiversity.
- Providing links to information on national biodiversity, especially if these links are in the NBSAP or national report.
- Providing a directory of institutions and expertise related to NBSAP implementation.
- Providing a space where national stakeholders can express their views and announce their biodiversity related events and activities.
- Providing, whenever possible, additional content or links that respond to other identified national information needs.
- Being available in the national language(s).

6.2.3. Main Page Type Designs

Several prototyping sessions were conducted during the Analysis phase to help determine the main page type layouts. Below are samples of an early stage prototype and then a last prototype of several of the main pages.

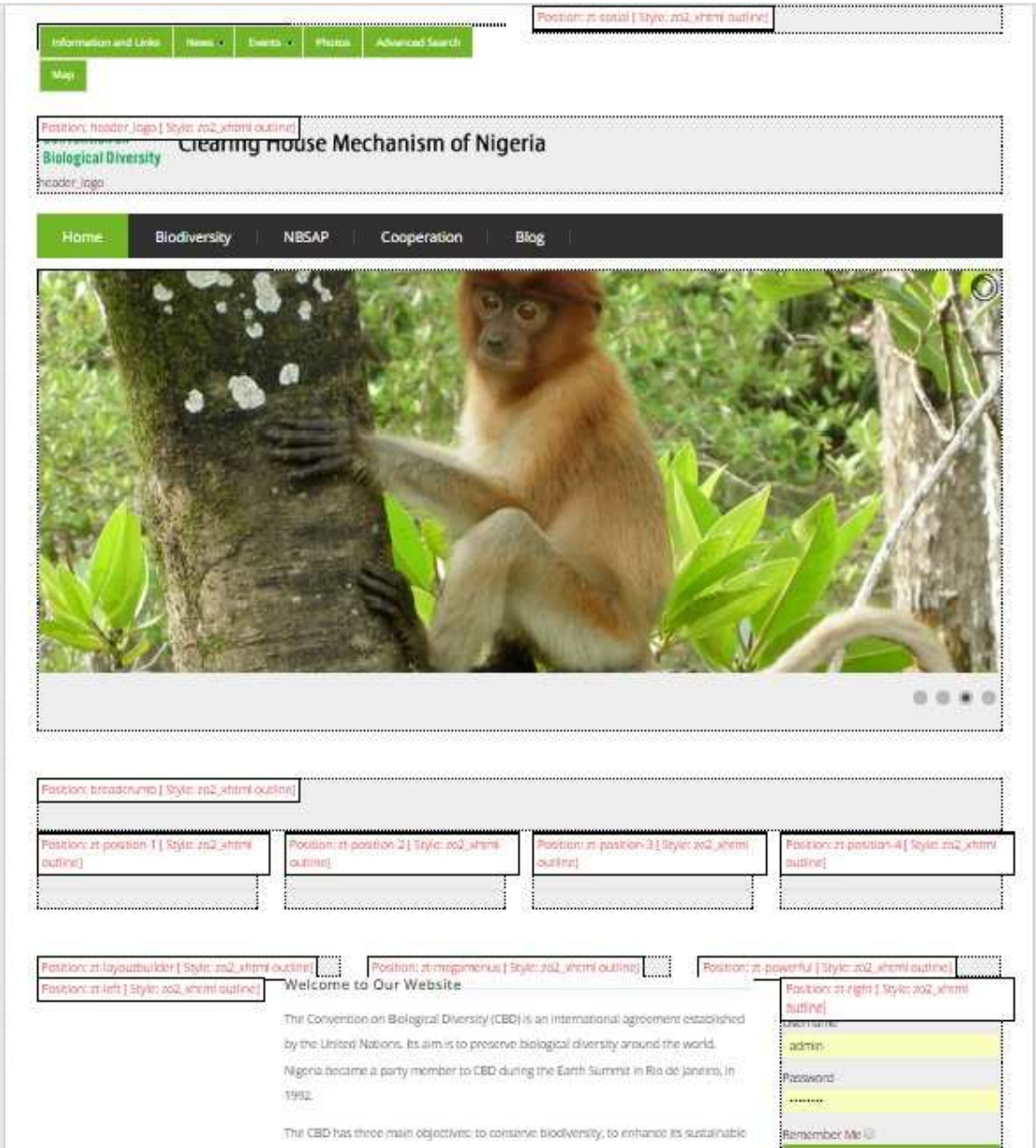


Fig. 6.2: Early Prototype Home Page

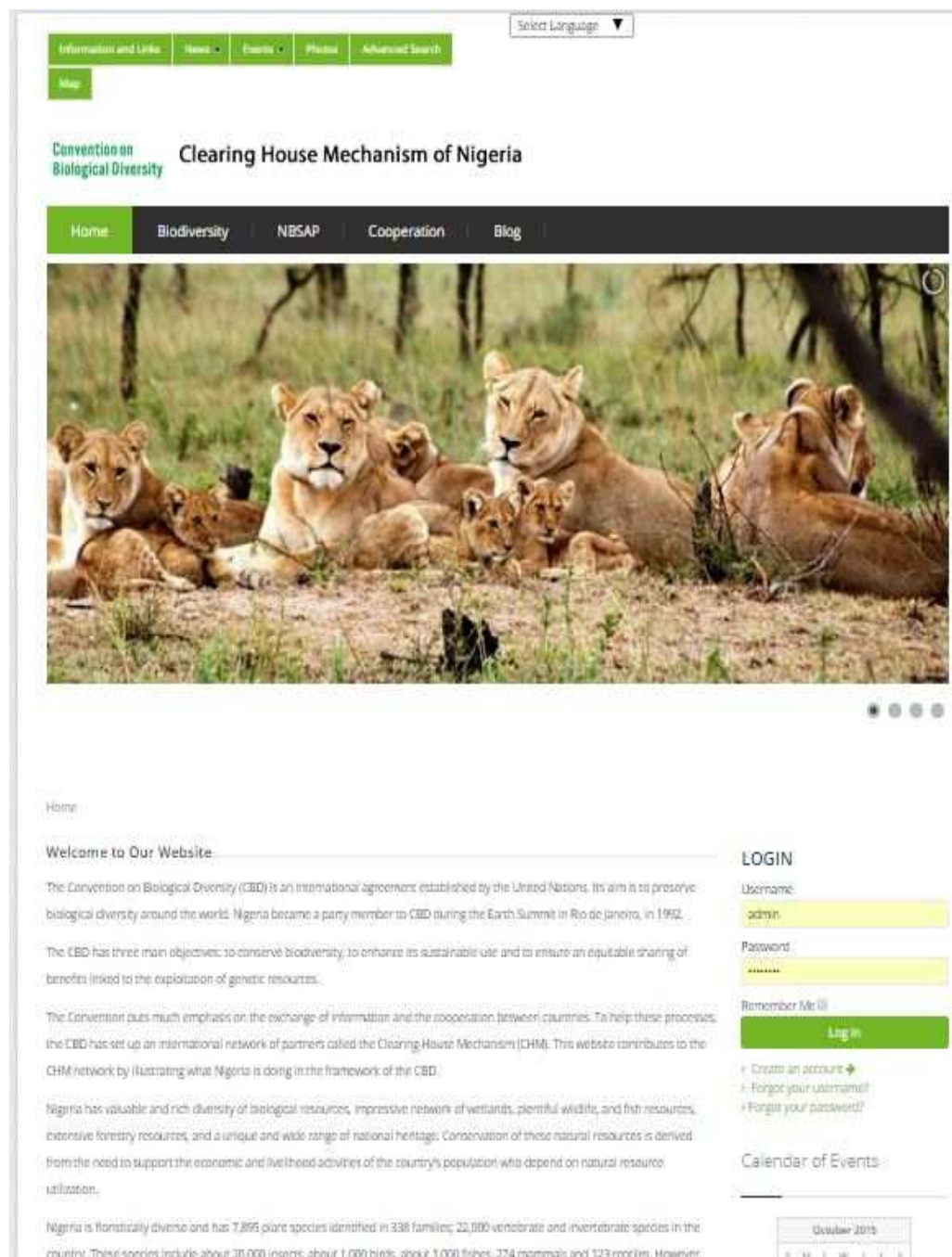


Fig. 6.3: Close-Out Document Checklist

Table 6.2: Close-Out Document Checklist

Content	Information on:	CRITERIA MET
Content	Biodiversity in the country National strategy and action plan (NBSAP) Progress towards national and/or Aichi Biodiversity Targets Biodiversity thematic areas and cross-cutting issues as well as on biosafety and access and benefit-sharing at the national level Corresponding implementation activities in the country National and applicable regional legislation Regional or international cooperation, collaboration, and networking Scientific and technical references Case studies, assessments, reports News and events Links to other national websites Other relevant resources	CRITERIA MET
Online services	Search engine	CRITERIA MET
Online services	Online databases (species, protected areas, document, experts, ..) or links to these databases Online submission services Collaboration tools (forums, blogs) Other modern services (e.g. maps)	CRITERIA MET
Layout	Home page	CRITERIA MET
Layout	Design and attractiveness of the site Menu and navigation Overall user-friendliness Appearance on mobile devices Appearance of printed pages	CRITERIA MET

Visibility and usage	Ranking after a Google search of “Biodiversity [Country]” in the	CRITERIA MET
Visibility and usage	language of the site Web statistics (page views) Availability in several languages (if applicable) Activities undertaken to promote awareness of the national CHM (meetings, brochures, ...) Use of the national CHM by thematic groups and other stakeholders	CRITERIA MET
Content management	Use of a content management system (CMS)	CRITERIA MET
Content management	Number of updates in the current year and the previous year Frequency of locally-generated updates Number of active contributors Use of terminology/metadata System(s) in place to gather and analyze statistics (based on reports provided) Content translation (if site is available in several languages)	CRITERIA MET

6.3. Monitoring, Evaluation and Reporting Plan

At the global level, all nations Party to the CBD will be subject to regular review by the Conference of the Parties (COP) through the CBD Secretariat. The implementation of the NBSAP will be subject to monitoring and evaluation of the progress achieved.

6.3.1. Monitoring and Evaluation

However, to facilitate this work, a Subsidiary Body on Scientific, Technical and Technological Advice has been established and have developed a common set of biodiversity indicators to be used in assessing the level of implementation of the NBSAP and status of biodiversity in the country. The NBSAP process and activities in Nigeria will be monitored for the level of implementation of the Priority National Targets which have earlier been identified.

6.3.2. Reporting Plan

The reporting plan has been described together with the functions of the monitoring and evaluation structures for this M & E and is also illustrated in Figure 2 below. The various entities of the structure: Other Relevant Organisation, NBWG, NBMECU, and Biodiversity Steering Committee, carry out their functions and report to the next in a hierarchical manner and as frequent as the data collection.

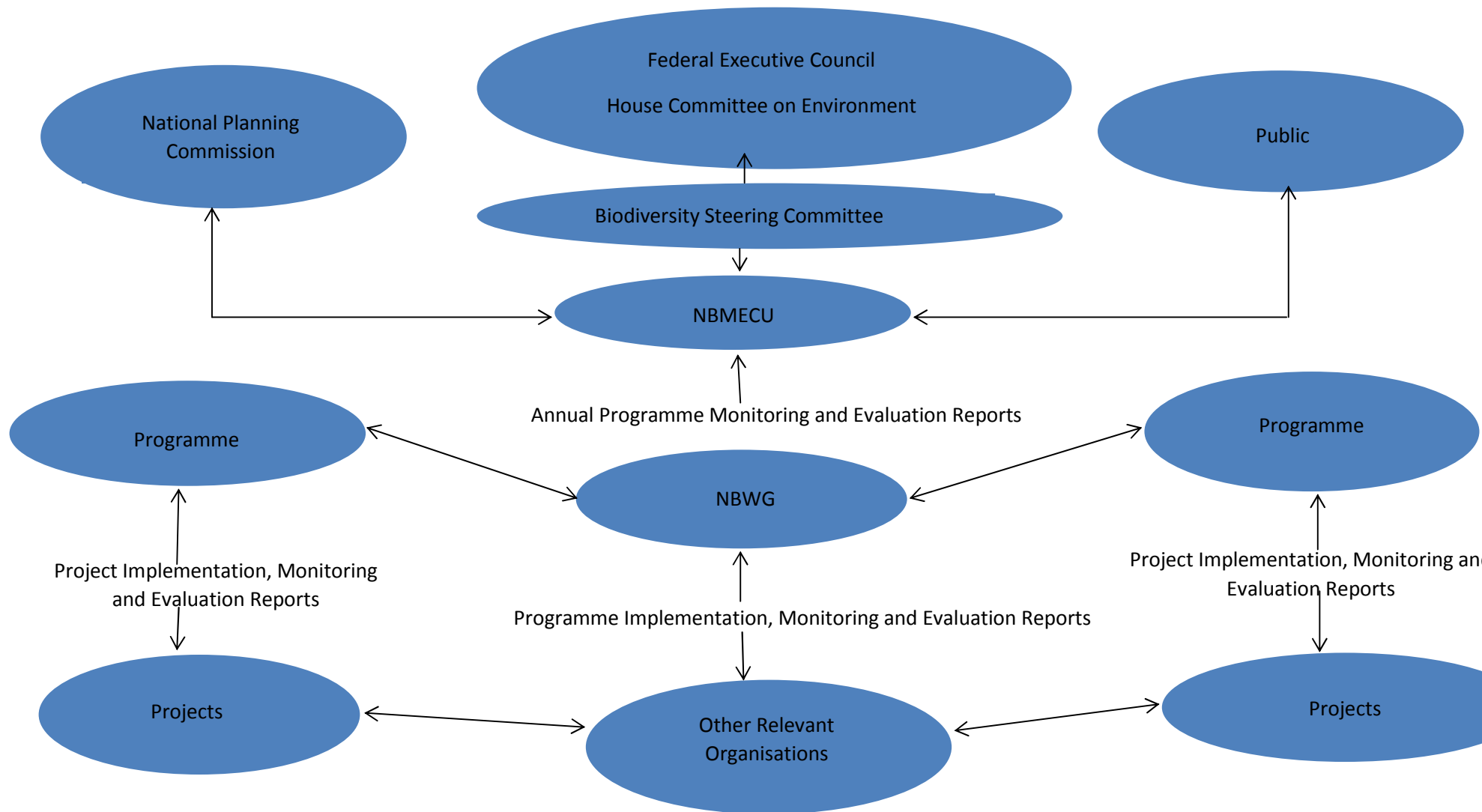


Fig. 6.4: NBSAP Reporting Structure

6.3.3. Monitoring Plan

The Nigerian NBSAP will be monitored using the matrix stated below. The monitoring plan was developed in the plenary of multi-stakeholders workshop which was held in Abuja on the 11th and 12th November 2015. This matrix is applicable to both the impact indicators (Table 6.3) and performance/implementation indicators (Table 6.4) of the NBSAP Targets and Actions respectively. The implementation of the NBSAP Targets and Actions will enable the achievement of the desired state of biodiversity in the country. The national Targets and Actions will also contribute to the achievement of the Aichi Biodiversity targets and ultimately, the Strategic Plan for Biodiversity 2011-2020.

The Monitoring Matrix consists of the Targets and Impact Indicators or Actions and Performance Indicators, Baseline and Action Data, Data Gathering Methods, Means of Verification, and Collection Frequency for the data.

The NBSAP Target and Impact Indicators is presented in Table 6.3 below

Table 6.3: NBSAP Target Monitoring Matrix

Targets	Impact Indicator	Responsibility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency of the data
			Baseline			Target					
			value	unit	year	value	unit	year			
Target 1. By 2020, 30% of Nigeria’s population is aware of the importance of biodiversity to the ecology and economy of the country.	% of the population aware of the importance of biodiversity.	FDF	NA	%	2016	30	%	2020	Surveys of representation groups of the population to be carried out OR Estimate of number of people reached by outreach activities	Survey Results Results of Estimate	Annually
Target 2. By 2020, a comprehensive programme for the valuation of biodiversity is developed and implemented, and payments for ecosystem services (PES) and goods are mainstreamed into the national budget.	No. of payments for ecosystem services per year.	FDF	0	NO.	2016	50	NO.	2020	Review of PES	Annual Report	Annually
	Amount of payments for ecosystem services per year.	FDF	0	₦	2016	200 Million Naira	₦	2020	Review of PES	Annual Report	Annually
	No. of beneficiaries of payments for ecosystem services per year.	FDF	0	No.	2016	100	NO.	2020	Review of PES Beneficiaries	Annual Report	Annually
	Contribution of biodiversity to the national GDP	FDF	To be determined	₦	2016	To be Determined	₦	2020	Review of National GDP	Annual report	Every 2 years

Targets	Impact Indicator	Responsibility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency of the data
			Baseline			Target					
			value	unit	year	value	unit	year			
Target 3. By 2020, adoption of a national ecosystem-based spatial planning process and plans, promoting the values of biodiversity and ecosystem services to sustain development.	% of the country with published and adopted spatial plans that promote the values of biodiversity and ecosystem services.	FDF	0	%	2016	30%	%	2020	Review of country land reports and geo-spatial plans	Nigerian National state of Environment report	Every 2 years
Target 4. By 2020, up to 15% of the areas of degraded ecosystems in Nigeria are under programmes for restoration and sustainable management.	% of the total area of degraded ecosystems in 2015 under programmes for restoration and sustainable management.	FDF	NA	%	2016	15%	%	2020	Review of Ecosystem restoration Report	Annual Report	Annual
Target 5. By 2020, six (6) management plans are implemented for habitats of endemic and threatened plants and animals, including sites for migratory species.	No. of management plans implemented for habitats of endemic, threatened and migratory species	FDF	To be determined	NO.	2016	6	NO.	2020	Implementation report on Reviewed Management Plans	Annual Report	Annual

Targets	Impact Indicator	Responsibility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency of the data
			Baseline			Target					
			value	unit	year	value	unit	year			
Target 6. By 2020, at least 10% of Nigeria’s national territory is sustainably managed in conservation areas at varied levels of authority, with representation of all ecosystem types	% increase of Nigeria’s national territory with some form of conservation area status.	FDF	To be determined	%	2016	10	%	2020	Review of Protected Areas (Forest/ Grazing reserve) report	Annual Report	Annual
	% increase of conservation areas assessed to be sustainably and effectively managed.	FDF	NA	%	2015	30%	%	2020	Review report of Protected Areas	Annual report	Annually
Target 7. By 2020, the genetic diversity of cultivated plants, domesticated animals and their threatened wild relatives, including culturally valuable species, are documented, maintained and valorised in two key institutions in Nigeria.	No. of key plants and animals with their genetic diversity documented, maintained and valorised	NABDA	NA	NO.	2015	200	NO.	2020	Review of reports on Genetic diversity	Annual Report	Annual

Targets	Impact Indicator	Responsibility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency of the data
			Baseline			Target					
			value	unit	year	value	unit	year			
Target 8. By 2020, at least 60% of identified pollution sources, including those from extractive industries and agricultural inputs, are brought under control and guidelines are put in place to mitigate their effects on ecosystems.	% increase in the number of restored wetlands, rivers, coastal and other sites damaged by pollution.	PC&EH	10	%	2015	At least 60	%	2020	Review of reports of monitoring of Polluted and restored Water bodies	Annual Report and other related reports	Annual
Target 9. By 2020, invasive alien species and pathways are identified and prioritized and priority species controlled or eradicated, and measures are in place to manage pathways in the six ecological zones.	No. of IAS with significant negative impacts	FDF	NA	NO.	2015	4	NO.	2020	Review of IAS report	Annual Report	Annual
	No. of IAS eradicated.	FDF	0	NO.	2015	To be determined	NO.	2020	Review of IAS report	Annual report	Annual

Targets	Impact Indicator	Responsibility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency of the data
			Baseline			Target					
			value	unit	year	value	unit	year			
Target 10 . By 2015, the Nigerian NBSAP has been fully revised and adopted by government as a policy instrument, and its implementation commenced in a participatory manner.	NBSAP revised and adopted.	FDF	0	%	2015	At least 80% implementation	%	2016	Review of Implementation report of revised NBSAP	Production of NBSAP component documents	Annually
	Sub-national BSAPs initiated. (State and Local Government)	State Min in charge	NA	NO.	2015	36	NO.	2020	Review of State Projects	State annual report	Annually
Target 11 . By 2015, the Nagoya Protocol on Access to Genetic Resources and the fair and equitable	Nagoya Protocol acceded to.	FDF	0	NO.	2015	1	NO.	2016	Review of status of policy instrument deposited for ratification at CBD Secretariat	List of Parties on CBD’s website	Once-off

Targets	Impact Indicator	Responsibility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency of the data
			Baseline			Target					
			value	unit	year	value	unit	year			
sharing of Benefits Arising from their utilization is acceded to and its implementation through a national regime on ABS commenced.	National ABS framework or legislation adopted.	FDF	NA	%	2015	100%	%	2017	Inquire from FDF	Actual National ABS Framework or legislation adoption report	Once- off
Target 12. By 2020, community participation in project design and management of key ecosystems is enhanced in one (1) each of the six (6) ecological zones.	No. of NBSAP projects with community participation in design and management.	FDF	0	NO.	2016	At least 20	NO.	2020	Review of implementation report of NBSAP annual plan	Revised NBSAP Implementation report/document	Annual
Target 13. By 2020, national-based funding for biodiversity is increased by 25%, with effective	% increase since 2014 of national and International funding for biodiversity.	FDF	NA	%	2015	50% increase	%	2020	Review of annual NBSAP conference proceedings	NBSAP Annual Report	Annually

Targets	Impact Indicator	Responsibility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency of the data
			Baseline			Target					
			value	unit	year	value	unit	year			
international partnership support.											
Target 14. By 2020, the capacity of key actors is built and gender mainstreaming carried out for the achievement of Nigeria’s biodiversity targets.	No. of beneficiary institutions with strengthened capacity to implement the NBSAP.	FDF	2	NO.	2015	At least 10	NO.	2020	Review of NBSAP capacity building Report	Annual NBSAP Implementation Report	Annual

Table 6.4: NBSAP Actions Monitoring Matrix

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
1.1. Conduct outreach and awareness campaigns (radio, jingles etc), information sharing and public discussions on Nigeria’s biodiversity and its significance to ecology, economy, life and services, with specific emphasis on indigenous and local communities.	1.1.1. No. of outreach & awareness campaigns.	NOA	NA	N0.	2015	20	N0.	2020	1.1.1 Review of outreach and campaigns Reports	Annual Report	Annual
	1.1.2. No. of public discussions.	NOA	To be imputed by FDF	N0.	2015	10	N0.	2020	1.1.2 Review of public discussions Reports	Newsletter, NOA reports to NBSAP annual meeting	Annual
	1.1.3. No. of states in Nigeria with outreach activities.	NOA	NA	N0.	2015	At least 50%	N0.	2020	1.1.3 Review of outreach activities Reports at annual NBSAP meeting	Newsletter	Annual
	1.1.4. No of radio jingle aired	NOA	NA	N0.	2015	At least 10 jingles	N0.	2020	1.1.4 Review of Radio Jingles Reports at annual NBSAP meeting	Newsletter	Quarterly
	1.1.5. No of advert in television and newspapers	NOA	To be determi ned	N0.	2015	At least 20 each	N0.	2020	1.1.5 Review of Television advert and newspaper publication reports at annual NBSAP meeting	Newsletter	Annual

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
1.2. Produce and distribute publications in appropriate local languages and dialects on biodiversity and ecosystem services for the public, especially women and youth.	1.2.1. No. of publications produced and no. of copies distributed.	NOA	0	NO.	2016	At least a million copies distribut ed	NO.	2020	1.2.1. Review of publication	Annual Report	Annual
	1.2.2. No of local languages and dialects covered by outreach publications.	FDF	0	NO.	2016	To be determin ed	Amo unt/ Rati o	2020	1.2.2 Desk Review of Annual report on outreach publication	Annual Report	Annual
1.3. Inclusion of the subjects and texts on biodiversity conservation into the national primary and secondary education and the General Studies (GS) of tertiary institution curricula.	1.3.1. No. of biodiversity subjects and texts included in each level of the education system.	FME	To be imputed by FME Represe ntative	NO.	2016	At least 2 each	NO.	2018	1.3.1. Review of Surveys Result	Surveys results	Every 2 years
	1.3.2. No of primary, secondary and tertiary institution in which biodiversity conservation subjects are taught.	FME	To be imputed by FME Represe ntative	NO.	2016	At least 10 each	NO.	2018	1.3.2. Review of Surveys results	Surveys results	Annual Reports
1.4. Host annual National Forum on Biodiversity for legislators and other sectors of the economy	1.4.1. No. of Fora hosted.	FDF	0	NO.	2015	2	NO.	2016	1.4.1. Review of hosted for a reports	Annual Report	Annual

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
1.5. Host an annual National Biodiversity dialogue/conference, and Press Conference.	1.5.1. No. of years (frequency) when a dialogue & press conference are held.	FDF	0	N0.	2015	Once annually	N0.	2020	1.5.1. Review of conferences reports	Annual Conference Report	Annual
1.6. Promote environmental social media networking among the Nigerian youth.	1.6.1 No. of social media sites linked to the National CHM	FDF	NA	N0.	2016	5	N0.	2020	1.6.1. Review of Social Media and No. of Hits	Desk Study result	Annual
	1.6.2. No of youths that visits social media sites linked to the National CHM	FDF	NA	N0.	2016	200	N0.	2018	1.6.2 Analysis of N0. Of hits on website	NBSAP Communicatio n Plan Report	Annual
2.1. Conduct Economic Valuation of Biodiversity and national studies on ‘The Economics of Ecosystems and Biodiversity’ (TEEB). 2016-2020	2.1.1. No. of published reports on TEEB studies and values of biodiversity resources	NCF	NA	N0.	2016	3	N0.	2020	2.1.1. Review of TEEB study and Valuation report	TEEB Study and Valuation results	Every 2 years
2.2. Integrate valuation of biodiversity into national accounts, strategies and planning process.	2.2.1. No of National accounts published that includes biodiversity activities.	Budget and National Planning	NA	N0.	2015	1	N0.	2020	2.2.1. Review of Nigeria’s Annual Appropriation	Annual Appropriation report	Annually

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	2.2.2. No. of published development strategies and plans that promote biodiversity values.	FDF	NA	NO.	2015	2	NO.	2020	2.2.2. Review of Development Strategies and Plans by FDF	FDF Annual Report	Annually
2.3. Establish and implement a national procedure for Payment for Ecosystem Services (PES), to enhance private sector investment and corporate social support to Nigeria’s biodiversity protection.	2.3.1. National procedure for PES established.	FDF	0	No	2015	1	No	2017	2.3.1. Review of PES	Annual Report	Annual
	2.3.2. National procedure for PES implemented	FDF	0	NO.	2015	1	NO.	2020	2.3.2. Review of PES reports	Annual Report	Annual
2.4. Strengthen and implement the provisions of Environmental Impact Assessments (EIA).	2.4.1. Strengthen provisions for EIA that promote biodiversity and ecosystem services values.	EA Departme- nt	NA	NO.	2015	1	NO.	2016	2.4.1. Review of EIA Provisions Act	EIA Act Implementati- on Report	Once-off

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	2.4.2. % of EIAs that include biodiversity and ecosystem service values	EA Departme- nt	NA	%	2015	2%	NO.	2020	2.4.2. Review of EIAs	EA Annual report	Annual
3.1. Conduct a National Biodiversity survey, to identify habitats of high biodiversity and ecosystem services value and priorities for ecosystem restoration and new conservation areas	3.1.1. National Biodiversity survey report published which identifies habitats of high biodiversity and ecosystem services value and priorities for ecosystem restoration and new conservation areas.	NPS	To be reporter by NPS	No.	2015	To be reported	No.	2018	3.1.1. Review of Habitat classification and Valuation report	Annual Survey Report of NPS	Very Ad-hoc
3.2. Establish a government process for ecosystem-based spatial planning.	3.2.1. Ecosystem-based spatial planning guideline Established	Office of Surveyor General of Federation (OSGF)	To be provided by OSGF	No.	2015	To be reporter by OSGF	No.	2018	3.2.1. Inquire from OSGF	Actual Establishment of guideline	Once off
	3.2.2. Ecosystem-based spatial planning adopted	FDF	To be provided by FDF	No.	2015	1	No.	2018	Inquire from FDF	Actual adoption of guideline	Once off

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	3.2.3. Ecosystem-based spatial planning implemented	FDF	0	No	2015	1	No	2018	Review of annual report from FDF	Annual report	Annual
3.3. Establish Grazing Reserves and Pastoral Routes as an important element of local, State and Sub-regional land use planning.	3.3.1. No. of Grazing Reserves established.	NLDA Kaduna	NA but should be populated	N0.	2015	To be reported	N0.	2020	3.3.1. Inquire from NLDA	Review report of NLDA	Annual
	3.3.2. No. of Pastoral routes established.	NLDA	NA but should be populated	N0.	2015	To be reported	N0.	2020	3.3.2. Inquire from NLDA	Review report of NLDA	Annual
3.4. Safeguarding of wildlife corridors in terms of spatial development/habitat connectivity axes/Green Infrastructure.	3.4.1. No. of wildlife corridors identified and safeguarded	FDF	NA	N0.	2015	10	N0.	2020	3.4.1. Inquire from FDF	FDF Annual report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
4.1. Establish a National Forest and Vegetation Recovery Programme, including mangroves and other coastal areas.	4.1.1. No. of Published reports on % of National Forest and Vegetation Recovery Programme	FDF	Provided by FDF	N0.	2015	5	N0.	2020	4.1.1. Review of National Programmes Reports	Review of Annual Report	Annual
	4.1.2. No of Published report on % of Mangrove and coastal area recovery programme	FDF	To be Reporte d	N0.	2015	5	N0.	2020	4.1.2. Review of programmes Reports	Review of Annual Report	Annual
4.2. Review and strengthen the National Forest Policy, to improve production efficiency whilst promoting conservation of high-biodiversity habitats and restoration of degraded areas.	4.2.1. Revised National Forest Policy published	FDF	0	No.	2016	1	No.	2016	4.2.1. Review of FDF report	Revised Forest Policy	Once-off
	4.2.2. Act for the revised National Forest Policy published	FDF	0	No.	2016	1	No.	By 2017	4.2.2. Review of FDF report	National Forest Act	Once-off
4.3. Resuscitate the National Forest Development Committee and Forest Utilization Centres, as part of	4.3.1. No. of times meetings held by the National Forest Development Committee (NFDC)	FDF	0	N0.	2016	5	No.	2020	4.3.1. Review of FDF and NFDC report	Review of Annual Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
the strengthened National Forest Policy.	4.3.2. No. Of Resolutions adopted at each meeting of the National Forest Development Committee (NFDC)	FDF	0	NO.	2016	5	NO.	2020	4.3.2. Review of NFDC minutes and reports	Annual Reports	Annual
	4.3.3. No of Resolutions implemented at each meeting of the National Forest Development Committee (NFDC)	FDF	NA	No.	2015	2	No.	2020	Review of NFDC minutes	Annual Reports	Annual
	4.3.4. No of Forest Utilization Centres rehabilitated	FDF	NA	No.	2015	2	No.	2020	Review of Annual report	Annual reports	Annual
4.4. Develop a national strategy for the conservation of agricultural biodiversity and promotion of agro- forestry.	4.4.1. National Strategy for the conservation of agricultural biodiversity and promotion of agro- forestry developed	FDF	0	No.	2015	1	NO.	By 2016	4.4.1. Review of Agricultural Biodiversity and Agro- Forestry Strategy Document	Annual Report	Once-Off

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	4.4.2. National Strategy for the conservation of agricultural biodiversity and promotion of agro-forestry adopted	FDF	0	N0.	2016	1	N0.	2020	4.4.2. Review of agricultural biodiversity and Agro-forestry strategy Document	Annual Report	Annual
	4.4.3. National Strategy for the conservation of agricultural biodiversity and promotion of agro-forestry implemented	FDF	0	N0.	2015	1	N0.	2020	4.4.3. Special survey required to be carried out	Survey result or report	Annual
4.5. Establish a National Rivers and Wetlands Rehabilitation Programme, linked to reduction of pollutants in Target 8.	4.5.1. No. of Dedicated national rehabilitation programmes to reduce pollution in Rivers and Wetlands	FDF	0	N0.	2016	5	N0.	2020	4.5.1. Desk Review of Annual Report on Rehabilitation programmes	Annual Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	4.5.2. No. of Dedicated national rehabilitation activities to reduce pollution in Rivers and Wetlands	FDF	0	NO.	2015	5	NO.	2020	Review of National Rehabilitation Activities Report	Annual Report	Annual
4.6. Support the implementation of the Great Green Wall Sahara Programme	4.6.1. No. of technical personnel posted	DDA	15	NO.	2015	5	NO.	2020	4.6.1. Inquire from DDA Dept.	Result of Inquiry/Annua l Report	Annually
4.7. Promote alternative livelihoods for communities in protected areas and ecosystem restoration areas.	4.7.1. No. of alternative livelihoods introduced	FDF	NA	NO.	2015	5	NO.	2020	4.7.1. Desk Review of Annual Report on Alternative Livelihoods Document	Annual Report	Annual
	4.7.2. No. of people engaged in alternative livelihoods two years after starting the practice	FDF	NA	NO.	2018	200	NO.	2020	4.7.2. Special Survey required to be carried out by FDF	Survey Result	Annually

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
4.8. Develop pilot community-based sustainable energy-efficient production facilities e.g. bio-gas, solar energy etc. around protected areas and ecosystem restoration areas.	4.8.1. No of community-based energy efficient production facilities provided	ECN	NA	NO.	2016	3	NO.	2020	4.8.1. Review of sustainable energy efficient facilities ECN	Annual report	Annually
	4.8.2. No. of people around protected areas using community-based energy efficient production facilities	ECN	NA	NO.	2015	100	NO.	2020	4.8.2. Review of sustainable energy efficient facilities ECN	Annual Report	Annually
5.1. Conduct and publish an assessment of the conservation status of Nigeria’s endemic and threatened species.	5.1.1. Reports on the conservation priorities of endemic species published	NPS	NA	NO.	2016	2	NO.	2020	5.1.1. Review of reports on Conservation of endemic species	Annual Report	Annually
	5.1.2. Reports on the conservation priorities of threatened species published	NPS	NA	–	2016	2	NO.	2020	5.1.2. Review of eports on Conservation of threatened species	Annual Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	5.1.3. No. of Ramsar and other sites used by migratory species conserved	NPS	11	NO.	2015	15	NO.	2020	5.1.3. Review of reports of Ramsar sites and the important species conserved.	Annual Reports and other publications	Annual
5.2. Identify priority sites requiring management actions for Nigeria’s endemic and threatened species.	5.2.1. Published report of priority sites requiring management actions for Nigeria’s endemic and threatened species	NPS	7	NO.	2015	15	NO.	2020	5.2.1. Review of reports of Sites of Nigeria’s endemic and threatened species	Annual Report	Annual
5.3. Identify important sites for migratory species and their conservation needs.	5.3.1. Published report that identifies important sites for migratory species and their conservation needs for management action	NCF	NA	NO	2015	1	NO	2020	5.3.1. Review of Conservation of migratory species report	Annual Report	Once-off
5. 4. Produce a Strategy for Conservation of High Altitude Habitats, linked to Targets 2, 3, 4	5.4.1. Published strategy for conservation of high altitude habitats	NCF	0	NO	2015	1	NO	2020	5.4.1. Inquire from FDF, NCF,NPS	Published strategy	Once-off

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
6.1. Identify sites for new or expanded conservation areas from the relevant surveys and strategies under Targets 3, 4 and 5.	6.1.1. No. of new sites for conservation areas identified	NPS	9	N0	2015	20	N0	2020	6.1.1. Review of New Conservation areas report	Annual Report	Annual
6.2. Upgrade the status of ten forest reserves/game reserves and sanctuaries to National Park status, including marine ecosystems.	6.2.1. No. of New National Parks established since 2015	NPS	0	N0.	2015	10	N0.	2020	6.2.1. Review of Proposals for New National Parks	Annual Report	Annual
	6.2.2. Representation of each ecosystem type in the National Park system	NPS	6	N0.	2015	7	N0.	2020	6.2.2. Review of Ecological location of National Parks report	Field Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	6.2.3. No. of new marine ecosystems identified and upgraded to National Parks since 2015	NPS	0	NO.	2015	2	NO.	2020	6.2.3. Review of Ecological location of National Parks	Field Report	Annual
6.3. Implement the Conservation Strategy for Biodiversity in the Niger Delta.	6.3.1. No. of actions in the Conservation Strategy for Biodiversity in the Niger Delta implemented	Ministry of Niger Delta	5	NO.	2015	10	NO.	2020	6.3.1. Review of reports on Implementatio n of Niger delta’s Biodiversity Conservation Strategy	Niger Delta Annual Report and other related reports	Annual
6.4. Assess the status of biodiversity resources in the designated new National Parks.	6.4.1. No. of the new National Parks with baseline data especially status of biodiversity resources	NPS	NA	NO.	2015	10	NO.	2020	6.4.1. Review of Biodiversity Resources Assessments	Annual Report and other reports	Bi-annual

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	6.4.2. Baseline assessments of the status of biodiversity resources of new National Parks	NPS	NA	NO.	2015	1	NO.	2020	6.4.2. Special Survey required to be carried out	Annual Report	Every 2 years
6.5. Prepare and implement management plans for the Designated New National Parks.	6.5.1. No. of new National Parks with management plan prepared	NPS	0	NO.	2016	10	NO.	2020	6.5.1. Review of National Parks Management Plans	NPS Annual Report and other related reports	Annual
	6.5.2. No. of new National Parks with management plan implemented	NPS	0	NO.	2016	10	NO.	2020	6.5.2. Review Implementatio n management Plans	NPS Annual Report and other related reports	Annual
6.6. Document and map the indigenous and local communities' conservation areas and strengthen their management plans.	6.6.1. No. of Indigenous and Local Community Conservation areas	FDF	37	NO.	2015	146	NO.	2020	6.6.1. Special Survey to be carried out	Field Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	6.6.2. Distribution of Indigenous and Local Community Conservation areas	FDF	37	NO.	2015	146	NO.	2020	6.6.2. Special Survey to be carried out	Field Report	Annual
	6.6.3. No. of Indigenous and Local Community Conservation areas with a supported management plan	FDF	NA	NO.	2015	146	NO.	2020	6.6.3. Review of reports of Indigenous and Local communities Conservation Areas	Annual Report	Annual
6.7. Implement the full plan for the paramilitary status of the Nigerian National Parks to enhance the level of biodiversity protection in protected areas.	6.7.1 % of actions in the plan for the paramilitary status in National Parks implemented	NPS	50%	%	2015	75%	%	2020	6.7.1. Review of Reports on Implementatio n of Paramilitary status in NPS	NPS Annual Report and related reports	Annual
7.1. Establishment of a national centre / institute for knowledge and sustainable Use of Biodiversity.	7.1.1. Existence of a functional national centre/institute	BDCP	0	NO.	201	1	NO.	2020	7.1.1. BDCP Report	Actual establishment of the institution	Annual

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
7.2. In-situ conservation of Wild relatives of cultivated plants, domesticated animals. 2016-2020	7.2.1. No. of wild relatives of both Cultivated plants and Domesticated animals present in protected areas	FRIN	NA	N0.	2015	90	N0.	2020	7.2.1. Report of Special Survey	Survey result	Every 2 years
7.3. Establishment of Nigerian National gene bank for cultivated plants and domesticated animals.	7.3.1. No. of gene bank accession	NABDA	4	N0.	2015	20	N0.	2020	7.3.1. Review of NABDA IAR, FRIN, NIHORT Reports on gene bank accession	Annual Report	Annual
	7.3.2. No. of cultivated/domesti cated/wild plant and animal relatives with genes stored	NABDA	NA	N0.	2015	50	N0.	2020	7.3.2. Review of genes storage	Annual Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
7.4. Establishment/ Rehabilitation of Community Herbal Heritage Centres.	7.4.1. No. of Community Herbal Heritage centres established	FDF	25	N0.	2015	37	N0.	2020	7.4.1. Review of Herbal Heritage Centres	Annual Report	Annual
	7.4.2. No. of Community Herbal Heritage centres rehabilitated	FDF	0	N0.	2015	37	N0.	2020	7.4.2. Review of Herbal Heritage Centres	Annual Report	Annual
8.1. Promote measures to reduce agricultural wastes, fertilisers and agro- chemicals entering rivers and wetlands.	8.1.1. Ratio of agricultural extension workers to farmers	FMA&RD,	NA	Ratio	2015	2:50	Rati o	2020	8.1.1. Review of Agricultural Extension services reports	Field Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	8.1.2. Quantity of Nitrogen and other pollutants deposition and water quality in freshwater and terrestrial ecosystems	PC&EH	NA	Ratio	2015	Very low	Rati o	2020	8.1.2. Review of Water quality report	Assessment Report	Quarterly
8.2. Identify the pollutant sources and purification capacity of Nigeria’s wetlands, rivers and coasts, for restoration measures in Action 4.5.	8.2.1. No. of Companies that discharge untreated effluent into Nigeria’s wetlands, rivers, coasts and terrestrial sites	PC&EH	NA	N0.	2015	Till report is available	N0.	2020	8.2.1. Review of reports of Pollution of Water bodies	Annual Report	Quarterly
	8.2.2. Level of Nutrient loading in freshwater and terrestrial environment	PC&EH	NA	%	2015	925	%	2020	8.2.2 Review of fresh water pollution report	Assessment Reports	Quarterly

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	8.2.3. Level of Nutrient loading in marine environment	PC&EH	NA	%	2015	To be determin ed	%	2020	8.2.3 Review of Pollution of marine water	Reports of data collection	Quarterly
	8.2.4. Number of Reported incidence of water-borne disease and illness in communities around wetlands and uplands	PC&EH	NA	%	2015	NO. (Reducti on in number)	%	2020	8.2.4 Review of reports on Water Borne Diseases	Annual Reports	Quarterly
8.3. Strengthen national water quality guidelines	8.3.1. Amount of Resources mobilised to support National water quality guidelines	FMWR	NA	%	2015	30 % of require resource s	%	2020	8.3.1. Review of report of Resource mobilization for Water quality	Annual Report and other related reports	Annual
	8.3.2. Level of implementation of National water quality guidelines	FMWR	To be reported	-	2015	To be determin ed	-	2020	8.3.2. Review of report of resource mobilization	Annual report and other related reports	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
8.4. End gas flaring and manage oil spillage.	8.4.1. Deadline for end of gas flaring announced	NOSDRA	NA	Date	2015	50 % reductio n in gas flaring	%	2020	8.4.1. Review of Gas flaring reports	Annual Report	Annually
	8.4.2. No. of reported infractions of laws on gas flares	NOSDRA	0 (Polluter pays)	NO.	2015	0(Pollute r pays)	NO.	2020	8.4.2. Review of reports Infractions of gas flares	Field Report	Quarterly
	8.4.3. No. of prosecutions for infractions of laws on gas flares	NOSDRA	0 (Polluter pays)	NO.	2015	0 (Polluter pays)	NO.	2020	8.4.3. Review reports of Prosecution on gas flares	Annual Report	Annual
	8.4.4. No. and extent of oil spillage and their remediation	NOSDRA	To be determi ned	NO.	2015	0	NO.	2020	8.4.4. Review of oil Spillage	Annual Report	Annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	8.4.5. No. of reported pipelines vandalized and repaired	NOSDRA	To be determi- ned	N0.	2015	All	N0.	2020	8.4.5. Review of pipeline vandalization	Annual Report	Annual
	8.4.6. No. of outreach activities to reduce oil spillage	NOSDRA	To be determi- ned	N0.	2015	To be determin- ed	N0.	2020	8.4.6. Review of outreach on oil Spillage	Annual Report	Annual
9.1. Strengthen the capacity of the Plant Quarantine Services Department for effective border control. 2016-2020	9.1.1. Budgetary support to the Nigerian Agricultural Quarantine Service (Plant/Animal Department) for effective border control of IAS	NAQS	9 million	Naira	2016	10 million	Nair a	2020	9.1.1. Review of annual budget provisions	Annual Report and field inspection report	Annual
9.2. Establish a national framework for the control and management of Invasive Alien Species (IAS).	9.2.1. Published Adopted National Framework for the control and management of Invasive Alien	FDF	0	N0.	2015	1	N0.	2020	9.2.1. Review of IAS Frame- work	Annual Report	Once-off
9.3. Promote the utilization of IAS in Nigeria.	9.3.1. Level of IAS-based products in the market and systems	FDF	3	N0.	2015	7	N0.	2020	9.3.1. Special Survey required	Survey Result	Annual

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
9.4. Strengthen research on the impacts of IAS and update the existing baseline on IAS status.	9.4.1. Level of budgetary support for IAS research	FRIN	NA	%	2015	10 % increase	%	2020	9.4.1. Review of Budget Provisions	Annual Report	Annual
	9.4.2 Published current baseline data on IAS status	FRIN	NA	NO.	2015	1	NO.	2020	9.4.2 Review of IAS Assessment (Inventory) Report	IAS Assessment Report	Annual
9.5. Establish an early warning and rapid response mechanism for IAS at the ports and border crossings.	9.5.1. No. of operational early warning and response mechanism for IAS	NAQS	40	NO.	2015	200	NO.	2020	9.5.1. Review of Early Warning Mechanisms	Annual Report	Annual
	9.5.2. No. of ports and border crossing with IAS rapid response team	PQD NAQS	200	NO.	2015	2	NO.	2020	9.5.2. Review of reports by NAQS IAS Ports and Border Patrols	Annual Report and daily field inspection reports	Annually
10.1. Revise the NBSAP and adopt it as a policy instrument.	10.1.1. Published adopted NBSAP	FDF	0	NO.	2015	1	NO.	2020	10.1.1. Review of the NBSAP revision	Annual Report	Once-off

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
10.2. Establish and strengthen a Biodiversity Steering Committee.	10.2.1. No of approved reports of meetings of the Biodiversity Steering Committee	FDF	0	NO.	2015	5	NO.	2020	10.2.1. Review of Biodiversity Steering Committee reports	Annual Report	Annual
	10.2.2. Proportion of Budget and Project Implementation achieved	FDF	0	NO.	2015	Yes	NO.	2020	10.2.2. Review of FDF budget provisions	Annual Report	Annually
10.3. Establish and implement Sub-national (State and Local Government) levels of the Biodiversity Strategy and Action Plan, promoting stakeholder participation.	10.3.1. No of sub-national (State and Local Government) with Published and adopted BSAP	FDF	0	NO.	2015	15	NO.	2020	10.3.1. Review of Sub-National BSAP	Annual Report	Annual
	10.3.2. No. of stakeholders that participated in the NBSAP Revision process	FDF	40	NO.	2016	50	NO.	2020	10.3.2. Review of the Revised NBSAP Document	NBSAP Document	Once-off
10.4. Strengthen Multi Stakeholders Committees on biodiversity-related conventions and protocols.	10.4.1. Proportion of Budget and Project Implementation achieved	FMENV (Planning Research & Statistics)	0	%	2015	50%	%	2020	10.4.1. Review of Ministerial Budget	Annual Report	Annually

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
10.5. Establish synergy among focal areas in the environment sector	10.5.1. No. of activities between Ministry of Environment and other Stakeholders on NBSAP implementation	FMENV (Planning, Research & Statistics)	0	NO.	2015	5	NO.	2020	10.5.1. Review of Synergy between FMENV and relevant Stakeholders	Annual Report	Annually
11.1. Accede to the ABS Protocol.	11.1.1. Deposition of instrument of ratification with CBD Secretariat	FDF	0	NO.	2015	1	NO.	2016	11.1.1. Review of accession to the Nagoya Protocol	List of ratified countries on CBD website	Once-off
11.2. Develop a National ABS framework and legislation	11.2.1. Published ABS national framework	FDF	0	NO.	2015	1	NO.	2017	11.2.1. Review of Draft Statutory Instrument	Existence of Statutory Instrument	Once-off
	11.2.2. ABS legal instrument enacted into law	FDF	0	NO.	2015	1	NO.	2020	11.2.2 Review of ABS Statutory Instrument	Statutory Instrument	Once-off
11.3. Designate appropriate structures of protected areas for sustainable harvesting of non-timber products by local people, to ensure benefits to them and guarantee	11.3.1. No. and size of Protected Areas with structures for sustainable harvesting of NTFPs	FDF	NA	NO.	2015	4	NO.	2020	11.3.1. Review of sustainable harvesting of NTFPs	Annual Report	Annually

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
protection of resources	11.3.2. No. of Permits granted for sustainable harvesting of NTFPs	FDF	NA	NO.	2015	10	NO.	2020	11.3.2. Review of Permits for NTFPs	Annual Report	Annually
	11.3.3. Revenue generated from NTFP Permits	FDF	NA	Naira	2015	₦1,000,000	Naira	2017	11.3.3. Review of NTFPs Permits	Annual Report	Annually
11.4. Develop and implement policy guidelines for bio-prospecting, access and benefit sharing, and associated traditional knowledge (intellectual property rights).	11.4.1. Adopted guidelines for bio-prospecting, access and benefit sharing, and associated traditional knowledge	FDF	0	NO.	2016	1	NO.	2017	11.4.1. Review of ABS guidelines	Annual Report	Annually

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	11.4.2 No. of applications granted for bio-prospecting	FDF	5	N0.	2016	20	N0.	2020	11.4.2. Review of ABS Permits	Annual Report	Annually
	11.4.3. No. of Permits issued for bio-prospecting and access to genetic resources	FDF	2	N0.	2016	10	N0.	2020	11.4.3. Review of ABS Permit application	Annual Report	Annually
11.5. Develop and implement a Sub-national (State and Local Government levels) regime on ABS.	11.5.1 Adopted sub-national regime on ABS	States Govt. Authority	0	N0.	2016	36	N0.	2018	11.5.1. Review of Sub-National ABS	Annual Report	Once-off

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	11.5.2. % of implementation of sub-national ABS regime	States Govt. Authority	0	%	2016	100%	%	20 18	11.5.2. Special Survey required	Survey Result	Bi-annual
12.1. Strengthen the capacities of local Communities to participate in natural regeneration of wetlands, arid zone vegetation, forests, mangroves & other priorities identified in Targets 3, 4, 5 & 6.	12.1.1. No of Projects replicated with Community participation in the design and management of key ecosystems	LGAs Authority	0	NO.	2016	10	NO.	2020	12.1.1. Review of Local Governments Reports	Annual Report	Annually
12.2. Survey the flora and fauna outside protected areas, including sacred groves, community lands, abandoned farmlands and homesteads, and assist local communities in the sustainable management of these sites.	12.2.1. Published report of survey of flora and fauna outside protected areas	FDF	1	NO.	2016	4	NO.	2020	12.2.1. FDF Report	Existing Survey Report	Annually
	12.2.2. No. of Communities assisted	FDF	0	NO.	2016	109	NO.	2020	FDF in collaboration with States and LGAs authorities	FDF Annual Report	Bi-annual

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
12.3. Strengthen the implementation of guidelines for Community-based sustainable forest management, including conservation and sustainable use of biodiversity.	12.3.1. Proportion of Budgetary resources directed to support the implementation of guidelines for Community-based sustainable forest management	FDF	0	%-	2016	2%	%-	2020	12.3.1. Review of Annual Report and Budget released	Annual Report	Annually
12.4. Develop a national framework and mechanism for community participation in ecotourism planning and development.	12.4.1. No. of Adopted framework and mechanism for Community participation in ecotourism planning and development	FDF	NA	N0.	2016	1	N0.	2020	12.4.1. FDF Report	Annual Report	Annually
13.1. Conduct an NBSAP resource needs assessment.	13.1.1. Published report of NBSAP resource needs assessment	BDCP	0	N0.	2015	1	N0.	2016	13.1.1. Review of NBSAP Capacity building Report Resource needs	NBSAP Report	Once-off

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
13.2. Establish a national funding mechanism for biodiversity.	13.2.1. Published and adopted national funding mechanism for biodiversity	FMEnv (Planning, Research Statistic)	0	N0.	2016	1	N0.	2020	13.2.1. Review of Funding for Biodiversity	Annual Report	Once-off
13.3. Integrate biodiversity conservation into national appropriation.	13.3.1. Proportion of appropriated budget released for Biodiversity	FDF	0	%	2015	2%	%	2020	13.3.1. Review of budgetary appropriation to biodiversity	FMEnv appropriation document	Annually
13.4. Strengthen the government partnership with development partners (e.g. GEF, UNDP and UNEP.)	13.4.1. No. of Government projects and activities on Biodiversity supported by development partners	FDF	NA	N0.	2016	37	N0.	2020	13.4.1. Review of Development partnership	Annual Report	Annually

Actions	Performance Indicator	Responsi bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
	13.4.2. Amount of investment on Biodiversity by partners	FDF	NA	₦	2016	To be reported	₦	2020	13.4.2. Review of External funding on Biodiversity	Annual Report	Annually
14.1. Determine prioritised capacity building needs for government agencies, NGOs and local communities to implement the NBSAP.	14.1.1. Conduct NBSAP implementation Capacity Needs Assessment	BDCP	Available	List	2015	50% met	%	2016	14.1.1. Evaluation of capacity needs assessment report	NBSAP Document	Once-off
14.2. Develop training guides and modules for prioritised capacity building needs	14.2.1. No. of training guides and modules for NBSAP implementation	FRIN	0	NO.	2015	To be determin ed	NO.	2016	14.2.1. Review of publications on training guides and modules for NBSAP Implementatio n	NBSAP Publications	Once-off

Actions	Performance Indicator	Responsi- bility for Activity indicator	Data for indicator						Data gathering methods	Means of Verification	Collection and Reporting Frequency for the data
			Baseline			Action					
			value	unit	year	value	unit	year			
14.3. Build capacity of government officials and individuals for prioritised NBSAP implementation capacity development needs in relevant organizations including NGO’s through meetings, seminars and conferences both locally and internationally.	14.3.1. No. of proposals and training for individuals for prioritised NBSAP implementation capacity development needs	Developm- ent Partners	0	N0.	2015	To be determin- ed	N0.	2020	14.3.1. Actual capacity developed for NBSAP	NBSAP Document	Once-off
	14. 3. 2. No. of beneficiaries trained in prioritised NBSAP implementation capacity development needs	Developm- ent Partners	0	N0.	2015	To be determin- ed	N0.	2020	14.3.2. Review of training reports	National reports to the CBD	Annually

6.3.4. Evaluation Plan

The main evaluation components include:

- Annual review and planning meetings;
- Steering Committee meetings;
- Multi-Stakeholders meetings;
- Mid-term (3-year) review by mid-2018;
- Sixth National Report in 2018; and
- Final evaluation in 2021; as shown in Table 6.5 below together with the responsibility and time.

Table 6.5: Evaluation Activities, Responsibility and Periods

Evaluation Activity	Responsible	When will the activity be carried out?																							
		2016				2017				2018				2019				2020				2021			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Quarterly review meetings	NBWG		*				*			*					*				*				*		
Annual review and planning meetings	NBMECU				*				*				*				*				*				*
Steering Committee Meetings	CBD NFP	*				*				*				*				*				*			
Mid-Term Evaluation (External)	Consultant										*														
Final Evaluation (External)	Consultant																								*
Sixth National Report	CBD NFP										*														

6.3.5. Major NBSAP Challenges

In addition to conceptual assumptions, practical challenges faced in the implementation of NBSAPs include:

- Inadequate coordination among various government ministries, agencies, departments and NGOs;
- Willingness to integrating biodiversity into sectoral policies and plans;
- Integrating the various local level needs and demands within the broad priorities of the NBSAP;
- Inadequate legislative reforms;
- Insufficient finances;
- Lack of community-based initiatives; and
- Difficulty coordinating and integrating numerous stakeholders and their respective views.

REFERENCES

1. Adebayo, R. A. and Uyi, N.O. 2010. Biological control of invasive weed species: Nigerian experience. *International Journal of Agricultural Research* 5: 1100-1106
2. Akagu, R. and Adeleke, A. (2012) Current status and threats facing the Nigeria vultures. Submitted to the pan-African Vulture Summit, Masai Mara, Kenya 16-20 April 2012. Nigerian Conservation Foundation
3. Akinyemiju, O.A. (1987). Invasion of Nigerian waters by water hyacinth. *Journal of Aquatic Plant Management* 25: 24-26
4. Alao, J.S. 2009. Need for Biodiversity Conservation in Nasarawa State, Nigeria. *Biological Diversity and Conservation* 2/1: 14-20
5. Anon. 1984. Nigeria is Starving of Fish. *New Nigerian Newspaper* August 3. Pp 10
6. Asibor, G. 2009. Wetlands Values, Uses and Challenges. A Paper Presented to the Nigerian Environmental Society at the Petroleum Training Institute, Effurun, 21st November 2009
7. Ayeni, J.S.A. 1995. Conservation of Natural Resources. The Dynamic of Vanishing Species and their Habitats. In the *Nigerian Environment: Ecological Limits of Abuse*, Proceeding of the Annual Conference of the Ecological Society of Nigeria held in Port Harcourt, Nigeria. Eds. Nokoe. 17-38
8. BDCP 2015. Ogbogolo Community Biodiversity Action Plan (A GEF-UNDP Pilot Project in Rivers State), GEF-UNDP Niger Delta Biodiversity Conservation Project. Final Report by Bioresources Development and Conservation Programme (BDCP) April 2015
9. BDCP 2012. Restoration and the Conjunctive Sustainable Management of Native Mangroves and Nypa Palms in the Cross river Estuary of Nigeria (UNIDO GEF/BDCP/FMEnv).
10. BIP 2012. The Biodiversity Indicators Partnership 2020 Communication Strategy. Document No: BIPTPM2012/14, Draft. Version November 2012
11. Bravo-Baumann, H. 2000. Capitalization of experiences on the contribution of livestock projects to gender issues. Working Document. Bern, Swiss Agency for Development and Cooperation.
12. Borokini, T.I. 2014. A Systematic Compilation of Endemic Flora in Nigeria for Conservation Management. *Journal of Threatened Taxa* 6: 6406-6426

13. CBD. 2012. Resourcing the Aichi Biodiversity Targets: A First Assessment of the Resources Required for Implementing the Strategic Plan for Biodiversity 2011-2020. Montreal: Secretariat of the Convention of Biological Diversity. 83 pp. Available at:
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14. CBD. 2012. Review of implementation of the strategy for resource mobilization. Montreal: Secretariat of the Convention on Biological Diversity. Available at: www.cbd.int
15. Dickinson, E.C. 2003. The Howard and Moore Complete Checklist of the Birds of the World. 3rd edition. Christopher Helm, London
16. Don E. Wilson & DeeAnn M. Reeder (editors). 2005. Mammal Species of the World. A Taxonomic and Geographic Reference (3rd ed), Johns Hopkins University Press, 2,142 pp
17. Earth Policy Institute (EPI). 2011. World on the Edge by the number of growing goat herds signal global grassland decline. Retrieved from www.earth-policy.data.org
18. EMBL Reptile Database. 2005. Reptile Database. Retrieved from: <http://www.reptile-database.org/>
19. EZEALOR, A.U. and O.A. AKINSOLA, (eds.). 2006. The Renewable Natural Resources of the Niger Delta: Options for its Sustainable Management. Nigerian Conservation Foundation (NCF), Lagos and the John D. and Catherine T. Mac Arthur Foundation, USA. 87pp.
20. FAO. 1997. Gender: the key to sustainability and food security. SD Dimensions, May 1997 (available at www.fao.org/sd).
21. Fishbase. 2004. Fishbase. Retrieved from http://www.fishbase.org/home_tw.htm
22. Frost, D. R. 2004. Amphibian Species of the World: an online reference. Version 3.0. Electronic Database accessible at <http://research.amnh.org/herpetology/amphibia/index.html>. American Museum of Natural History, New York, USA.
23. Gophen, M. 2008. Management Perspectives in Arid, Semi-arid, Sub-tropical and Tropical Dry Climates. In: Sengupta M., Dalwani R. (eds) 12 World Lake Conference International Lake Environment Committee. Jaipur. Pp: 1338-1348
24. Honey, M. (1999). Ecotourism and Sustainable Development. Island Press, Washington, DC
25. Ladipo, D. 2010. The state of Nigeria's forests. IITA Research for Development Review Bulletin, Issue 4
26. Milton, K. 1999. Nature is already sacred. Environmental Values 8:437-449

27. National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN). 2011.
Retrieved from <http://nigeriaclimatechange.org/naspa.pdf>
28. Nenibarini, Z. (2004). Impacts of Extractive Industries on the Biodiversity of the Niger Delta. National Workshop on Coastal and Marine Biodiversity Management.
29. Otegbulu, A (ed). 2013. Natural Resource Valuation and Damage Assessment in Nigeria: A Case Study of the Niger Delta. University Press Plc. Ibadan, Nigeria
30. Oyebande, L. Obot, E.O. and Bdiliya, H.H. 2003. An Inventory of Wetlands in Nigeria. Report Prepared for the World Conservation Union - IUCN, West African Regional Office, Ouagadougou, Burkina Faso
31. Pisupati, B. (2007), Effective Implementation of NBSAPs: Using a Decentralized Approach, UNU-IAS, www.ias.unu.edu/resource_centre/Effective%20Implementation%20of%20NBSAPs%20-%20Pisupati.pdf
32. Prip, C; Gross, T; Johnston, S; Vierros, M (2010), Biodiversity Planning: an assessment of national biodiversity strategies and action plans. United Nations University Institute of Advanced Studies, Yokohama, Japan
33. Pollutec Nigeria Limited. 1996. Proceedings of the First Consensus Workshop on the Preparation of Rivers and Bayelsa State Environmental Action Plan. Port Harcourt, Nigerian Federal Environmental Protection Agency and World Bank
34. Sauer, C.O. 1965. The morphology of landscape. In: J. Leighly (ed) Land and life. University of California Press, Berkeley, pp.315-350
35. Sedghi, A. 2013. Redlist 2013: Threatened Species Across the Regions of the World. The Guardian. Retrieved from <http://www.theguardian.com/news/datablog/2013/nov/26/iucn-red-list-threatened-species-by-country-statistics>
36. Spergel, Barry and Melissa Moya. 2004. Financing Marine Conservation, A Menu of Options. Washington, D.C.: WWF Center for Conservation Finance.
37. U.S. EPA. 2006. Application of Elements of a State Water Monitoring and Assessment Programme for Wetlands. Wetlands Division, Office of Wetlands, Oceans and Watersheds, U.S. Environmental Protection Agency, Washington DC

38. Uluocha, N.O. and Okeke, I.C. 2004. Implications of Wetlands Degradation for Water Resources Management: Lessons from Nigeria. *Geojournal* 16: 151-154
39. UNEP-WCMC 2013. Incorporating Biodiversity and Ecosystem Services Values into NBSAPS, Guidance to support NBSAP practitioners, produced as an output of a joint UNEP-WCMC and IEEP project, funded by Defra, and in collaboration with the Secretariat of the CBD to examine the 'Lessons learnt from incorporating biodiversity and ecosystem service values into NBSAPs'.
40. UNDP 2014. Transforming Biodiversity Finance, A quick guide for assessing and mobilizing financial resources to achieve the Aichi Targets and to implement National Biodiversity Strategies and Action Plans
41. Wildlife Conservation Society (WCS). 2015. WCS. Retrieved from www.wcsnigeria.org
42. World Wildlife Fund (WWF). 2015. The Value of Wetlands. Retrieved from: http://wwf.panda.org/about_our_earth/about_freshwater/intro/value/
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APPENDIX

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UNEP, UNDP, Food and Agricultural Organization (FAO), ECOWAS Commission, World Bank, Nigerian Agip oil Co. Ltd, Shell Development Company.

THE PRESS

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