ADP – Agricultural Development Programme
AfDB - African Development Bank
AMCEN - African Ministerial Conference on Environment
ATA - Agricultural Transformation Agenda
AU – African Union
AUC - African Union Commission
AZAP – Arid Zone Afforestation Programme
CAADP- Comprehensive Africa Agriculture Development Programme
CBOs – Community Based Organizations
CEN-SAD - Community of Sahel-Saharan States
CIDA - Canadian International Development Agency
CILLS - Inter-State Committee on Drought Control in the Sahel
CPICs - Community Project Implementation Committees
CSOs - Civil Society Organizations
DDDA – Department of Drought and Desertification Amelioration
DfID – Department for International Development
ECN – Energy Commission of Nigeria
ECOWAS – Economic Community for West African States
EEC – European Economic Community
EIA – Environmental Impact Assessment
EU – European Union
EW – Early Warning
FAN - Forestry Association of Nigeria
FAO – Food and Agriculture Organization
FCT – Federal Capital Territory
FEPA – Federal Environmental Protection Agency
FMEnv – Federal Ministry of Environment
FORMECU - Forestry Management Evaluation and Coordinating Unit
FRIN – Forestry Research Institute of Nigeria
GCF – Green Climate Fund
GEF – Global Environment Facility
GGW – Great Green Wall
GGWSAP – Great Green Wall Strategic Action Plan
GGWSSI – Great Green Wall for the Sahara and the Sahel Initiative
GIS – Geographic Information System
GM – Global Mechanism of the UNCCD
GOs – Government Organizations
GSSD - Global System for Sustainable Development
ICRAF – International Center for research in agroforestry
IEM – Integrated Ecosystem Management
IFAD – International Food and Agricultural Development
IIED – International Institute for Environment and Development

IUCN - International Union for Conservation of Nature
JICA – Japanese International Cooperation Agency
KSACDP - Katsina State Agricultural and Community Development Project
LCBC - Lake Chad Basin Commission
LDCF - Least Developed Countries Fund
LGAs - Local Government Areas
M&E – Monitoring and Evaluation
MDAs – Ministries, Departments and Agencies
MDGs – Millennium Development Goals
MEAs - Multi-lateral Environmental Agreements
NAP – National Action Programme
NBSAP – National Biodiversity Strategy and Action Plan
NCCPRS - Nigeria Climate Change Policy and Response Strategy
NCF - Nigerian Conservation Foundation
NCSA - National Council on Shelterbelt and Afforestation
NEAP – National Environmental Action Plan
NEAZDP - Northeast Arid Zone Development Programme
NEPAD - New Partnership for Africa's Development
NESREA - National Environmental Standards and Regulations Enforcement Agency
NEST – Nigerian Environmental Study /Action Team
NGOs – Non-Governmental Organizations
NIBAPs - National Integrated Basin Action Plans
NIMET – Nigerian Meteorological Agency
NNJC – Nigeria-Niger Joint Commission for Cooperation
NPA - National Policy on Agriculture
NPC – National Planning Commission
NSIF – National Sustainable Investment Framework
NSLMC – National Sustainable Land Management Committee
NTC – National Technical Committee
NWRMP – National Water Resources Master Plan
OSS – Sahara and Sahel Observatory
PACD - Plan of Action to Combat Desertification
PAGGW - Pan - African Agency of the GGW
PPP - Public-Private Partnerships
RAP – Regional Action Programme
RBDA – River Basin Development Authority
REDDF - Reduction of Emission caused by Deforestation and Degradation Fund
RSPB - Royal Society for Protection of Birds
SEAPs – State Environmental Action Programmes
SEPA – State Environmental Protection Agency
SEPP - Sokoto Environmental Protection Programme
SLM – Sustainable Land Management
SRAP/WA – Sub-regional Action Programme to Combat Desertification for West Africa
SURE-P – Subsidy Re-investment Programme
UNCBD - United Nations Convention on Biological Diversity
UNCCD –United Nations Convention to Combat Desertification
UNCED - United Nations Conference on Environment and Development

UNDP – United Nations Development Programme
UNEP - United Nations Environment Programme
UNESCO - United Nations Educational, Scientific and Cultural Organization
UNFCCC - United Nations Framework Convention on Climate Change
UNIDO – United Nations Industrial Development Organization
UNIMAID – University of Maiduguri
USAID – United States Agency for International Development
USGS - United States Geological Survey
WB – World Bank
WMO - World Meteorological Organization
WOCAT – World Overview of Conservation Approaches and Technologies
WWF - World Wide Fund for Nature

The dryland region of Africa is facing serious climate variability including, frequent droughts compounded by poorly managed land and water resources that have resulted in degradation of natural resources. Occasioned by climate change, desertification poses serious challenges to food security, sustainable livelihoods and socio-economic development in the dryland communities. Affected countries, including Nigeria, have been making efforts to reverse the situation by implementing projects and programmes. However, the need for an internationally supported approach in an integrated and coordinated manner has become imperative to confront this precarious situation. This led to the Great Green Wall Initiative proposed in 2005 by the former President, Chief Olusegun Obasanjo, GCFR, and its adoption by the African Union in 2007.

The implementation of the Great Green Wall Programme will require concerted efforts at creating enabling environment, through deliberate Government policies, institutional support and other appropriate interventions. The interventions will be specifically targeted at arresting soil degradation, conserving biodiversity, improving agricultural productivity and mitigating the impacts of climate change. Effective implementation of the Programme in Nigeria therefore, calls for a coherent strategy and an action plan. It is in realization of this that Nigeria developed the National Strategic Action Plan (NSAP) for the implementation of the Great Green Wall Programme under the Support Project of African Union Commission (AUC) co-funded by the European Union (EU), Global Mechanism of the UN Convention to Combat Desertification (GM UNCCD) and executed by United Nations Food and Agriculture Organization (FAO).

The Action Plan will serve as the planning tool for interventions in response to rehabilitation needs of the degraded landscapes in the dryland region of Nigeria. This document spells out the strategic activities that focus on ecosystem restoration and improved livelihoods of the people in the dryland communities through sustainable management of land and water resources.

The development of this important document would not have been possible without the support and supervisory roles played by the Honourable Minister of Environment, , and the Permanent Secretary, and their efforts are immensely appreciated. Also, appreciated are roles and contributions of the staff of the Department of Drought & Desertification Amelioration led by the Director, Dr. B. Hassan.

The Federal Ministry of Environment wishes to express its profound gratitude to the African Union Commission (AUC), the European Union (EU), the Global Mechanism of the UN Convention to Combat Desertification (GM-UNCCD), the UN Food and Agriculture Organization (FAO) and United Nations Development Programme (UNDP) for their support in the development of the National Strategic Action Plan.

Also commended are the efforts of Prof. Idris A. Jaiyeoba, the Consultant, and the invaluable contributions by Prof. Emmanuel Oladipo, the Regional Project Coordinator of the Integrated Ecosystem Management Project in the Transboundary Area between Nigeria and Niger Republic as well as Mr. Richard Nzekwu, Chairman, National Sustainable Land Management Committee.

Finally, we commend the contributions of the representatives of the eleven (11) desertification frontline States, National Technical Committee on the Great Green Wall Programme, experts from various institutions, the civil society organizations, and other individuals involved in the excercise.

This report presents a strategic action plan of action for the implementation of the Great Green Wall for the Sahara and Sahel Initiative (GGWSSI) in Nigeria. The GGWSSI is a recent regional attempt in Africa to focus on addressing desertification in a more coherent manner. The initiative was originally conceived as a thematic project, focusing on creation of a wall of trees of some 15 km wide and 7,775 km long from Dakar to Djibouti, through 11 countries. Since 2005, however, it has gradually shifted to a holistic, multi-sectoral, and integrated vision of sustainable land management (SLM) and poverty eradication.

The convention for the initiative was signed in Chad in 2010. The initiative is part of a concerted synergetic implementation of national programmes and activities outlined in other plans in the country's efforts to meet her obligations in other global conventions. Foremost among those conventions is the United Nations Convention to Combat Desertification in those countries experiencing drought and/or desertification, particularly in Africa (UNCCD), United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention on Biological Diversity (UNCBD), and non-binding targets of the Forestry Principles.

Government has taken cognizance of the need to tackle desertification to protect the ecosystems and sustainable livelihoods of the people in the affected areas. To this end, it has developed many policies and action plans (e.g. National Policy on the Environment, Drought and Desertification Policy, Drought Preparedness Plan, National Agricultural Policy, National Forestry Action Plan, the National Biodiversity Strategy and Action Plan, and Nigeria's National Action Plan to Combat Desertification - NAP). In addition, government has created the Department of Drought and Desertification Amelioration in the Federal Ministry of Environment to strengthen the institutional arrangement for more effective coordination of activities towards the implementation of the UNCCD in the country. Several sectoral and multi-sectoral programmes have also been executed or are under execution in water, forestry, agriculture, and energy sectors to tackle the twin problem of drought and desertification. Government has also facilitated the involvement of other actors, including the Private Sector, NGOs, and financial and technical development partners in pursuit of these objectives.

Despite all the efforts at curtailing the menace of desertification and land degradation, they continue to be major threats to Nigeria's drylands. For the predominantly agrarian communities of the sub-region, meeting the present and future energy, water, food and other needs of the people represent a formidable challenge. This is very critical in the face of dwindling natural resources, increasing poverty and weak technical and financial capacity.

Compounding the unsustainable use of natural resources in the region are the poor physical conditions of soils and vegetation, as well as the inherent extreme variability of climate. There is now a general consensus that a coherent and well-planned multi-

sectoral management approach to natural resources is imperative in order to tap into the opportunities that sustainable land management in the desertification prone areas of Nigeria provide. Such opportunities are mainly in the areas of green jobs, carbon trading and foreign exchange earnings, turning of waste to wealth, and sustainable use of natural resources. Others are development sustainable livelihood options, ecotourism, expansion of industrialization, trade and investment, technology transfer from multi-lateral and bilateral partners, and adopting an integrated ecosystem management.

The process and modalities for formulating the Great Green Wall Strategic Action Plan (GGWSAP) for Nigeria began with a series of consultations with several relevant stakeholders. In addition, the Concept Note that identified the main thrusts, and the sustainable land management (SLM) intervention projects and their implementation plans were consulted. The outputs from the initial stakeholders' consultations and desk review were used to produce the first draft of the GGWSAP for Nigeria. Further inputs and comments were obtained when the draft document was subjected to a national validation workshop, in which representatives of stakeholders, including members of the frontline states, National Technical Committee on GGW, MDAs, private sectors, CSOs, development partners, etc, participated.

The GGWSAP for Nigeria is a five-year Strategic Action Plan with the goal of improving the well-being of the affected people and reducing their vulnerability to impact of desertification amplified by climate change through improved use of land and other natural resources for sustainable development and support to climate resilient infrastructure. The development objective is to combat land degradation and desertification in Nigeria in order to protect and restore ecosystems and essential ecosystem services that are key to reducing poverty, enhancing food security, and promoting sustainable livelihoods.

The objectives include: (i) developing and implementing integrated approach to SLM that is crucial to minimizing land degradation, rehabilitating degraded areas and ensuring the optimal use of land resources for the benefit of present and future generations, (ii) developing and promoting sustainable agricultural and water management practices, (iii) ecological restoration of degraded ecosystems, using appropriate techniques and technologies, (iv) improving information sharing and cooperation among stakeholders, (v) strengthening systemic and institutional capacity for enhanced desertification governance and resource mobilization, (vi) improving scientific knowledge on desertification and drought phenomena, and (vii) effective monitoring and evaluation for impact.

The eight main strategic pillars of intervention in the GGWSAP are:

1. Improvement of the management of land resources and their sustainable use
2. Enabling policy, legal and institutional framework for sustainable land management and desertification control
3. Improvement of critical infrastructure for enhanced and sustainable socio-economic development and environmental sustainability
4. Enhancement of private sector investment in sustainable land management
5. Sustainable financing for desertification control

6. Effective communication for improved land management
7. Monitoring and evaluation System
8. Ecoregional approach for improved transboundary sustainable land management

The critical activities for each of the pillars have been elaborated. In addition, the main stakeholders and their respective roles are identified. The GGWSAP partners at the national level will comprise government at all levels (Federal, State and Local), local communities, the private sector and NGOs; while at the regional and continental levels, they will comprise mainly development partners and agencies. The role of the Governmental Organizations (GOs), comprising the ministries/departments and agencies of the three tiers of government is mainly that of co-ordination. The local communities (grassroots communities, civil societies, NGOs/CBOs), whose wellbeing is dependent on the sustainable use of natural resources available in their areas, bears the main responsibility for the implementation of the GGWSAP action programmes. At the regional and continental level, there are arrays of partners (e.g. AUC, PAGGW, CEN-SAD Secretariat, ECOWAS, LCBC, NNJC, AMCEN, CILLS, UNDP, JICA, GEF, DFID, WB, AfDB, EU, FAO, UNIDO, CIDA, USAID, IUCN etc). Finally, there are the Scientific and Technical partners (national, bilateral, multilateral) whose roles are centered on provision of technical assistance, and technology acquisition, transfer and adaptation.

In the implementation of the GGWSAP, Nigeria will be guided, inter alia, by the vision and principles of the GGWSSI and national policies and initiatives in an integrated and participatory manner. The existing institutional arrangements (e.g NCSA) and frameworks (e.g. NAP, NSIF of the NSLMC, TerrAfrica and CAADP) will be built upon in the implementation of the GGWSAP. The Department of Drought and Desertification Amelioration, Federal Ministry of Environment, will serve as National Secretariat of the GGWSSI. The States and Local Governments will be the main actors in the implementation of the GGWSAP. At the local level, the Community Project Implementation Committees (CPICs) will be actively involved in project planning and implementation. External risks (e.g., drought, risks related to the project context and decision-making process) and those related to internal factors will be properly addressed in the implementation of the GGWSAP.

An integrated financial resources mobilization strategy will be adopted in the GGWSAP implementation to mobilize financial resources from internal and external sources, so as to have additional pool of resources to upscale interventions for visible impacts.

This report presents a strategic action for the implementation of GGWSSI in Nigeria. It is structured into six substantive chapters, starting with an introduction. Chapter 2 describes country's profile, while chapter 3 highlights the challenge and status of desertification in the country and national efforts to address it. In chapter 4, the main elements of the GGWSAP are presented. Chapter 5 elaborates strategic intervention projects of the eight main pillars of the Plan. The final chapter of the report discusses the implementation and resource mobilization means

The global concern about desertification started in earnest in 1977 when the United Nations Conference on Desertification convened in Nairobi, Kenya, came up with the United Nations Plan of Action to Combat Desertification (PACD). It was formalized in 1992 at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (the Earth Summit),with the development of a Convention to Combat Desertification (CCD) in those countries experiencing drought and/or desertification, particularly in Africa (UNCCD). The Convention was adopted in June 1994 in Paris and entered into force on 26 December 1996. Nigeria signed the Convention on 8 July 1997. The country is in the 12th year of the implementation of its National Action Plan (NAP) programmes to combat desertification.

A recent regional attempt in Africa to address desertification in a more coherent manner is the Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI). The initiative was developed by the African Union (AU), through its New Partnership for Africa's Development (NEPAD). The project was originally conceived as a 15 km wide strip of greenery (of trees and bushes) of some 7,775 km long, from Dakar, Senegal, in the west to Djibouti in the Horn of Africa in the east (Figure 1.1). The belt is expected to pass through eleven countries (Burkina Faso, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Chad), and embraces the circum-Sahara enclaves such as Cape Verde. Such a biological corridor along the southern border of the Sahara is seen as a means of halting the progression of the Sahara desert southward, protecting water sources, which has been drying up for decades, and restoring habitats for biodiversity (for energy resources and foodstuffs).

The GGWSSI was first proposed in the 1980s by Thomas Sankara, then Head of state in Burkina Faso. The idea was voiced again about 20 years later by the then Nigerian President, Olusegun Obasanjo, who presented it to the African Union (AU) in 2005. The GGWSSI was lunched when it was realized that the efforts made in the implementation of the UNCCD and other similar programmes proved well below the objectives sought, both in terms of natural resources conservation and poverty alleviation, and there is the need for a more programmatic approach (OSS, 2008).

Since its launch, the concept has gradually shifted from a thematic project focusing on creation of a wall of trees for protection of the land against encroaching sand and erosion to a more holistic and integrated vision of sustainable land management (SLM). In addition, though the initiative represents a real need of combating desertification and poverty, it is essentially meant to be part of a concerted synergetic implementation of Multi-Lateral Environmental Agreements (MEAs) such as the UNCCD, UNFCCC and UNCBD in an integrated manner. It also represents a programming tool for fast-tracking the development of the dryland sub-region, in particular, curtailing the growing poverty of the people who are dependent on water, soil and biodiversity resources for their livelihoods, in conjunction with current regional and continental initiatives (TerrAfrica, CAADP/NEPAD, etc). The Convention for the initiative was signed in Chad in 2010. The initiative has since then been recognized and supported internationally.

Figure 1.1: The GGWSSI Path

For each participating country, a requirement is the development of an action plan that will detail how the country intends to tackle the problem of desertification in its affected areas.

Nigeria lies between latitudes 4° and 14° North and longitudes 3° and 15° East in West Africa. It covers an area of approximately 923,768 km² representing about 14% of land area in West Africa and has a population of over 150 million. It is bordered by the elongated territory of Republic of Benin to the west, the semi-arid countries of the Niger Republic to the north and Chad Republic to the north east, sub-equatorial Cameroun to the east and the Atlantic Ocean to the south. The country's coastline spans over 853km with the Niger Delta portion covering about 80% of the entire coastal length. A major feature of Nigeria's coastal and marine environment is the Niger Delta, which covers an area of 70,000 km², and that makes it one of the largest wetlands in the world. The mangrove forests of Nigeria rank as the largest in Africa, the third largest in the world.

Nigeria is located mainly within the lowland humid tropics and is characterized by high temperatures almost throughout the year. In the far south, mean maximum temperature is 32°C, while in the north it is 41°C. The mean minimum temperature is 21°C in the south and about 13°C in the north, making the north to have a much higher annual range than the south.

The mean annual rainfall across the country varies from a high of over 3,500 mm along the coast to a low of less than 600 mm in the Sahel region in the northeast part of the country. The annual variation of rainfall, particularly in the north, is large. This often results in climatic hazards, especially floods and droughts, which bring in their wake much suffering with devastating effects on food production and the nation's economy.

By virtue of its varied climatic and physiographic conditions, the country is characterized by a wide variety of ecological zones, including, beginning from the north the savanna (Sahel, Sudan, Guinea and Derived), lowland rainforest, freshwater swamp forest, mangrove forest and coastal vegetation, and along the eastern border with Cameroon, a montane forest zone. The economy is monolithic, with crude oil accounting for about 95% of national export earnings. The majority of the population is engaged in and derives sustenance from agricultural production. Animal husbandry is mainly the pastoral type with the herdsmen moving with the seasons.)

Nigeria is blessed with enormous water resources potential of about 319 Billion cubic metres with the surface water contributing about 267 Billion cubic metres, while the ground water potential is put at 52 Billion cubic metres. Nigeria currently has over 220 dams with a combined storage capacity of 33 Billion cubic metres (JICA, NWRMP, 1995; Federal Ministry of Water Resources, 2010).

The dominant soil types in the country are fluvisols, regosols, gleysols, acrisols, ferrasols, alfisols, lixisols, cambisols, luvisols, nitosols, arenosols, and vertisols (Driessen and Deckers, 2001). These soil types vary in their potential for agricultural use. About 48% of Nigerian soils, particularly vertisols, alfisols, acrisols, and arenosol

[1] Much of the information in this section is taken from Nigeria's Country Report to Rio+20 (2012).

that are found in the drylands of the country, fall into low classes of productivity (Agboola, 1979). In ecological terms, Nigeria is a land of extremes. In the south, lush forests (mangrove forest, fresh water swamp forest and rainforest) dominate the "natural" vegetation. This gives way to Guinea savanna in the middle belt, while savanna woodland and thorny vegetation dominate the semi-arid and arid regions of the north (Figure 2.1).

Nigeria is well endowed with vast human and material resources that can guarantee sustainable economic growth and development. It has large reserves of solid minerals including bitumen, topaz, lignite, coal, tin, columbite, iron ore, gypsum, barite and talc. The proven reserves of crude petroleum are well over 37 billion barrels, while reserves of natural gas stand at over 187 trillion standard cubic feet (NPC, 2009).

Nigeria's population is estimated to be 164 million in 2011 (based on annual growth rate of 3.2% from the 2006 Census of 140 million), spread over the landmass area of 923,768 km^2. This makes the country the most populated nation and one of the largest countries in Africa. At that rate, the population is projected to double in size by 2030. The more than 250 constituent ethnic nationalities of the country, however, add a dynamic blend to the socio-political and cultural landscape of the country.

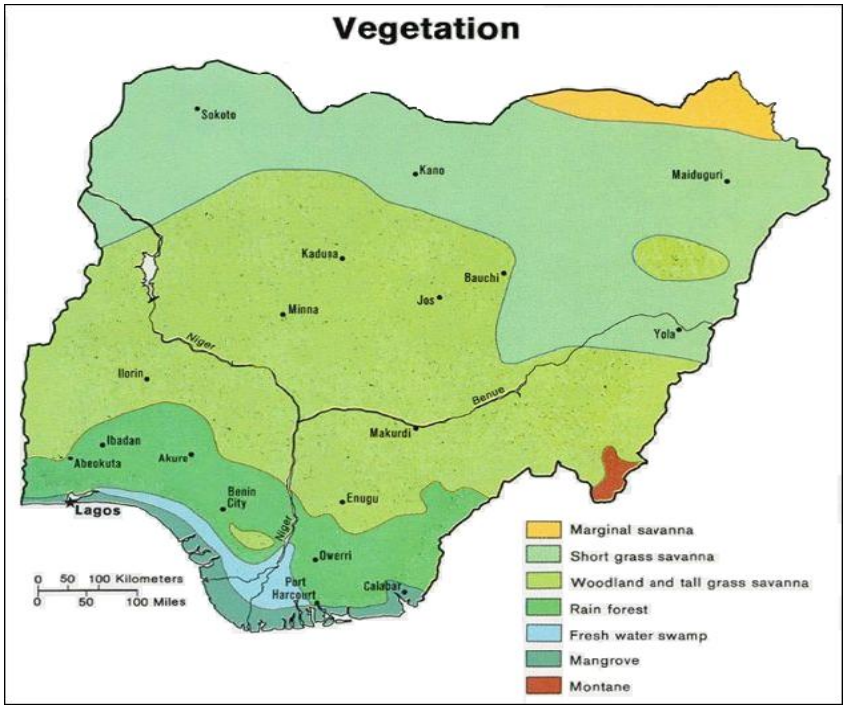

Figure 2.1: Nigeria main vegetation belts (Source: First National Communication, 2003)

Nigeria runs a Federal system of government with a strong central government, 36 states and a Federal Capital Territory (FCT). The States and FCT are further sub-divided into 774 Local Government Areas/Area Councils for grassroots administration. The 36 States are grouped into six geopolitical zones mainly for political purposes (Figure 2.2). The Constitution affirms that Nigeria is one indivisible and indissoluble sovereign state, whose constituent units are bound together by a Federal arrangement. It provides for a presidential system of government in which there is an Executive, a Legislature and a Judiciary, with each arm acting as a check and balance on the powers of the other two arms. The legislative structure is bicameral with upper and lower chambers at the federal level while state governments and local councils operate single legislative chamber. A judicial structure established in all three tiers of government completes the operational framework for checks and balances and separation of powers in governance as enshrined in Nigeria's Constitution. The Constitution further provides for the operation of three tiers of government, at the Federal, State and Local levels (NPC, 2009).

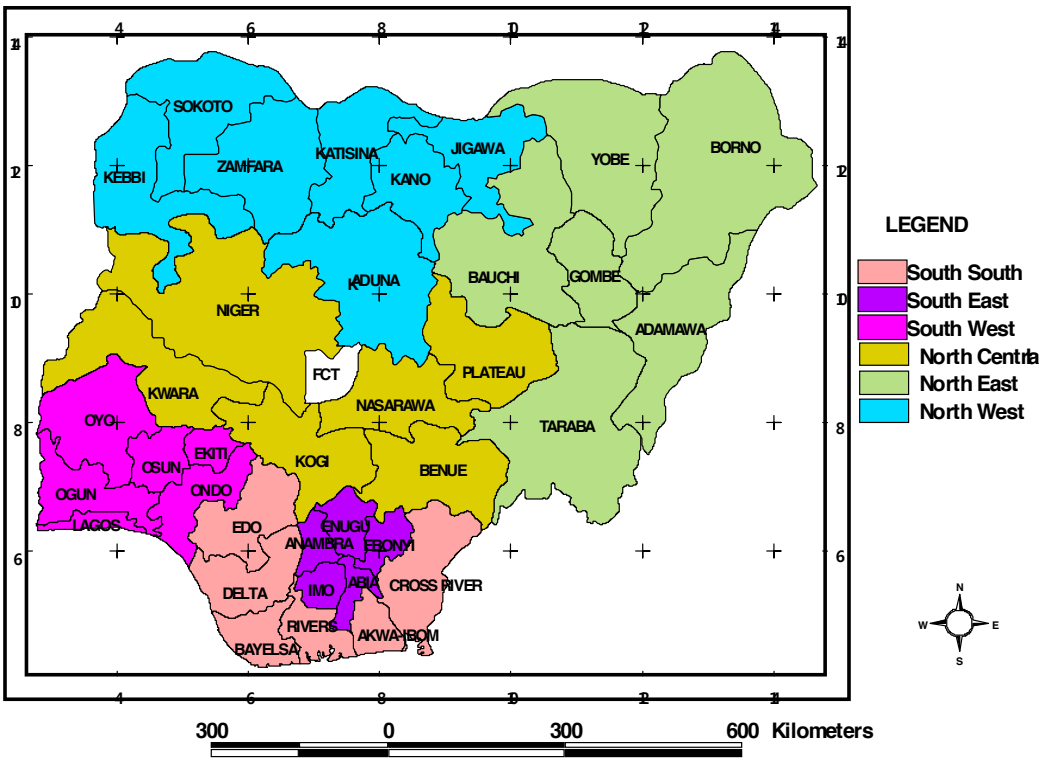

Figure 2.2: Nigeria's States and Geopolitical Zones (*Source: First National Communication, 2003)*

Despite her rich renewable and non-renewable resources, poverty in Nigeria is widespread and rated among the world's worst. The poverty is directly linked to biodiversity loss and general environmental degradation. This is because rural livelihoods depend almost entirely on biodiversity.

The region north of latitude 10°N is generally regarded as the most desertification prone area of the country and states within the region have often been described as desertification frontline states. They include Adamawa, Bauchi, Borno, Gombe, Jigawa, Kano, Katsina, Kebbi, Sokoto, Yobe, and Zamfara States (Figure 3.1). Visible signs of desertification in the sub-region includes the gradual shift in vegetation from grasses, bushes and dotted trees to expansive areas of desert-like sand. Between the period of 1976/78 and 1993/95, sand dunes increased by approximately 17 % from 820 km² to 4,830 km² (FMEnv, 2008). Some villages and major access roads have been buried under sand dunes in the extreme northern parts of Katsina, Sokoto, Jigawa, Borno and Yobe states. In addition, many rivers and lakes have silted, leading to rapid drying up of water bodies after the rains. A typical example is the case of the receding Lake Chad (LCBC, 1990). Gully erosion, that hitherto was not a major threat, increased, threatening about 18, 400 km² (compared to only 122 km² in 1976/78) (FMEnv, 2005, 2008).

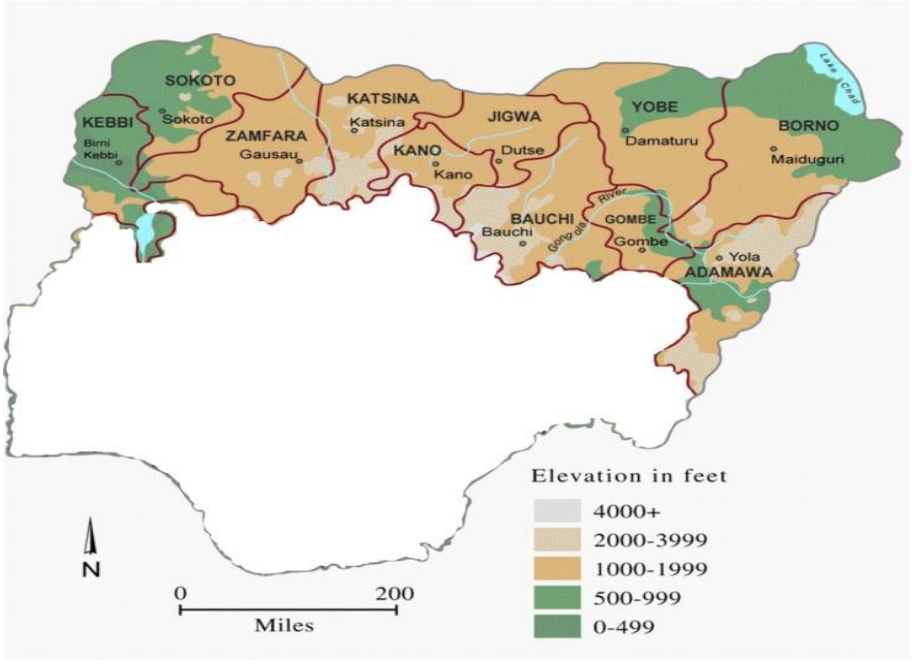

Figure 3.1: Nigeria desertification prone frontline States

It has been estimated that between 50% and 75% of the 11 frontline states of Nigeria are under severe threat. These states, with a population of about 35 million people account for about 35% of the country's total land area. The pressure of migrating human and livestock populations from these states are being absorbed by buffer states (Benue, Kaduna, Kogi, Kwara, Nasarawa, Niger, Plateau and Taraba) and FCT, to the south, resulting in an intensive use and degradation of the fragile and marginal ecosystems of these areas, even during years of normal rainfall. The pressure point buffer states are

reported to have about 10% to 15% of their land areas threatened by desertification. It is estimated that the country, on the whole, is currently losing about 351,000 hectares of its landmass to desert conditions annually, and such conditions are estimated to be advancing southwards at the rate of about 0.6 km per year (FGN, 2004; Wood and Yapi, 2004; Tiffen and Mortimore, 2002;). However, there is urgent need for up-to-date information on the rate and severity of desertification in Nigeria.

The major concern about the possible southward shift of the Sahara desert into Nigeria was expressed in the 1930s. In response, an Anglo-French Commission in 1937 investigated the report in the northern parts of Nigeria, and directed the border emirates to embark on tree planting to stop the encroachment. Thousands of seedlings were raised and distributed at nominal prices. It was not until the 1940s that a small action programme in the form of a tree planting campaign was launched. The bad situation of the affected areas prompted the establishment of shelterbelts in the northern fringes in the 1960s (FGN, 2004).

The catastrophic Sahelian drought of 1972/73 jolted the Federal Government into a more focused approach and action. Since then, the Government of Nigeria has regarded the challenge of land degradation and desertification as inimical to its national sustainable development that must be squarely addressed. Thus, various national programmes have now been put in place at all levels of governance to promote sustainable land management and enhance environmental sustainability in the context of national development. These efforts can be captured under (i) promoting an enabling policy environment for desertification control; (ii) institutional and capacity building; (iii) political and legal framework; (iv) partnership building and participation in global initiatives; (v) implementation of special initiatives.

A settlement threatened by active sandune

Tree branches being lopped for livestock

ForoewdAcAknlg ml tlmTanlg wAanbf tlCndAlcslk

The government has taken cognizance of the multi-sectoral problems of desertification. In this regard, it has developed a number of policies and plans to ensure a truly national response to the significant and multi-facetted impacts of land degradation and desertification on national development. The Nigeria Vision 20:2020 (*Economic Transformation Blueprint, 2009)*, in particular, recognizes that sustainable use of natural resources provides a buffer against poverty and opportunities for self-employment in the informal sector. Conversely, if poorly managed, the environment could easily become hazardous and threatening to rapid socio-economic development and human survival. The goal is the conservation of the environment within the Vision 20:2020 framework, with emphasis on *halting land degradation, combating desertification and mitigating impacts of droughts* (FGN, 2009a). The specific initiatives are to:

- Prevent further loss of biodiversity and restore already degraded areas and protect ecologically sensitive sites;
- Harness and sustain natural resource use;
- Reduce the impact of climate change on socio-economic development processes;
- Make Nigeria a visible actor in global climate change response;

- Halt land degradation, combat desertification and mitigate impacts of droughts;
- Secure a clean environment through appropriate waste management;
- Reduce the occurrence and impact of environmental hazards and disasters;
- Raise the level of awareness on the state of the Nigerian environment; and
- Improve the overall governance of the environment.

Key policies and plans of direct relevance to desertification control in Nigeria include: (i) National Policy on the Environment, (ii) National Drought and Desertification Policy, (iii) National Drought Preparedness Plan and (iv) National Action Plan to Combat Desertification (NAP). The NAP identifies long-term integrated strategies that focus simultaneously on improved productivity of land and on the rehabilitation and sustainable management of land and water resources. Other policies and plans of action that are relevant to desertification control and drought mitigation include: (a) Nigeria National Environmental Action Plan (NEAP) and States Environmental Action Plans (SEAPs), (b) Nigeria Climate Change Policy and Response Strategy, (c) National Adaptation Strategy and Plan of Action for Climate Change, (d) National Forestry Action Plan, (e) National Conservation Strategy, (f) National Biodiversity Strategy and Action Plan (NBSAP), (g) National Resources Conservation Action Plan, (h) National Policy on Agricultural Policy (NPA), (i) National Water Resources Master Plan (NWRMA).

Transhumance

In 1977, the Federal Government set up a National Committee on Arid Zone Afforestation Programme (AZAP) with the responsibility of in-depth examination of the problems of desertification and to draw up a suitable programme of afforestation geared towards checking desert encroachment. A programme of shelterbelt planting for the protection of adjoining agricultural lands against desiccating winds in the extreme northern part of the region was embarked upon. However, the committee was dissolved in 1985 and its functions were transferred to Department of Rural Development and River Basin Development Authorities (RBDAs) in the then Federal Ministry of Agriculture, Water Resources and Rural Development. By 1987, the RBDAs were reorganized and their afforestation functions transferred to the Forestry Department of the Federal Ministry of Agriculture.

The establishment of FEPA by Decree 58 of 1988 was probably the most far-reaching initiative undertaken by the Federal Government of Nigeria for the purpose of addressing the multifarious environmental problems (drought and desertification inclusive) and protecting the Nigerian Environment. Government further demonstrated its commitment to environmental issues through Decree 59 of 1989, which increased the powers of FEPA. The decree provided legal backing of the Agency with a broad mandate and specific powers of sanctions in the implementation of the National Environmental Policy. By Law, FEPA was therefore the apex institution for all issues relating to environmental protection. The Federal Environmental Protection Agency also facilitated the establishment of State Environmental Protection Agencies (SEPAs) in the 36 states of the Federation and the Federal Capital Territory (FCT). As earlier stated, Nigeria signed the Desertification Convention on 31 October 1994 and ratified same on 8 July 1997, thereby qualifying the country as a Party to the convention with effect from 6 October 1997.

As part of the implementation strategies of the UNCCD, a National Coordinating Committee to combat desertification control was established in 1993, with Secretariat in the then FEPA. The Committee, which comprised of representatives of line Ministries, Agencies, relevant research Institutes, and Non-governmental Organizations (NGOs), has responsibility for coordinating the implementation of the Convention to Combat Desertification. It must be noted that most states of the Federation have legislation relating to environmental protection, such as edicts on bush burning and deforestation. The creation of the Department of Drought and Desertification Amelioration (DDDA) in the new Federal Ministry of Environment (FMEnv) in 1999 strengthens the existing institutional arrangement for more effective coordination of activities by Government, towards the implementation of the CCD in the country. The move was to ensure a sharper focus to rehabilitation and restoration of desertified and desert-like conditions in the affected areas. The upgrading of Nigerian Metrological Services from a department in the Ministry of Aviation to a semi-autonomous agency, namely the Nigerian Meteorological Agency (NIMET), in 2003 represents yet another major bold step at addressing drought and desertification in the country. There is also a National Council on the Environment, made up of representatives of governments at the Federal and State levels. The Council meets at regular intervals to take stock of the state of the environment in Nigeria.

Herds in search of green pasture

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A number of environmental objectives to protect and improve the environmental resources (air, land and water) of Nigeria have been enunciated in section 20 of the constitution of the Federal Republic of Nigeria. Many laws and regulatory measures have been put in place to ensure effective environmental management. Notable among these are: (i) Federal Environmental Protection Agency Act – retained as Cap F10LFN 2004, but repealed by the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007, which is being developed into the National Environmental Management Bill; (ii) Environmental Impact Assessment Act – retained as Cap E12 LFN 2004 (which sets out the general principles, procedures and methods of Environmental Impact Assessment in various sectors); (iii) National Park Service Act – retained as Cap N65 LFN 2004 (for conservation and protection of natural resources (wildlife and plants) in national parks; (iv) Endangered Species (Control of International Trade and Traffic) Act- retained as Cap E9 LFN 2004 (conservation of wild life and protection of threatened and endangered species); and (v) National Environmental (Desertification Control and Drought Mitigation) Regulations, 2011.

Government has recognized that it cannot alone tackle the hydra-headed problem of desertification without involving others. To this end, it has facilitated the involvement of other actors, including the Private Sector, NGOs, CBOs and Donors. At present, a number of NGOs are actively involved in the implementation of CCD in Nigeria, and some of them participated very actively in the negotiation process. Prominent national and international NGOs that are actively participating in the activities of the Global NGO network on Desertification in Nigeria are the Nigerian Environmental Study/Action Team (NEST), the Nigerian Conservation Foundation (NCF), Forestry Association of Nigeria (FAN), and International Union for Conservation of Nature (IUCN). Other NGOs, which have general concern for the protection of the environment include, Nigerian Field Society, Young Foresters Club, the Fauna Conservation Society, Ecological Society of Nigeria, Horticultural Society of Nigeria, Nigerian Environmental Society, Nigerian Society for Biological Conservation, etc.

At the international level, Nigeria has participated actively at meetings and activities of the UNCCD. As part of its obligations to the UNCCD, Nigeria submitted its National Action Plan to Combat Desertification (NAP) to the Convention's Secretariat in 2000. A revised draft of NAP was completed in 2004. Nigeria is involved in a number of bilateral and multilateral relations, which directly or indirectly relate to desertification control. These include (i) Lake Chad Basin Commission (LCBC); (ii) Nigeria – Niger Joint Commission for Co-operation (NNJCC); (iii) African Ministerial Conference on Environment (AMCEN); (iv) Permanent Inter-State Committee on Drought Control in the Sahel (CILSS); (v) Economic Community for West African States (ECOWAS); (vi) United States Agency for International Development (USAID); (vii) United Nations Educational, Scientific and Cultural Organization (UNESCO); (viii) Japanese International Cooperation Agency (JICA); (ix) Canadian International Development Agency (CIDA); (x) TerrAfrica; (xi) CAADP. In addition, the country has also enjoyed some form of financial and technical assistance from international agencies and NGOs on matters relating to desertification control. They include The World Bank (WB), African Development Bank (AfDB), United Nations Development Programme (UNDP), IUCN, World Wide Fund for Nature (WWF), and Royal Society for Protection of Birds (RSPB).

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In Nigeria, several sectoral and multi-sectoral programmes have been put in place over the years to tackle the twin problem of drought and desertification. These are specifically in water, forestry, agriculture and energy.

In the water sector, the RBDAs (e.g. Sokoto-Rima, Hadejia- Jama'are, Benue River, Niger River and Chad Basin River Basin Development Authorities) are actively involved in the development of water resources, particularly for irrigation, including improvement of community water supplies and provision of watering points in rangelands. The Government, with World Bank assistance, has also implemented a programme tagged "National Fadama Development Project" for the purposes of optimally utilizing the water resources of the wetlands of Nigeria for small-scale

irrigation to provide dry season alternative employment avenue for several rural population who are engaged in off-season trade in firewood.

Towards improving the forest resources of Nigeria's drylands, AZAP was instituted by the Federal Government in 1977. The focus of the programme was to tackle the problems of desertification through the establishment of woodlots, shelterbelts and windbreaks. Over 10 million seedlings were raised annually between 1978 and 1984. About 150 kilometers of shelterbelts, 3,680 hectares of woodlots, 24 boreholes, 70 tree nurseries, and a Forestry Vocational School, were established (FGN, 2004). The European Economic Community (EEC) also supported similar pilot project in Katsina State, over an area covering about 1.6 million hectares; so also the World Bank in several of the frontline states. In all the programmes, the emphasis is on farmer participation and extension. In the agriculture sector, the Government of Nigeria, assisted by the World Bank, has expended enormous resources to the establishment of Agricultural Development Programmes (ADPs) in all the 36 states of the Federation and the Federal Capital Territory. The ADPs operate the Training and Visit (T & V) system of unified extension system covering the areas of Crop Production and Protection, Livestock Production and Animal Health, Fisheries, Agro-forestry and Gender related issues in Agriculture. This unified extension system is employed for the dissemination of proven agricultural technologies (aimed at ensuring sustainable development) to the small-scale, resource poor farmers who are responsible for well over 90 percent of the national food production.

As part of the Government's effort to revamp the agriculture sector, ensure food security, diversify the economy and enhance foreign exchange earnings, the Federal Ministry of Agriculture & Rural development recently embarked on a transformation agenda (Agricultural Transformation Agenda - ATA). The vision in the transformation strategy is to achieve a hunger free Nigeria, through an agricultural sector that will drive income growth, accelerate achievement of food and nutritional security, generate employment and transform the country into a leading player in global food markets. The agenda is designed to make the agricultural sector a business project, as against development project, to promote private investment, execute integrated projects via value chain processes, generate employment, and transform Nigeria into a net exporter of agricultural commodities. The transformation agenda targets rural communities particularly women, youth and farmers associations, as well as improvement of rural institutions and infrastructures.

To reduce human pressure on the scarce wood resources of the desertification prone areas of Nigeria, the Energy Commission of Nigeria (ECN) has put in place some programmes for promoting optimal utilization of renewable energy resources with a view to reducing deforestation associated with fuelwood sourcing. In particular, significant efforts are being made to promote solar photovoltaic electrification projects for remote rural areas. All energy-related environmental projects that are being implemented in Nigeria are guided by the National Policy Guidelines on Energy.

There are also many integrated programmes and projects targeted at poverty reduction. Notable among these are the Northeast Arid Zone Development Programme (NEAZDP), the Federal Ministry of Environment/University of Maiduguri (FMEnv/UNIMAID)

Linkage model village project, the Katsina State Agricultural and Community Development Project (KSACDP), the Sokoto Environmental Protection Programme (SEPP), Projects for the Millennium Development Goals (MDGs), and the Integrated Ecosystem Management (IEM).

The NEAZDP, funded by the Federal Government of Nigeria with European Union assistance, commenced in February 1990 with the main objective of motivating and assisting the rural population to improve their standard of living through proper resource use and management. The programme covers an area of about 25,000 km^2 in the extreme northern part of Yobe State. The major components of this programme include water resources development and management (including irrigated agriculture), provision of micro-credit for off season economic activities, cottage industries, livestock fattening, rural banking and popularisation of animal traction for land preparation for agricultural activities.

The FMEnv/UNIMAID Linkage Centre on Drought and Desertification Control initiated a model village project at Sabon-garin Nangere, Yobe State in 1995. Activities carried out at the model village include establishment of community woodlots and roadside tree planting, provision of energy efficient wood stoves, provision of biogas for domestic cooking, provision of Ventilated Improved Pit (VIP) latrines and provision of solar powered water pump for the community boreholes. The model village project, though presently constrained by lack of funds, is no doubt a major success that deserves replication in other parts of the drylands of Nigeria.

The Katsina State Agricultural and Community Development Project (KSACDP) was conceived as the first stage of an IFAD strategy to speed up and intensify rural development in the drylands of Nigeria. Its main strategy is community participation and credit supply to farmers in the fight against land degradation and desertification. Achievements recorded included improvement in farming practices, investments in community and amenity development in off-farm income generating activities for groups of poor and landless households, with emphasis on those headed by women.

The Sokoto Environmental Protection Programme covers an area of about 17,500 km^2 in the northeastern part of Sokoto State. The objective of the programme was to improve the utilization of resources to achieve long-term sustainable growth and environmental protection. The Programme is jointly financed by the Federal Government of Nigeria, Sokoto State Government, and the European Union under the Sixth European Development Fund (Lome III). The programme components include Afforestation, Livestock and Rangeland management, and development of rural infrastructures, Irrigation, Women development and Adult literacy. The programme did record some successes, having led to increased income of many households within the 17,500-km^2-project area.

The implementation of the on-going MDG Projects has focused on the rehabilitation of ten oases and provision of water to communities for domestic usage and farming in the affected areas.

The Integrated Ecosystem Management Project is a transboundary project between Nigeria and Niger, which started in August 2006. The overall goal of this 2-phased 8 year project is to restore and enhance the productive and protective functions of the ecosystems in the transboundary areas between Nigeria and Niger. This is to improve the social and economic well being of the rural communities and households utilizing the region's ecosystem resources to meet their livelihood needs, while preserving its unique landscape and globally significant biodiversity. Its objective is to create conditions for sustainable and integrated management of the natural resources in the Komadugu-Yobe, Tagwai-El Fadama, Gada-Goulbi of Maradi and Maggia-Lamido catchments. In its Phase I, the project was implemented in 7 pilot communities in 6 states and represents a pilot experience of sustainable and integrated ecosystems management whose replicability of actions should serve as knowledge sources in the whole area. The achievements of Phase I will be up-scaled if funding is made available for Phase II implementation.

Some of the achievements attained in combating land degradation and desertification within the framework of implementing NAP and other national initiatives include (FGN, 2012):

i. Public awareness on the threat of desertification, land degradation and deforestation has been raised through sustained radio and television jingles, print media campaigns, seminars, conferences and workshops;

ii. Desertification issues mainstreamed into the Country's development plans and policies;

iii. About 12,000 hectares of degraded land have been rehabilitated through afforestation, oasis rehabilitation, sand dune fixation and rangeland conservation between 2006 and 2010;

iv. Livelihoods of over 6 million affected people have been improved through the provision of drought amelioration infrastructure, promotion of alternative means of livelihoods and popularization of alternative sources of energy.

In addition, the following were achieved under the implementation of the IEM Nigeria-Niger project (IEM-Nigeria, 2009):

- Development of 12 Community Based Natural Resources Management Plans through participatory approach which became the operational tool for the implementation of the IEM;
- Flood Water Harvesting for dry season farming;
- Rehabilitation of 15ha degraded oases;
- Establishment of 35ha community woodlots in different communities;

- Provision of water through boreholes, tube wells and hand pumps in the various pilot sites.
- Enhanced capacity of the local people in the pilots sites to manage natural resources through improved agroforestry techniques and dry season livestock management for sustainable livelihoods.

Dry season farming in Komadougou-Yobe Basin

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Despite the various national efforts and achievements recorded, desertification and general land degradation remain a major challenge to Nigeria's sustainable development. The problem continues to dwindle the natural resource base and complicate efforts to reduce the pervasive poverty of the affected region.

The dwindling natural resource base of the frontline states constitutes a potential for generating conflict. Most soils in the sub-region possess inherently low natural fertility (and therefore low productivity) and are highly susceptible to degradation of all sorts. For the predominantly agrarian communities of the sub-region, the natural resources of water, soil and biodiversity are a lifeline. Meeting the present and future energy, water, food and other needs of the people, particularly in the face of already severely degraded natural resources, and pervasive poverty, represent a formidable challenge.

Rapid population growth and urbanization have led to the expansion of agriculture and changes in the agricultural practices in the desertification prone areas of Nigeria, because of the need to feed more people. When this is pitched against desertification-induced dwindling natural resources, the result is the difficulty of eking a living and increasing poverty. Thus, it is not surprising that the 2010 poverty survey by the National Population Commission (Kale, 2012) showed that the Northwest and Northeast geo-political zones, which constitute the frontline states, had the highest poverty rates in the country with 77.7% and 76.3% respectively in 2010 relative to the national rate of 69.1%. The poverty condition in Nigeria, and especially the frontline states, could deteriorate if improved land management is not put in place to counteract the expected impact of climate change.

Degraded oasis

There is also a major challenge of unsustainable use of the generally fragile natural resources of the region (Mortimore, 1989; Amans et al., 1992). Most small-holder-farmers, whose livelihood in the first instance, depend entirely on soil, water and biodiversity resources, lack the means to increase food production or exploit biological resources, without degrading the land. Throughout the sub-region, unsustainable land use practices, such as inappropriate use of inputs, shortening and often elimination of fallow period resulting in continuous cropping with little or no necessary inputs, and extension of cultivation onto marginal lands, are common. Others include (i) the poor maintenance of irrigation and drainage networks, and over abstraction of groundwater; (ii) diversion of land from forestry and agriculture to other land uses (e.g. energy, transportation development, etc.) without compensatory conservation measures on the new non-forest land; (iii) excessive grazing in forest lands in the absence of adequate pastureland and a viable policy of fodder development; (iv) incessant bush burning

during land clearing for agriculture, hunting for games, and the cattle herdsmen desirous of stimulating re- growth of dormant grass buds; and (v) sand mining.
Other major challenges faced in attempts to combat land degradation and desertification include (FGN, 2009b):

- ☐ Non-availability of correct information on the extent and severity of land degradation and desertification;
- ☐ meeting the energy, water, food and other needs of the people living in the affected areas, particularly in view of scarce natural resources and pervasive poverty;
- ☐ influencing the socio-cultural perception of the people concerning the root causes of drought and desertification to enable them develop appropriate adaptation strategies and coping mechanisms;
- ☐ unpredictability of drought and determination of the impact of climate change on desertification intensity;
- ☐ limited political will to mainstream the National Action Plan (NAP) to combat desertification and mitigate the impact of persistent drought and other sustainable land management initiatives into national development programmes;
- ☐ ineffective implementation of planned initiatives in the medium-term sector strategy;
- ☐ multiplicity of agencies responsible to combat desertification and non-existence of a national coordinating body to tackle the problem in a coherent manner devoid of duplication of efforts;
- ☐ inadequate financing for sustainable land management to combat desertification;
- ☐ inappropriate management mechanisms and regulatory failure;
- ☐ inadequacy of information for education, policy advocacy and planning as well as monitoring of trends and impacts of the twin environmental problems of drought and desertification; and
- ☐ continued predominance of subsistence agriculture characterized by low inputs and the attendant low output that poses a serious problem of food security, as well as poor land use practices, poor land use planning and inadequate land characterization and land capability classification.

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The achievements so far recorded are in general not commensurate with the efforts that have been expended in addressing the challenge of desertification and land degradation in the affected areas of Nigeria. This is because the national approach has been generally inconsistent, uncoordinated, piecemeal, sectoral and consists of single set remedial and *ad hoc* measures. Most of the initiatives of desertification control were developed and implemented at different times, in different areas and by different institutions, without serious attempts to have a comprehensive and integrated national framework.

A major lesson from the previous approach is that the key to tackling the challenge of desertification and land degradation is the formulation and implementation of a comprehensive, coherent, systematic, coordinated, information-intensive and sustainable development strategy. Such is expected to take into account the vagaries of climate, the fragile nature of the ecosystems, the needs, aspirations and perceptions of

the people (Oladipo, 1993). Another lesson is that the problem of desertification and land degradation in Nigeria requires huge amount of financial resources, beyond the national annual budget allocations. Thus, unless substantial financial resources are mobilized and pooled for use, the challenge of desertification and land degradation will persist in Nigeria. In addition, all stakeholders (government at all levels, civil society organizations, private sector, academia and development partners) must be fully mobilized and involved in the efforts to tackle desertification.

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A participatory strategy that addresses all aspects of desertification and land degradation and reflects environmental, economic and social costs and benefits provides a good opportunity to deal holistically with many socio-economic, environmental and scientific aspects of the problem. In Nigeria, the Vision 20: 2020 has articulated the potential opportunities from SLM in Nigeria. This GGWSAP presents a new vision for sustainable land management in the semi-arid and arid areas of Nigeria that continues to be threatened by desertification.

The GGWSSI is a bold vision of the AU leaders for a 'green, fertile and prosperous Africa, free from famine and the images of malnourished children and starved livestock'. It is expected that the initiative will help remove the recurrent humanitarian crises in the Sahel-Sahara sub-region, to the extent that children born in 2025 on-ward will know about past poor images only through history books. The vision is in line with various ongoing programmes, mechanisms and projects in the sub-region, whose implementation the GGWSSI is intended to strengthen (e.g. CAADP, NEPAD, RAP, SRAP, NAP).

The Nigeria vision for the environment, which has been clearly articulated in her Environmental policy, the Drought and Desertification policy, the NAP, the Vision 20:2020 and a host of other documents, is also in consonance with the AU vision for the GGWSSI.

The Vision 20:2020, in particular, acknowledges that sustainable use of natural resources provides a buffer against poverty and opportunities for self-employment in the informal sector. Thus, it states that as the country launches onto a path of rapid economic growth, it aims to be a nation that has a healthy environment for sustainable socio-economic development. Thus, to address the environmental conditions in the country, Nigeria will pursue a development strategy that will accord high priority to the sustainable use of natural resources and environmental protection in the drive for national socio-economic growth. Sustainability will be mainstreamed into the socio-economic development of Nigeria within the framework of NV20:2020 as a tool for human development based on social equity. This development paradigm is socially compatible with rapid and sustainable development aimed at reducing poverty and harnessing a secure future (FGN, 2009b). The initiatives relevant to combating desertification that have been enunciated in the Vision Policy document include:

- Promotion of sustained afforestation and reforestation programmes to correct the effects of environmentally unfriendly agricultural practices such as land clearing, nutrient mining, excessive irrigation water supply, inappropriate use of agrochemicals and fertilizers. This initiative is targeted at increasing the forest cover from 6% in 2008 to 12% in 2015 and 18% in 2020;
- Instituting mechanisms for monitoring national waste management and pollution, and establishing pollution monitoring stations across the country;
- Intensifying efforts targeted at promoting environmental awareness in the country with a view to sensitizing Nigerians on the environment and the damages being done to it through various activities like bush burning, littering/open dumping of human waste, polluting rivers with sewage, among others;
- Supporting viable research and development efforts targeted at sustainable environmental management and natural resources conservation;
- Adoption of an integrated and multi-sectoral approach to the implementation of national environmental policies, programmes and international conventions.

This GGWSAP compliments the tenets of Vision 20:2020, and this will make it easy for its adequate mainstreaming into the country's development process.

The GGWSSI represents a concerted and coherent attempt to combat land degradation through the promotion of SLM approaches that will result in stabilized/improved ecological integrity and better rural living standards in the affected countries. It provides a multi-country and donor partnership to support the development of national level Action Plans, which clearly outline priority areas for program interventions and promote coordinated investments among donors and national governments to implement more comprehensive and integrated approaches to SLM in the sub-region.

The goal of the initiative is to bring together relevant actors and stakeholders within a framework of a noble cause to fighting desertification and environmental degradation through undertaking a series of inter-related and coordinated activities, actions and outcomes. The GGWSSI has a number of objectives principal amongst which are to:

- enhance environmental sustainability;
- control land degradation;
- promote integrated natural resources management;
- arrest the advance of the Sahara Desert;
- conserve biological diversity;
- strengthen infrastructure; and
- contribute to poverty reduction.

Nigeria's participation in the GGWSSI is aimed at improving the efficiency of ongoing programmes, mechanisms and projects, particularly the UNCCD within a well-defined and focused plan of action. Thus, the strategic objectives of Nigeria's GGWSAP that guide such programmes and projects in the country include:

i. developing and promoting sustainable land management practices that enhances local livelihoods whilst maintaining the productivity and stability of agricultural lands and reducing vulnerability to climate variability and drought;
ii. improving the integrity of ecosystem in the arid zone and their resilience to climate change, climate variability and drought;
iii. strengthening systemic and institutional capacity to combat desertification and its impacts;
iv. improving knowledge about desertification and drought phenomena, monitoring and evaluation of its effects, and improve information sharing and cooperation among stakeholders;
v. mobilizing resources for the implementation of the GGW initiative through the establishment of efficient partnerships between national and international stakeholders.

The operational objectives that guide the formulation of this Action Plan and its potential integration into development programmes and projects at all national levels of governance, and even at regional level, are:

i. translating the GGW agreements into national action programmes needed to tackle desertification and mitigate effects of drought in the framework of an integrated and participatory approach in the short to medium term;
ii. influencing relevant international, continental, regional, national and local mechanisms and actors, in order to tackle efficiently the issues of desertification/land degradation and drought;
iii. improving the knowledge on social, economic, biophysical and cultural dynamics of arid lands;
iv. mobilizing financial and technological resources at national, bilateral and multilateral levels and improve their focus and coordination in order to increase their impact and efficiency.

The GGWSAP for Nigeria is a five-year strategic plan with the goal of improving the well-being of the affected people and reducing their vulnerability to climate change through improved use of land and other natural resources for sustainable development and support to climate resilient infrastructure. The development objective is to combat land degradation and desertification in Nigeria in order to protect and restore ecosystems and essential ecosystem services that are key to reducing poverty, enhancing food security, and promoting sustainable livelihoods.

The development of Nigeria's GGWSAP can be justified in many ways. Environmental sustainability is regarded as a critical aspect for the attainment of the Millennium Development Goals (MDGs). Nigeria's vulnerability to desertification and land degradation has increased in recent times, and is likely to be compounded in the future by global climate change. Processes of desertification and resource degradation are eroding the livelihood base of millions of people in the affected region of the country and narrowing down the range of people's choices, as well as exacerbating various types of insecurities. Desertification is rapidly nibbling at fertile land and plunging the people in the affected areas into poverty. The situation will worsen unless appropriate actions are taken to successfully manage and halt the spread of this "land cancer" in a comprehensive and coherent manner. In this sense, the fight against desertification could be conceived as the struggle to bring about sustainable development and improve the lot of the people.

The priorities of the GGWSAP are founded on the necessity to address environmental problems and reduce poverty within the context of sustainable resource use. It is a principal tool for the implementation of the AU Agreement to Combat Desertification. The GGWSAP builds on the National Action Plan (NAP) for the control of desertification under the UNCCD, as well as the National Vision 20:2020. It is also expected to contribute directly towards the achievement of the MDGs by the year 2015 by significantly reducing the pace of desertification and increasing the pace of land rehabilitation. The strategic plan will ensure that desertification control in the country is evidence-based, cost-effective interventions, and up-scaling of best practices.

Besides being an obligation under the GGWSSI, this SAP offers opportunity for Nigeria to take stock of existing measures, consolidate on successful ones, and identify new

ones, to direct future actions to combat land degradation problems in a more strategic and holistic manner. It offers a broader perspective, and an integrated approach, to combat land degradation as a problem that cuts across various development sectors. In this regard, it will serve as a tool to involve various stakeholders (government, private sector, civil society and development partners) in the fight against desertification. It could also make some quantitative contribution through mobilization of additional funding. Finally, under the present democratic dispensation, there is the risk of short-term economic development needs of the public taking precedence over the long-term benefits of environmental conservation. In the changing social, economic and political scenarios, proactive and concerted actions for sustainable management of the landscapes have become more crucial than ever before.

The primary beneficiaries of successful implementation of the GGWSAP are the grass-root communities in affected areas who depend solely on their natural resources for their means of livelihoods and socio-economic well-being. Ensuring a sustainable utilization of the land and water resources by the design and implementation of rational management systems, which will provide employment, help to enhance people's participation and develop income generation activities for the rural communities. Other beneficiaries will include governments at all levels (local, state and national) which could derive economic benefits from the use of rehabilitated or restored degraded lands. In addition, the private sector will benefit. Remediation of land and water resources will offer much SLM-friendly business opportunities for private sector investments in the energy, water, forestry, agriculture, mining, infrastructure, and trade and finance sectors, amongst others. This should attract private investment into the economy, and encourage private sector to cooperate in the rehabilitation and restoration of degraded ecosystems in the affected areas. The Federal government, in particular, will be making an important contribution towards fulfilling its global obligation of contributing significantly to combating desertification. At the regional level, the AU will benefit from having an extensive region with improved natural resources that could address the critical challenges of climate change-induced food security and conflicts in sub-Saharan Africa. Globally, the carbon sink would be increased, and global warming reduced.

There is a general vicious linkage between desertification and poverty. In general, degradation of natural resources reduces the productivity of the poor who mostly rely on them, and make them even more susceptible to extreme environmental events. Poverty in turn makes recovery from these events very difficult and contributes to lowering social and ecological resistance. To break this vicious cycle, the empowerment of the people who are directly involved is very critical. In this regard, for the sustainable management and the promotion of equity in access to and use of natural resources in the desertification prone areas of Nigeria, it is imperative to adopt a community-based approach to natural resources management. Such approach will ensure the effective participation and consideration of the interests of local populations, target groups and various stakeholders, from the conception of projects to their implementation.

The implementation strategy for the GGWSAP is the use of capacity at the community level for the delivery of critical activities. This implies that communities will be involved in the process of identification, formulation and implementation of programme activities in a very participatory manner that will ensure that they are able to identify the problems of sustainable use of their natural resources and proffer solutions that would promote sustainable development. In order to advance the role of women and to promote gender equity, women in particular will be involved in project identification, planning and implementation.

At the national level, the main categories of stakeholders that will be involved are government Ministries, Departments and Agencies (MDAs), the natural resources users and other civil society sectors and NGOs, development partners (multilateral and bilateral), the private sector, and financial institutions.

The GGWSAP was developed in a participatory manner, taking into consideration the recommendations in the report of "Experts Meeting on Harmonization Strategy for the GGWSSI" (2012). The process and modalities for formulating the GGWSAP began with a series of consultations (through questionnaire and/or personal interviews) with several relevant stakeholders (relevant Federal and Frontline State Ministries and agencies, LGAs, private sector, NGOs, CBOs, farmers, pastoralists and research Institutions). The aim was twofold. First, was to achieve national consensus on (i) the concept of the GGWI, the vision on its implementation, and means to mobilize resources to this effect; (ii) priority areas of intervention to effectively halt and reverse desertification (iii) roles and responsibilities of each actor in the implementation of selected measures, and (iv) monitoring and evaluation mechanisms, for the GGWSAP implementation. The second purpose of the consultations was to collate and analyze information on the previous initiatives targeted at combating desertification in the framework of sustainable land management, to identify best practices, lessons and opportunities for a more integrated approach to sustainable development of the desertification prone areas of Nigeria.

In addition, a desktop review of existing relevant policies and technical documents was undertaken to provide a diagnostic analysis of national efforts to combat desertification. Moreover, the Concept Note that identifies main thrusts, and subsequently the SLM intervention projects and their implementation plans (FAO/TerrAfrica, 2008; Bisong, 2011), were consulted. The outputs from the initial stakeholders' consultations and desk review were used to produce the first draft of the GGWSAP for Nigeria. On completion of the draft plan, a national validation workshop of stakeholders (government, National Technical Committee on GGW, civil society organizations, communities, private sector actors and development partners) was held in Abuja on the 3rd and 4th of October, 2012, facilitated by the GGWSAP consultant. The participants reviewed the draft plan and made necessary amendments. This was followed by a validation meeting of all the stakeholders.

The GGWSAP for Nigeria is a five-year strategic plan with the goal of improving the well-being of the affected people and reducing their vulnerability to the impact of desertification, amplified by climate change, through improved use of land and other natural resources for sustainable development and support to climate resilient infrastructures. The development objective is to combat land degradation and desertification in Nigeria in order to protect and restore ecosystems and essential ecosystem services that are key to reducing poverty, enhancing food security and promoting sustainable livelihoods.

The strategic objectives include: (i) developing and implementing integrated approach to SLM that is crucial to minimizing land degradation, rehabilitating degraded areas and ensuring the optimal use of land resources for the benefit of present and future generations, (ii) developing and promoting sustainable agricultural and water management practices, (iii) ecological restoration of degraded ecosystems (land and water), using appropriate techniques and technologies, (iv) improving information sharing and cooperation among stakeholders, (v) strengthening systemic and institutional capacity for enhanced desertification governance and resource mobilization, (vi) improving scientific knowledge on desertification and drought phenomena, and (vii) effective monitoring and evaluation for impact.

The identification and prioritization of the GGWSAP intervention actions was based on the causal chain analysis methodology that recognizes the specific characteristics of the desertification frontline states, as diagnosed in the desktop review and stakeholder's consultations meetings. These include the need to:

- reverse land degradation,
- achieve integrated and holistic environmental management, building upon existing initiatives,
- increase the participation of local populations and communities, and interactions amongst the various federal, states and local institutions, as well as amongst Nigeria and the bilateral and multi-lateral development partners to improve governance for desertification control,
- improve the economic environment to eradicate poverty, through economic incentives, mechanisms and actions aimed at preserving and restoring the environment integrity of the region,
- improve knowledge of desertification,
- ensure that natural resources management in the sub-region fulfill local, state and international obligations of the Convention, and
- preserve the unique biodiversity and water resources of the sub-region which is dependent upon maintaining the integrity of the entire ecosystems.

Also considered are the on-going and planned SLM priorities under such programmes/initiatives as NDDP, NAP, FADAMA III, Vision 20:2020, SURE Programme, TerrAfrica, CAADP, etc., as well as the goals of major policies, that are related to desertification control, across sectors. While the GGWSAP document itself is meant to contain a set of strategic actions designed as catalysts to address priority concerns targeted at correcting or mitigating the critical problems as mutually agreed by stakeholders, its scope encompasses integrated management actions that would be applied throughout the entire frontline states.

Shelterbelt establishment

In the identification and selection of the action projects, three types of actions were prioritized: (i) actions that aim to establish a sound enabling environment and effective technical and management bases for integrated natural resources management in the sub-region; (ii) actions that seek to minimize the principal negative aspects diagnosed; and (iii) actions that will promote transboundary cooperation for cross-border environmental sustainability. The actions were, as far as possible, made comprehensive enough to encompass the entire problem and their causative factors and seek to treat them in an integrated and consistent manner, avoiding isolated or sectoral approach. However, given the size and diversity of the sub-region, it became impracticable to

accommodate all actions that would treat the full scope of the problems facing the region at the same time. For this reason, some prioritization was done, based on:

- the country past experiences in combating desertification and/or mitigating the effects of drought;
- the technical soundness of the project in terms of its relevance to solving critical and practical problems identified by stakeholders and potential synergy with on-going initiatives;
- the extent to which a project is considered a priority as reflected by national and communal development budgets and plans, as well as potential to attract financing from development partners and the private sector;
- the availability of the necessary delivery mechanism and existing local champions and synergy with other investments;
- the ability to produce measurable benefits of improving income generation and sustainable livelihoods, which will be monitored and evaluated throughout the course of the project implementation; and
- the ability to be implemented without entailing the risk of any significant social and environmental negative externality.

Cultivation of pepper in the dry season is a major means of livelihood in the Komadougou-Yobe Basin

The Nigeria GGWSAP is focused on the following eight strategic pillars of intervention, each of which is further elaborated:

Improvement of the management of land resources and their sustainable use
Enabling policy, legal and institutional framework for sustainable land management and desertification control
Improvement of critical infrastructure for enhanced and sustainable socio-economic development and environmental sustainability
Enhancement of private sector investment in sustainable land management
Sustainable financing for desertification control
: Effective Communication for improved land management
: Monitoring and Evaluation System
Eco-regional approach for improved transboundary sustainable land management

Programmes and activities within the framework of this pillar will focus on identifying proven sustainable land management practices in the sub-region and up-scaling best practices that will contribute to sustainable ecosystem-based integrated land management in areas under threat of land degradation, for greater ecosystem stability, enhanced food security and improved rural livelihoods. The activities will be participatory and embrace the local communities, who are the primary beneficiaries. The activities of the axis boarder on the protection of the production potentials of the natural ecologies, and revising the degradation trend of the natural resources, using proven technologies. The overall objective is to achieve sustainable management of natural resources base and to make agriculture, in its broadest sense, the main lever for rural development, economic and social growth. Specifically, the pillar will encompass actions such as:

- reversing the degradation trends of rainfed agricultural ecosystem and restoring its productive capital,
- restoring the production capacity of existing forest plantations and establishment of additional ones, and development of good governance models of locally based sustainable forest management,
- upgrading and or establishing, and protecting grazing reserve and routes, and providing veterinary care and nutritious feeds for animals to improve their productive and reproductive states,
- re-vegetation of bare range areas (or abandoned rain-fed cropland), using perennial forage species for purposes of improving the quality and quantity of forage production.
- effectively controlling erosion systems, and shifting sand dunes, towards maximizing rainfed agriculture's role in food production.

- improving performance of irrigation agriculture manly through increased irrigation-water use efficiency in old lands;
- encouraging the collection and use of runoff in farming and forestry activities in order to release some pressure on groundwater and save more good quality water for human uses;
- promoting efficient management of water and land resources for the optimization of the benefits, mitigation of floods, and reduction of conflicts.

Farming in the oasis

Governance is the sum of organizations, policy instruments, financing mechanisms, rules, procedures and norms that regulate the processes of environmental protection. It is about how decisions are being made, who is responsible, how they carry out their mandate, and how they are accountable. The current governance approach to desertification and land degradation is weak and fragmented. Many of the policies remain in draft form and are not integrated into the mainstream of national development policies and plans. In addition, institutions dealing with desertification issues adopt sectoral approaches, resulting in overlapping, and often conflicting, of functions. The institutions are generally weak, under-funded and ineffective in their core functions. Above all, there is limited coordination of their activities. They need to be strengthened and a coordination mechanism put in place for effective national

response to the challenge of desertification. There is also the need for the updating of environmental laws, regulations and standards, and policies, and strengthening of enforcement of environmental laws and regulations. It is also imperative to have relevant policies for land management mainstreamed into the country's development process.

In implementing this pillar, particular attention will be given to existing national and relevant state polices, including but not limited to Drought and Desertification Policy, National Climate Change Policy and Response Strategy, National Environment Policy, National Biodiversity strategy/Action plan, National Policy on Climate Change, Renewable Energy Policy, States Policy on Environment, National Action Plan to Combat Desertification, National Policy on Watershed Management, Ecotourism Policy, Water Resources Policy on dry lands, and Compliance monitoring and enforcement of national environmental regulations, toward synergizing them for a more comprehensive policy approach to actualizing Nigeria - GGWSAP.

Investment in core physical infrastructure – broadly comprising roads, transport systems, communications, energy and water supply, housing, environmental conservation structures, including parks and forestry – are now recognized as capable of playing an important role in promoting economic growth and encouraging private investment.

profitable activities. The acacia trees produce gum resins; a variety of indigenous crops (e.g. Jathropha) are suited for biofuel production; plants such as Aloe, Commiphora, Prunus africana and other multi-purpose medicinal plants have many therapeutic uses in addition to their nutritional, environmental and commercial values. This huge potential remains largely untapped.

A community benefitting from a hand pump provided by the Integrated Ecosystem Management Project in the transboundary area between Nigeria and Niger Republic

The programmes and activities of this pillar are to encourage private sector operators to invest in the huge economic potentials of the natural resources of the region to generate green jobs, ensure environmental sustainability and derive economic benefits through public-private partnership. Emphasis will be in the area of innovative mechanisms for private sector financing of SLM, and biomass- based resources for renewable energy sources and environmental protection, including for example provision of land, and tax holiday.

In view of the imperative for a long-term intervention, ensuring financing of desertification control activities on a sustainable basis could constitute a major constraint in the country's efforts to combat desertification and reduce land degradation in the affected sub-region. Addressing squarely the issues of desertification in a coherent manner that will reduce the country's vulnerability and enhance its resilience to land

degradation in Nigeria require a lot of resources beyond what governments at all levels can provide. This calls for a strategic approach to have a well-designated fund to combat desertification in the country. Issues of developing a strategic resource mobilization approach and putting in place a *Desertification Control Fund* that would be facilitated and used by all stakeholders, including the private sector, in the country to address key desertification and land degradation challenges, as well as explore the opportunities for development while combating desertification will be the focus of this pillar. The approach will recognize and link with the National SLM Strategic Investment Framework of the TerrAfrica programme for effective resource mobilization and partnership building.

Desertification and land degradation are complex slow processes. Addressing these challenges require long-term solutions which impact may not be properly determined unless there is good baseline information to assess the complexity of the problem. It is important to have good information on what are called "frontload investments" such as data collection, information and risk management systems that are relevant to analyse the impact of implemented targeted interventions. A successful intervention for combating desertification will depend on such knowledge and analysis. There is need for national capacities for assessing and analyzing statistics and data, which can help in measuring impact and resilience. Such capacities will enable governments, both at the regional, national and local levels, to monitor vulnerability and the probability of shocks (e.g. climate change), while also providing information on the adaptive capacity of the people to cope. A good information system will also enhance global and particularly south-south exchanges on good practices and systems for analysis and statistics, as well as support governments in finding appropriate solutions and adapt them to local or national conditions.

The establishment of baseline data on the extent, severity and characteristics of desertification and land degradation; Environmental Management Information System and knowledge management network; creation of awareness and mobilization of all stakeholders; organizing conferences and workshops, as well as capacity building for community mobilization will be the focus of this pillar. In mobilizing communities and other actors, the capacity of the existing National SLM Coalition (equivalent of the National SLM Platform of TerrAfrica) will be utilized.

The areas of focus in this pillar include:

- to build up and activate an updated scientifically based system that provides continuous and reliable information about the state of desertification and general ecological degradation in Nigeria;
- to draw up an inventory and analysis of soil and water conservation practices in the sub-region;
- to establish a functional Environmental Management Information System for Desertification Control in the sub-region
- to build the capacity of affected communities for effective participation in project management and monitoring

The need to prioritize Early Warning mechanisms has been underlined in the national approach. Capacities will be required to enable governments, both at the national regional and local level, to monitor vulnerability and the probability of shocks (e.g. climate change), while also providing information on the adaptive capacity of the people to cope. The establishment of functional monitoring and evaluation system, including Early Warning and Ecological and Environmental Observatory Centres will be the focus of this pillar.

The constituting projects of the theme include those:

- to promote creation of a center for drought prediction and early warning that forms part of regional and global networks;
- to establish Ecological and Environmental Observatory Centres that will compliment those in Niger Republic for the monitoring of land degradation or improvement;
- to monitor, evaluate and disseminate information on the Nigeria GGWSAP implementation.

- Desertification is a slow process of land degradation that spreads across political boundaries. Combating desertification, therefore, requires that adjoining nations in the affected sub-region work together. Nigeria has its longest boundary with Niger Republic along the affected frontline states. This is an area with some ongoing activities for environmental sustainability and socio-economic development of the common border. A major initiative is the GEF-supported transboundary ecosystem management project, which has the development objective of creating conditions for sustainable integrated ecosystem management, towards improving the livelihoods of local communities and conservation of ecosystems of global significance in the transboundary catchments areas between Niger and Nigeria. In this GGWSAP, transboundary projects will be facilitated and implemented with support from development partners in the areas of enhancing food security, improving the carbon sink through ecological rehabilitation and sustainable management of the water resources in the shared basins.

Impounding flood water using traditional technology

Table 5.1 presents the major programmes identified for the implementation of the GGWISS in Nigeria, as well as their potential location areas and indicative targeted budgets, as agreed upon by stakeholders during the validation meeting.

		Improving land management through ecological and ecosystems restoration and rehabilitation for enhanced resilience and sustainability of livelihoods.	Land rehabilitation and restoration through soil and water conservation	Identified areas	10.0
			Rehabilitation and development of forest resilient landscape (e.g. shelterbelts, wood lots, wind breaks)	Identified areas	20.0
			Soil conservation and erosion control for poverty reduction	Identified areas	10.0
			Sand dunes fixation and stabilization	Identified areas	10.0
			Rehabilitation of pasturelands and improving livestock performance	Identified areas	10.0
			Rehabilitation of degraded lands in the Lake Chad Basin	Identified areas	10.0
			Integrated natural resource management with the involvement of local communities.	Identified areas	10.0
		Sustainable Land Management for Improved Agriculture and Food Security	Improving agricultural production through agroforestry and improved irrigation best practices	Identified areas	10.0
			Sustainable land management by introduction of	Identified areas	5.0

[2] Agreed projects will be developed to match the indicative budget; while the funding ratio between the Federal, State, Local, Privet Sector and Development Partners will be agreed upon in due course.

			commercial value crops with irrigation support.		
			Natural resource management for drought mitigation and adaptation	Identified areas	2.0
			Strengthening of traditional land use practices in degraded lands	Identified areas	1.0
		Integrated Water Resources Management (IWRM)	Sustainable water resources management for flood mitigation, groundwater improvement, pollution control and conflict reduction	Identified areas	5.0
			Water harvesting for afforestation and agricultural development	Identified areas	10.0
2.		Strong governance for desertification control	Appropriate policies, plans and legal instruments reviewed and harmonized to address GGW programmes and projects	National	1.0
			SLM policies and plans mainstreamed into national development plans and budgets	National	1.0
			Coordination mechanisms and institutional and human resources capacity to promote sustainable land management and desertification control	National, State and Local governments	1.0
		Improving accessibility to transportation	Improvement of rural roads in degraded areas	Identified areas	5.0
		Improving access to social facilities	Rehabilitation and provision of	Identified areas	5.0

			educational, water and sanitation and medical facilities		
		Improving access to rural energy services	Support to household rural energy services	Identified areas	3.0
		Promoting ecotourism	Sustainable tourism in the rehabilitated areas	Identified tourism spots	2.0
		Promotion of private sector participation in EMS	Innovative mechanisms for private sector financing of SLM	National	0.25
		Green jobs and sustainable livelihoods through public private partnership (PPP)	*Jathropha* and other biomass-based (e.g. bamboo) energy services in severely degraded areas	Identified severely degraded	20.0
		Building and or strengthening financial and technical capacity to mobilize additional financial resources and enhance SLM governance	Resource Mobilization Strategy that recognizes the National SLM Strategic Investment Framework	National	0.15
			Establishment of National Desertification Control Fund	National	0.10
		Baseline information	Baseline surveys and studies	National	10.0
		Scientific and technical information system	Environmental Management Information System for Desertification Control	National	4.0
		Supporting research knowledge management	Research Network for dryland management	National	2.0
		Support to awareness creation and sensitization and community mobilization	National Great Green Wall Platform with linkages to other relevant platforms.	National	0.5
			Capacity building for community participation	National	1.5

		Monitoring and Evaluation	Early Warning	National	5.0
		Monitoring and Evaluation	ME Systems linked with the regional knowledge/M&E platform of TerrAfrica and other national platforms.	National	5.0
		Observatory Laboratories	Ecological and Environmental Observatory Centres	National	5.0
		Integrated Transboundary Ecosystem Management	Sustainable Management of Transboundary Water and Land Resources in the Maggia-Lamido; Gada-Gulbin Maradi; Tagwai-El Fadama and Komadugu Yobe Basins	Transboundary Areas Between Nigeria and Niger	5.5
			Enhancing Carbon Sequestration for Climate Change Mitigation and Poverty Reduction in the Transboundary Areas Between Nigeria and Niger	Transboundary Areas Between Nigeria and Niger	10.9
			Enhancing Food Security and Sustainable Livelihoods for Poverty Reduction in the Transboundary Areas of Nigeria and Niger	Transboundary Areas Between Nigeria and Niger	22.4

To implement the GGWSAP, Nigeria will be guided, inter alia, by the following GGWSSI vision and principles:

- Adoption of an integrated approach, in order to facilitate its full integration with other national policies for sustainable development;
- Building of partnerships (contract of confidence) amongst the various stakeholders involved in the implementation of the initiative for purposes of drawing upon the comparative advantages of each in order to maximize impact and create synergies;
- Restoring, maintaining and enhancing the ecosystem and ecological processes essential for the functioning of the biosphere to preserve biological diversity and the principle of optimum sustainable yield in the use of natural resources;
- The necessary supervision by all stakeholders of all operations derived from the planning process, (including financing modalities, monitoring and evaluation, the procedures for selecting and supervising support structures), and strengthening of project management by local communities;
- The necessary popular participation of local population and authorities in project formulation and execution in order to promote their ownership and enhance their execution and sustainability;
- Promoting public awareness and education on the link between development and the environment and encouraging popular participation, or “people - led" projects;
- Provision of an enabling environment to allow communities help themselves achieve their stated goals;
- Adoption of self-initiative and learning-by-doing approach to ensure that the experience accumulated is carefully documented and fed back into subsequent stages of programme / project implementation;
- Cooperation and coordination at sub-regional, regional and international levels in the spirit of solidarity and partnership, for sharing of lessons learned from various experiences toward improved and better focusing of resources;
- Capacity building for individuals and institutions in matters relating to environment management, and ensuring equitable access to all environmental resources, benefits and services;
- Applying a more integrated and global planning approach, which clarifies and consolidates the links between the various environmental dimensions and the various areas of level of interventions (decision and action).

Addressing problems of desertification in a livelihood and rural development context require an effective networking platform, to facilitate information exchange, co-ordination of interventions and forming partnerships. Firstly, it is important to identify the real needs and concerns of the rural households and CBOs. These need to be communicated to the service organizations, both public and private, in order to develop

needs-oriented and appropriate services. Secondly, the co-ordination of and collaboration in service provision are essential. Partners from various departments and disciplines need to work together to deliver suitable goods. The partners at the national level comprise GOs, NGOs, local communities, private sectors, politicians and the local communities, while at the regional and continental levels they comprise mainly development partners and agencies.

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The action projects of the GGWSAP are expected to be implemented through GOs in active participation with the local communities. Consequently, the Federal, State and Local Governments of Nigeria, and their decentralized offices, are the principal partners in the GGWSAP implementation. With respect to the Federal Government, for example, these include relevant Ministries, Departments and Agencies. The government's role is mainly that of co-ordination, which may include but not limited to:

- Capacity building at all levels;
- Formation of appropriate policies and laws;
- Continued devolution of authority and responsibility;
- Financial mobilisation and disbursement

This group comprises the Grassroots community (farmers, women, youths, pastoralists, agropastoralists), CSOs and CBOs, whose wellbeing is dependent on the use of natural resources available in their areas. Under the responsibility of the commune, and with the help of support/advisory structures, the group is to be responsible for:

- Expressing the SLM needs of community;
- Initiating micro-projects for local development;
- Managing in a concerted manner the land resources of the community;
- Promoting income-generating activities/economic opportunities in the community.

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Supportive NGOs cut across all stratum and are well placed to enhance popular participation. A number of civil society organizations, including local and international NGOs and CBOs, have been involved in matters relating to environmental problems in Nigeria. Such NGOs include the Nigerian Environmental Study/Action Team (NEST), Nigerian Conservation Foundation (NCF), Savannah Watch, Savannah Conservation, Farmers Unions, Women Associations, etc. Their role should include:

- Capacity Building;
- Environmental sensitisation and education;
- Harmonisation of approaches;
- Providing technical support.

Public control and political will, appropriate legislation and supervisory bodies, however, are required to ensure that NGOs actually fulfill their mandated roles and use funds available to them effectively (Riedmiller, 2003).

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A homestead nursery

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In recent years in Nigeria, there is a modest but encouraging trend of private sector participation in activities related to desertification control and poverty alleviation; for example, by provisions of assorted tree seedlings for establishment of community woodlots and promotion of alternative to wood energy sources. Proposed role for this sector in GGWSAP implementation include:

- Promoting environmental sustainability through green economy;
- Investment and resources mobilization.

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Politicians are well placed to mobilise popular participation. Their proposed roles include:

- Environmental sensitisation and education;
- Promoting enabling policy and legal environment;
- Resource mobilization and information dissemination.

At the regional and continental level, the main stakeholders are the African Union Commission (AUC), TerrAfrica and the pan African Agency of the GGW (PAGGW). There are also various regional economic communities, including ECOWAS, CEN-SAD Secretariat, Lake Chad Basin Commission (LCBC), Niger Basin Authority, Nigeria–Niger Joint Commission for Co-operation (NNJC) and Permanent Inter-State Committee on Drought Control in the Sahel (CILLS). At the international level, a number of countries/organizations have continued to assist Nigeria financially and/or technically. Some of these are UNDP, JICA, GEF, DFID, WB, AfDB, EU, FAO, UNIDO, Commonwealth Secretariat, CIDA, USAID, IUCN, Spain, France, Israel and China. The roles of all the partners mainly involve:

- Co-ordination and collaboration;
- Support capacity building, research, information collection and exchange, and acquisition and transfer of technology;
- Resources mobilization.

Scientific and Technical partners concern all the national, bilateral, multilateral and international cooperation research and training institutions, whose activities impact, one way or the other, the behavior of the population towards the environment, as well as the mode of support actions of government. Inadequate research data and information constitute a major bottleneck in efforts to combat desertification in Nigeria. Notable among the national technical partners are the National Institute of Freshwater Fisheries Research; National Centre for Arid Zone Studies; National Centre for Climate Change; Nigerian Institute for Marine Research; and the Hydropower Development Department of the National Electric Power Authority. However, due mainly to poor funding, the impact of such institutions have been very minimal. Several multilateral and bilateral agencies, including IUCN, IFDC, WOCAT, FAO/LADA, CIRAD, USGS/Eros Data Center, ICRAF, IIED, etc, have offered, and continue to offer, technical support to Nigeria, in addition to financial support. The roles for the Scientific and Technical partners include:

- Provision of technical assistance to strengthen systemic, institutional and operational capacity;
- Development of user oriented research priorities;
- Co-ordination of research and production;
- Networking co-operation;
- Technology acquisition, transfer and adaptation.

In the present context, partnership is a contract of confidence amongst the various stakeholders involved in the Nigeria-GGWSAP implementation. The GGWSSI is a long-term vision of development issues and as such, each partner should accept to enlist and commit in the long-term. Even now, there no precise delineation of roles, mandate and responsibilities amongst the three major categories of Africa regional and continental players of the GGWSSI. The political leadership of the AUC is recognized by all

stakeholders and it is its responsibility to work towards clarifying the mandates and putting in place a coherent institutional setting at continental level to facilitate and fast-track the implementation of the initiative. Successful partnership of all stakeholders must be based on:

- Strong co-ordination and collaboration of all stakeholders;
- Clear guidelines/directives on popular participation;
- Availability of requisite information to help all stakeholders to design and implement GGWSAP;
- Effective and efficient networking among all partners;
- Efficient and effective Secretariat and Coordinating body;
- Clear definition of the role/responsibilities of each partner.

The already established framework in Nigeria-NAP implementation (FMEnv, 2005) will be respected in the GGWSAP implementation.

The National Council on Shelterbelt and Afforestation (NCSA), chaired by the Vice-President, has been given the responsibility of overseeing the implementation of the GGW in Nigeria. Supporting this Council is the National Technical Committee (NTC) comprising representatives of relevant ministries and institutions as constituted by the Honourable Minister of Environment. The main tasks of the NCSA, supported by the NTC, shall be to:

- Determine the strategic direction of GGWSAP and ensuring its progress;
- Decide and effect any corrective actions required during the course of the project for better realization of outputs and achievement of objectives;
- Assess and assign responsibilities to various players;
- Monitor the process and evaluate the effectiveness of the GGWSAP and adopt national progress reports;
- Mobilize the necessary resources (financial, material and human) to implement the programme;
- Create a conducive environment through the improvement of the legislative, regulatory and institutional framework;
- Ensure consistency between the various policies and initiatives.

The National Council would meet periodically to review the progress of the implementation of the GGWSAP and to discuss and resolve any policy or coordination issues that may have emerged during the coordination of the GGWSAP process.

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At the next level is the Federal Ministry of Environment, with its full time employees, serving as the National Focal Point for the GGWSSI. The coordinating unit of GGWSAP in the Ministry shall serve as the National Secretariat of the GGWSSI and will be

responsible for the day-to-day co-ordination and facilitation of the GGWSAP implementation. The main tasks of the unit include:

- Enhancing vertical and horizontal integration and linkages, and networking among institutions and stakeholders;
- Coordinating and managing the financial mechanism and keeping information on financial flows, donor support, etc.;
- Coordinating legal issues and linkages with other conventions, policies and development programmes;
- Carrying out duties assigned by the National Council on Shelterbelt and Afforestation;
- Monitoring and evaluation of activities, and preparing regular progress report on GGWSAP implementation, and ensuring efficient management as well as transparency in the use of project resources;
- Making recommendations to the National Council on Shelterbelt and Afforestation on scientific and technical issues, and identifying problems.

States and local governments will bear the main responsibility for the implementation of the GGWSAP. They will be required to provide the enabling environment necessary for realizing the short and long-term objectives of the project, particularly the establishment of basic infrastructures (primary school, primary health centres, access road, etc) in the community. They will also undertake regular monitoring of the implementation process to ensure compliance to the work-plan and overall development priorities of the State in general, and that of the community in particular. Specifically, the role of the state government will be to:

- Harmonize the approaches of intervention of the projects;
- Conceive state projects;
- Integrate GGWSAP in the state plans of development;
- Follow and evaluate the activities at the state level;
- Produce periodic report at the National Committee;
- Provide the enabling environment necessary, particularly the establishment of basic infrastructures.

The Local Government Council, chaired by the Chairman will be charged with:

- Monitoring and evaluation of the execution of projects;
- Ensuring the integration of the action of desertification control in the programme and /or project of LGA development.
- Serving as framework of dialogue of the various stakeholders;
- Providing the enabling environment necessary, particularly the establishment of basic infrastructures;
- Participating in the development and management of natural resources under their jurisdiction;
- Managing the resources transferred or made available by the Federal Government;
- Operating consultation frameworks (partnership platforms) at regional or

local level;

- Promoting employment and income generating activities.

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This represents the local level for execution of the GGWSAP projects and the point for gathering information useful for the development of projects. This is in line with the principles of ownership and sustainability, which emphasizes the use of local capacities for the management of development programmes. Support will be provided as required to augment existing capacities in the community through targeted capacity building initiatives. It will also draw upon the knowledge base of the LGA, the State Government, NGOs/CBOs and wider civil society organizations in the community, as well as the private sector operators in and around the community.

The overall management of the community development will be vested in the Community Project Implementation Committees (CPICs), each headed by a Chairman. Each CPIC will provide policy and oversight direction for the project. It will appoint a community mobilization officer who shall be responsible to the Technical Committee and work with the GGW State and Local Government desk officers, as well as the team of experts of the project for implementing, monitoring and evaluation activities. Each CPIC will also be responsible for the mobilization of internal resources to meet the community's obligations under the project. The role of the traditional rulers cannot be over-emphasize because throughout the sub-region, the natural resources (fisheries, forests, water and agricultural land) are customarily vested in their care.

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At every level of implementation is an environmental sub-committee whose members are representatives of the main stakeholders. The committees will act as supervisors and watchdog at their level. These forums will act as general assemblies in which decision on priority programme and activities for funding are agreed upon.

The political, strategic and operational conditions required for project execution, monitoring, evaluation and dissemination of results are affected by both external and internal risks. The external risk falls within two main categories:

a) risks independent of the project framework, such as drought;
b) risks related to the project context and decision-making process.

The latter is founded on the assumption that:

- GGWSSI continues to enjoy government support,
- the country pursue common efforts in the spirit of the AU GGWSSI Agreement,
- the financing commitments are met by stakeholders, and
- the political, legal and institutional regimes remain stable.

The internal risk assumptions include:

- collaboration among the partners is maintained and strengthened,
- adherence of all stakeholders to the principles of sustainable development is maintained,
- new knowledge can be effectively used,
- human resources are available for training,
- existing institutions can be strengthened and adapted,
- real transfer of responsibilities and decision-making power takes place within the community-based organizations,
- good practices exist; they can be developed and disseminated,
- participation and benefits are found acceptable by stakeholders, ;
- capacity building is successful and sustainable,
- local communities remain willing to participate,
- conflicts over access to natural resources can be managed on a basis of equity, and
- information and communication systems are effective.

The project itself will reduce some of the external risks by enhancing the resilience of managed ecosystems. For example, adoption of improved and more resilient land management practices will reduce the risk of total crop failure in drought time. Improved land use planning will reduce the incidence as well as impact of floods. Conflict resolution will reduce insecurity. The project will contribute to the development of an enabling policy environment through capacity building and training of institutions and key stakeholders, and will thereby mitigate the internal risks.

The sustainability of the project depends mainly on (1) an ability to control the risks, (2) institutional stability, and (3) the financial mechanism put in place. On the first, risks have been taken into account and minimized through project flexibility and the adoption of a participatory approach. The second has been taken into account in extensive consultations with local, technical and financial partners, as well as administrative and community partners. Institutional sustainability will be strengthened by the capacity built at all levels. With regard to the third, consultations with partners and the financial structure selected should enable an appropriate management procedure. On the part of the communities, the sustainability of the project is related to the results expected. Given that the programmes of GGWSAP will correspond to the interests of the community, their direct involvement and full participation should ensure sustainability.

For successful implementation of the GGWSAP, it is imperative that the financial resources mobilization strategy must not only be integrated in the approach but also diversify in terms of funding sources targeted. Furthermore, given that the GGWSSI is a purely African initiative, the resources for its implementation should primarily be generated by national financing system. Thereafter, an array of political funding mechanisms at international level can complement the national effort.

Currently, the principal financier of desertification control programme in Nigeria is the Federal Government of Nigeria. The intervention takes place through two instruments – National Budget and Ecological Fund. The National Desertification Fund advocated under the UNCCD and NAP is yet to be established and therefore forms a priority action here.

For regular budgetary allocations, funds are released only for projects that have been admitted in the 3-yearly National Rolling Plan. Desertification control programmes were admitted into the National Rolling Plan at its inception in 1975 and the allocations to it are channeled through the Federal Ministry of Environment and associated ministries and agencies. The Ecological Fund is an extra-budgetary source of funding set aside in 1981 for the amelioration of ecological problems.

So far, the States and Local Governments appear not to have any well-defined funding mechanism, as they mostly depend on ecological fund. Similarly, it is vital for States and LGAs to integrate the actions of the GGW into their budgets and plans. In addition, the private sector has not been active in exploring the investment opportunities in dryland resources management.

For the sustainable implementation of this plan, all actors would be properly mobilized to make their contribution. In the case of the Federal Government, emphasis would be on cost effective utilization of the ecological fund, while the state and local governments should establish their own funding mechanism to address the problem of desertification and land degradation. Similarly, the private sector operators would be encouraged to invest in the region. Also, grassroots community members would be mobilized to appreciate the imperative for their contribution to the success and sustainability of the programme.

In the past, external financing sources under the various international environmental Conventions for specific projects – including those originating from bilateral or multilateral partners and regional development banks – represent a significant source of funding for activities related to desertification control in Nigeria. Such ongoing opportunities are expected to provide substantial aid for the implementation of the GGWSAP projects. The external funding mechanisms available can be considered under the following categories:

- Global Mechanism;
- International organizations such as the UNDP, UNEP, IFAD, FAO, WMO etc that could take up specific projects/programmes for assistance, which are identified in the context of the combating desertification under the UNCCD;
- Bilateral assistance;
- Multilateral assistance: World Bank, European Union, African Development Bank, World Bank;

- GEF assistance.

Global Mechanism (GM) is a multi-channel financing mechanism prescribed by UNCCD convention for facilitating and mobilizing financial resources. The GM's main task so far has been to collect and disseminate information on the financial needs of affected developing country Parties for carrying out action programmes and other relevant activities related to the implementation of the UNCCD. The GM is also identifying and drawing up an inventory of relevant bilateral and multilateral cooperation programmes, as well as other channels of funding and eligibility criteria.

The instruments and mechanisms related to climate change, which could lead to the funding of the GGWSSI, include the Adaptation Fund of the UN Framework Convention on Climate Change (UNFCC), the Least Developed Countries Fund (LDCF), the Special Fund for Climate Change managed by the GEF, and the Carbon Funds governed by the regulatory market of the Kyoto Protocol. Another mechanism that has emerged and which would play significant role in the implementation of the GGWSAP is the UNCCD Green Climate Fund (GCF) and the Reducing Emissions caused by Deforestation and Degradation (REDD).

Funding from GEF would be available, in so far as land degradation relates to the GEF Focal areas, namely; Climate Change, Biodiversity, and International Waters (ozone depletion which is the fourth GEF Focal Area is not relevant here in the context of desertification). In the same way, the CAADP pact signed by African countries, set national agricultural investment programmes as the main channels through which donors support to rural development in Africa will transit. In order to benefit from substantial funding, the GGW's action plan should therefore integrate or be derived from these investment plans.

The various funding sources come through the National Planning Commission inform of grants and the Federal Ministry of Finance in case of loans. An integrated approach in terms of funding requires a proper control of the variety of resources available or accessible, as well as their optimal use in a sound, integrated and harmonized manner.

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(Back cover)