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ACHIEVING THE ITTO OBJECTIVE 2000 AND SUSTAINABLE FOREST MANAGEMENT IN NIGERIA

Report of the Diagnostic Mission

Report submitted to the International Tropical Timber Council by the Diagnostic Mission established pursuant to Decision 2(XXIX) 2006

9 October 2007

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Acknowledgments

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Executive Summary

1. The Mission objectives were stipulated in the terms of reference of the ITTO Diagnostic Mission: (1) to identify the factors that are the most limiting in attaining sustainable forest management in Nigeria, (2) to order these constraints by priority, and (3) to recommend actions to remove them.

Background

2. The Federal Republic of Nigeria occupies a total area of 923 768 km2 with vegetation varying from sahelian savannah to tropical rain forest and mangrove. The general relief is that of a plateau culminating in the central northern part of the country (Jos region) and divided into three parts southwest, southeast and north by the Niger River and its main tributary, the Benue. Mountainous ranges, some of them culminating at more than 2 000 meters, border the central and northern sections of the frontier with Cameroon. Nigeria has a tropical climate with warm temperatures throughout the year. The north is generally hotter and drier than the south. Nigeria's natural vegetation is broadly divided into five main zones running across the country. From south to north, these are: lowland rain forest, derived Savannah (becoming larger), Guinea savannah, Sudan savannah and Sahel vegetation. Small areas of mountain forest are located in the center of the country and mangrove forests follow the coastline.

3. Nigeria has one of the highest rates of deforestation in Africa, at close to 3% percent per year. With a population of over 140 million, Nigeria is the most highly populated country in Africa (around 150 persons/km^2). Rapid growth in population (above 3%/annum) and expansion in socio-economic development, are imposing considerable pressures on the natural resources base and the environment. There is a need to satisfy rapidly growing demands for agriculture, housing, and infrastructure development. This has led to environmental degradation manifested as deforestation, and loss of wildlife habitat, desertification, erosion, floods and general loss of the productive land base of the country.

4. The country's political and economic history has been powerfully impacted by the size of the national territory, by the diversity of the population, and, in recent times, by the pervasive influence of oil wealth. Since the country achieved independence in 1960, social and political instability have affected the national economy, with inconsistent and frequently changing policies of successive military governments having resulted in an inconsistent and ultimately disappointing pattern of GDP growth. A new democratic trend should help diminish volatility in the economy and the Dutch disease syndrome.

5. Poverty in Nigeria is concentrated in rural areas, which are home to more than 70 percent of the nation poor. For the foreseeable future, the welfare of rural populations in Nigeria will be tied to agriculture, including forestry. Agriculture is the backbone of the rural economy, generating about 30 percent of gross domestic product (GDP) and providing by far the largest share of rural employment. Yet growth in the agricultural sector has been disappointing. Over the past 20 years, value added per capita in agriculture has risen by less than 1 percent per year. Food production gains have not kept pace with population growth, resulting in rising food imports and declining levels of national food self-sufficiency. The rapid expansion of the oil sector has played a role in eroding the competitiveness of agriculture, because successive governments have chosen the easy path of relying heavily on earnings from oil exports, rather than making the investments needed to diversify the economy by maintaining productivity growth in agriculture and other non-oil sectors, including forestry (WB, 2006).

6. Inappropriate economic policies, including forest policies, have accentuated the negative impacts of poor rural infrastructures. Critical infrastructure services, like water, energy and telecoms come at relatively high costs in rural communities. While scale, density, distance and purchasing power of rural communities tend to increase investment costs, inappropriate government policies as for the forestry sector (ban on log exports and some imports), can also drive the prices for these commodities up in rural areas. Essential expenditures on water and energy often represent a large proportion of the disposal incomes of rural households. Forest products prices (especially sawnwood) are on average twice the international prices.

7. The forest resource base of Nigeria is dwindling. Today, 4.8 million hectares are termed "forest reserve" corresponding to 598 forest reserves. In actuality, only about 20 percent (800,000 ha) of the land area contains any forests (FRS Study, 1998, Landsat Study, 1995). Within these forested

areas, lowland rain forests occupy only about 36 percent with the rest being woodlands/shrubs, freshwater swamp forests and riparian forests. Another 905,930 ha of low rain forest cover the entire southern part of the country outside the reserves, called free areas. The forests in the reserve areas in the southern part of the country are largely productive rainforests for timber extraction. Most of these reserves are found in the southern lowlands of Nigeria. The state forest departments are responsible for the management of these reserves, but receive almost no budget to do so, while the local government authority is largely responsible for the forests in off-reserve/communal areas.

8. Forests were well managed until 1960. They were divided into 25-year periodic blocks, based on a 100 -year felling cycle, and a quarter of the area was given out as concessions. Each periodic block was divided into quinquennial (5-yr) blocks, which formed the coupes, and the exploiting agency was allowed to nominate the block where it wished to operate first. Only trees larger than the prescribed girths, 60 to 90 cm DBH, depending on species, were felled. Forest reserves were sub-divided into numbered mile-square compartments by the Forestry Departments. This situation lasted until 1960 when 974,115 ha were under working plans (Kio et. al.1992). After 1960, the tendency was to favor indigenous entrepreneurs and to use forest reserves as a source of government patronage. The felling cycle went down between 1 to 3 years.

9. Tree plantations are not managed. Between 1970 and 1984, plantations amounted to 82,434 hectares of *Gmelia arborea* and teak plantations. In the mid-eighties, a further 89,000 ha of *Gmelina* were planted to supply the proposed pulp and paper mills that was never built with short fiber pulpwood. An additional 127, 000 ha of plantation, including *Terminalia ivorensis*, *Nauclea diderrichii, Triplochiton scleroxylon, Eucalyptus sp, Pinus caribea* and a few other miscellaneous species, were also planted on a trial basis. In 1998, a Forestry Resources Study survey estimated that 196,008 hectares of plantations remained within the reserves and 704,000 hectares in off-reserve areas. These plantations have not been managed nor regenerated after harvest except for coppicing the Teak in some cases. Many of these plantations have been cut illegally and de-reserved for agriculture, mostly cocoa, hevea, oil palm, and other agriculture cash crops.

10. Nigeria is one of Africa's largest wood producer, with an annual harvest estimated today at more than 100 million cubic metres well above the sustainable yield of some of the ecosystems. The vast majority of production is burned as fuel. The industrial forestry sector is also relatively large and produces sawn-timber, plywood, particleboard and paper almost exclusively for local consumption. The Nigerian industrial forestry sector comprises a large number of sawmills (around 2000) of different sizes, ten plywood mills, two functional paper mills, eight safety match factories and four particleboard mills. The sector is producing between 30 and 40 percent of installed capacity. The rate of recovery in the sawmilling sector is lower than 40 percent, partly because of the use of old and obsolete machines made for conversion of large-diameter logs. Most sawmill owners are unable to replace their machines. The forest fees and tariffs levied on the standing timber or cut logs are very low. This situation in addition to protectionist policy (log export ban) depreciates timber prices and so contributes to inefficiency and waste in the logging and industrial processes but can make them very profitable while totally inefficient.

11. Non-timber forest products (NTFP) are important for the rural communities but fuel wood is also crucial for the urban poor. They belong to the informal economy and could add as much value as the formal sector does, timber and other forest products. In addition to fuel wood (above 80 million m3), other NTFPs include: gum, resin, wine, wax, oil, honey, rattan (cane) fibers, medicinal plants, fruits, vegetables, bush meat etc. As forests are being degraded, competition for these NTFPs became fiercer and market failures, absence of clear property rights, resulted in non-management of these resources. Ecological services provided by the forest are not yet paid for but are numerous and include: the protection of the soil from erosion, floods and desertification, the regulation of stream flow, habitat for wildlife, protection of biodiversity, sequestration of carbon, and the provision of microclimate among others.

12. The role of forestry communities in forest management is presently almost non-existent in Nigeria, except in Cross River State, where a DFID-funded community-based forestry management project has empowered communities to manage forest resources and obtain revenues from them (at the moment this is restricted to timber). In that State, Forest Management Committees from the local communities are involved in the management of plantations and natural forests in both reserve and off-reserve areas. The case of Cross River State shows that communities living in the immediate vicinity of the forest resources have a higher motivation to assure a sustainable management if their

future rights to the resources are legally secured. Likewise, these local communities can assure a cheaper and more effective control and monitoring of a sustainable management system than can be achieved by the State.

13. The Federal Department of Forestry created in 1970 to co-ordinate forestry activities throughout the country has passed from the Ministry of Agriculture to the Ministry of Environment in 1999 and the ministry of the Environment was merged with the Ministry of Housing and Urban Development (FMEHUD) only in 2006. The FDF is mandated to propose policies, to oversee forestry administration nationwide, and to coordinate forestry development; it is not, however, an executing agency which is the responsibility of the States. It thus plays an advisory role to the State Forest Departments (SFDs), which are the bodies dealing with the management, development, protection and conservation of forest resources. Furthermore, FDF supports the execution of federally funded projects and is responsible for relations with international development agencies. The SFDs manage the forest resources at the state level and supervise revenue collection from the forestry sector in the various states. In 19 states, the SDF is the State Ministry of the Environment, and in 17 others it resides with the State Ministry of Agriculture (SMOA). Only Cross- River State has an independent Forestry Commission with a Director General and a Permanent Secretary with the enormous advantage of financial independence and responsibility. In practice, although there is a Forest Management Division at State level, this activity is not practiced. Regeneration is a general activity specified under law, but the departments lack the necessary funds, technical support, infrastructure and logistics to support that activity. Log Control is practically not existent and is done by staff with vocational or no formal grade qualification. With the exception of registration, the departments virtually have no control activities on the forest industry, such as monitoring of wood flow from sawmills, log grading and mill product inspection.

14. A review of the existing forest policy was initiated in 1998 by the National Forest Policy Review Committee, completed and just approved by the National Forestry Development Council (NFDC) which is currently the advisory body that acts as the Steering Committee for implementation of the national forest programme in Nigeria and is also the technical sub-committee of the National Council on Environment (NCE) on forestry matters. A draft Bill for a National Forestry Act was prepared in October 2001 by a National Committee to give legislative backing to forest policy initiatives. It went through limited stakeholders' discussion, but finalization into law is slow. The National Council on Environment had endorsed already both the Draft National Forest Policy and the Draft Forestry Act in December 2003. The new policy envisages empowering communities, to revise the revenue system and the allocation of concession, to consider incentives for the provision of environmental services and more efficient processing of lumber.

15. This review of the context for SFM in Nigeria points to an important observation: many of the real constraints to SFM lie outside of the forestry sector. These external constraints are*:* demography, macroeconomic volatility, competitiveness of the country, enabling environment for investments, governance and a minimum of infrastructure roads but also basic needs. The population growth that in some areas is over 3% makes it difficult to improve the GNP per capita and rural poverty in many regions has increased with the resulting pressure on the natural resources and forest resources in particular. The political will at the Federal and State levels do not seem to exist to reverse the disappearance of the forest cover and the forest reserves in many parts of the country. Because of the low competitiveness of the country, absence of minimal infrastructure including roads, and governance problems, no new investments are made in forestry. The industry uses depreciated and obsolete equipment as the diameters of the logs diminished and the supply of logs become more uncertain.

Constraints to SFM

16. Many issues were identified through different participatory processes such as the TFAP, the elaboration of the new forest policy and presently the new Forest Act in preparation. They were listed in a preparatory document for the diagnostic Mission and enumerated in Annex 5.6. These different issues, some constraints to the proper management of the forest resources, with their consequences, are treated at different places in the report. The mission reviewed the internal constraints listed above following the last ITTO indicators guidelines and then grouped them into only three overall sets of constraints: capacity building, community-based forest management and awareness raising. This was done with a view to reaching the underlying causes of these numerous issues and so the core of the problem of SFM. This also allows proposing logically the main priority for immediate remedial actions.

17. The constraints internal to the sector are numerous and many are important in their own right since many of them, if they are solved one by one, would not allow any development until many of these constraints are removed. However, some constraints if removed will improve most of the important problems enumerated in the report. Again, the external constraints linked to the sector are crucial and will depend on better political will, governance and corresponding macro economic policies. Specifically for the forestry sector, the economic reform is overdue and is an important factor underlying many of the other constraints: To liberalize the markets of wood and forest products. This should to a large extent resolve many of the constraints enumerated in the report by getting the prices right. Again, this is a policy decision but an internal one to the sector. It is recommended that respected Nigerian economists undertake a good study of the issue. This analysis would explain to policy makers the opportunity costs of such a policy in terms of trade but also environmental impacts and in the long run with no employment benefits. The political economy aspect of this issue is making this reform difficult.

19. Capacity building has been mentioned continuously during the mission as one of the main constraints impinging on the sector. All the stakeholders mentioned capacity building as a main constraint to change anything. The forestry knowledge in academic circles did not evolve much from the glorious years of the Ibadan graduates who often continued their graduate studies in the best universities around the world. The current crop of foresters are not of the same caliber due to the neglect of academic institutions in Nigeria. The didactic materials used for forestry classes today are old material from former days. The new technological innovations have not yet taken roots in modern forestry training in Nigeria to the extent it should have. The applied research is almost nonexistent today for a lack of funds and a clear strategy of research and extension has not been conceived yet. The extension activities with relevant training material for adult education are almost nonexistent. The Forestry Research Institute of Nigeria (FRIN) has been hindered by lack of funds and continuity in the research objectives. It results from this situation that from the top to the field foresters and the laborers in the forest products industry, the sector lacks effectiveness and efficiency in what is undertaken. From this limitation, results many problems in the field from the calculation of the proper standing volume of trees to the lack of proper management plans, the planning of logging activities and roads, the proper pricing of the resources, adequate economic sector studies to invite policy reforms, inconsistent data set which are not adjusted and other technical constraints listed earlier.

20. The second group of technical constraints is related to the total lack of participation of communities in forest resources management. The centrality of the communities in the management of forest reserves and communal forests and in the conservation of the forest cover for environmental services has now been recognized in the new forest policy. Another issue is the lack of clarity of land tenure policy and the difference between the official legal situations giving ownership of the land to the Government while in practice much of the land in Nigeria is *de facto* owned by communities and individuals. Given the lack of public means to manage and conserve forest resources, this lack of communities' involvement is an important cause of the unsustainable management of the forests and the de-reservation occurring everywhere in the country while in fact these communities could be the solution to the problem. By empowering communities and hiring their labors for forest management many of the constraints listed in the report could be partly resolve, even though CBFM is not a panacea: proper monitoring of the resources, diminution of illegal felling, absence of management plans or inapplicability of these plans when they exist, proper pricing of the resources, more value added to the forest products industries and NTFP, creation of environmental services, among others.

21 Last but not least, is the lack of public awareness of the forestry issues and their importance for the sustainable management of the country's economy. This is responsible for many of the constraints to the sustainable management of the forest resources identified. All from the policy makers to the community leaders should better understand the economic impact of the unsustainable path of the forest sector causing the deficit of the balance of payment for the sector, the huge negative impacts on agriculture productivity, and environmental services. The absence of political will was mentioned again by most of the stakeholders met by the mission during their field visits. This group of constraints under 'lack of public awareness', is clearly related to the lack of political will, budget allocations to State Forest Services, lack of governance in concession allocations and the type of concessions given, illegal felling, governance problems at every level along the value added chain, and involvement of communities among others.

Recommendations and Actions

22. International Development Organizations have been involved for a long term in forestry activities in Nigeria. All have a role to play but what is important is that the Federal Government ensures its task of coordinating all the donors' goodwill. The preferred approach to do so is the budget support approach by which funds are channeled through the regular country budget procedure in order to improve the modalities of government businesses. This is to avoid creating parallel structure each time a project is proposed by donors, project that disappears when funding ends without any institutional strengthening and continuity of the activities or programs undertaken. A sector budget support would go a long way in strengthening the institutions related to forestry. Governance is presently the major constraint to such an approach.

23. ITTO role is clearly to ensure the sustainable trade of forest products from Nigeria. Nigeria is tending to become a net importer of forest products after having been a major source of tropical timber trade. The numerous reasons for this state of affair described in this diagnostic cannot be tackled all at the same time. The recommendations for ITTO along the group of constraints identified by the mission above are: (1) to contribute to capacity building by focusing on improving the knowledge basis of the Universities, communities and the public at large, (2) to help involve communities in all phases of forest managements and on different land ownerships; and (3) to raise awareness of the forestry issues for the country's development. These recommendations could be the object of three self-contained set of actions, or projects, yet to be developed in details but for which a summary table has been prepared in Appendix 6 and a brief description follows.

24 In a first project, a series of activities would aim to improve the technical content and didactic materials for basic forestry courses leading to (1) the proper management plans and their administration and monitoring with an example from the management of one forest reserve in few States in different ecological area of the country and (2) the proper economic analysis of the forestry sector and an improvement of the statistical data for the sector. This should ease some of the constraints mentioned: (1) lack of capacity building in the forestry sector; (2) lack of reliable data and proper economic analysis leading to inadequate forestry policies; and (3) lack of guidelines on the preparation, implementation, monitoring of sustainable forest management plans, among others.

25. In a second project, another group of actions would be to establish the technical guidelines for Communities involvement in the management of forest resources from the land use plan of their land to the management plans of the communal forest with one pilot project in different ecological areas. These activities would attempt to reverse the present absence of participation of communities in the management and protection of the national and communal forests. It will help alleviate the constraints of (1) no budget for SDF, (2) unsustainable utilization of forest resources; and (3) the absence of control and protection of forest areas in and out of the forest reserves, among others.

26. Finally, in a third project, another group of activities would focus on raising awareness on SFM issues with a view to change the lack of interest in forestry issues in the country. These activities would create awareness of forestry issues by having academics and consultants preparing relevant and telling extension material, by beefing up forestry related associations including the Forestry Association of Nigeria, by organizing workshops for the federal and state legislators and through other relevant means and by enhanced networking and lobbying for SFM. This would address a number of constraints such as (1) the lack of funding to manage forest; (2) the uncontrolled access to forest reserves; (3) the de- reserving of forest reserves; and (4) the lack of support for policy reform and implementation.

ACRONYMS AND ABBREVIATIONS

AAC	Annual Allowable Cut
ADB	African Development Bank
ADPs	Agricultural Development Projects
ARCN	Agricultural Research Council of Nigeria
AT&P	Africa Timber and Plywood
CAD	Centre for Agricultural Development
CBD	Convention on Biological Diversity
CBFN	Community-based Forest Management
CITES	Convention on Trade on Endangered Species of Fauna and Flora
CGIAR	Consultative Group on International Agriculture
DAS	Department of Agricultural Science
DBH	Diameter at Breast Height
EU	European Union
ERS	Eastern Research Station
FACU	Federal Agricultural Co-ordinating Unit
FAO	Food and Agriculture Organization
FDF	Federal Department of Forestry
FM	Forest Management
FMANR	Federal Ministry of Agriculture and Natural Resources
FMEH&UD	Federal Ministry of Environment, Housing and Urban Development
FMST	Federal Ministry of Science and Technology
FORMECU	Forest Monitoring Evaluation and Co-ordinating Unit
FRIN	Forestry Research Institute of Nigeria
FTF	Forestry Trust Fund
HF	High Forest
IARC	International Agricultural Research Center
ICRISAT	International Crops Research Institute for Semi-Arid Tropics
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
MFRS	Moist Forest Research Station
MRS	Mangrove Research Station
NA	Native Authority
NACAR	National Advisory Committee of Agricultural Research
NASRDA	National Space Research and Development Agency
NARIs	National Agricultural Research Institutes
NEEDS	National Empowerment and Economic Development Strategy
NFAP	National Forestry Action Programme
NFDC	National Forestry Development Committee
NGO	Non- Governmental Organization
NSTDA	National Science and Technology Development Agency
NTFP	Non Timber Forest Products
NUC	National Universities Commission
OTV	Out-Turn-Volume
SDFs	State Departments of Forestry
SEEDS	State Empowerment and Economic Development Strategy
SFM	Sustainable Forest Management
SFRS	Savanna Forest Research Station
SNR	Strict Nature Reserve
SRS	Shelterbelt Research Station
SYM	Sustained Yield Management
TSS	Tropical Shelter wood System

Introduction

1. The terms of reference of the mission (Annex 1) to prepare the forestry sector diagnostic study in Nigeria were to: (1) identify the most critical factors preventing forests sustainable management including the enabling conditions for the forestry sector; (2) prioritize these constraints; and (3) recommend a sequence of actions to remove them.

2. Having in mind the revised ITTO criteria and indicators for the sustainable management of tropical forests, the methodology followed was to: (1) read background materials including a pre-report prepared by the national consultants; (2) meet relevant government officials responsible for forests, land use and trade; (3) meet forest managers and representatives of the timber trade; (4) meet with principal relevant NGOs; (5) Examine the National Forestry Action Plan (NFAP); and (6) visit a selected number of forest areas and industries illustrating constraints and opportunities for actions. The program and persons met are found in Annex 2 and 3.

3. The report is divided into three parts according to the three objectives of the TOR given above and with this introduction and a brief conclusion.

Background

1. Biophysical Environment

1.1 Nigeria has one of the highest rates of deforestation in Africa, at close to 3% percent per year. The Federal Republic of Nigeria occupies a total area of 923 768 $km^{2.}$ The general relief is that of a plateau culminating in the central northern part of the country (Jos region) and divided into three parts south-west, south-east and north by the Niger River and its main tributary, the Benue. Mountainous ranges, some of which culminating at more than 2 000 meters, border the central and northern sections of the frontier with Cameroon. Nigeria has a tropical climate with warm temperatures throughout the year. The north is generally hotter and drier than the south. The average annual temperature in the north is about 29° C, but daily temperatures may rise above 38° C. Parts of the north receive only about 650 mm. The region is prone to desertification. The average annual temperature in the south is about 27 °C. Precipitation is greatest in the south. The coastal areas average about 3 800 mm per year. The rainy season lasts from April to October in most parts of Nigeria, though it can last for a longer period of time in the south. Nigeria's natural vegetation is broadly divided into four main zones running across the country. From south to north, these are: lowland rain forest, Guinea savannah, Sudan savannah and Sahel. Small areas of mountain forest are located in the center of the country and mangrove forests follow the coastline (Annex 5.2).

1.2 Nigeria with a population of over 140 million is the most highly populated country in Africa (around 150 persons/km^2). Rapid growth in population (above 3%/annum) and the rapid expansion of the economy following the oil bonanza, are imposing considerable pressures on the natural resources base and the environment. There is the need to satisfy rapidly growing demands for agriculture, housing, and infrastructure development. This has led to environmental degradation manifested as deforestation, and loss of wildlife habitat, desertification, erosion, floods and general loss of the productive land base of the country

2. Political and Economic Context

2.1 Nigeria's political and economic history reflects the size of the national territory, the diversity of its population, and, in recent times, the pervasive influence of oil wealth. Since the country achieved independence in 1960, social and political instability have affected the national economy, with inconsistent and frequently changing policies of successive military governments resulting in an inconsistent and ultimately disappointing pattern of GDP growth. A new democratic trend should help diminish volatility in the economy and the Dutch disease syndrome[1] that accompany resources rich countries. Following several decades of disappointing performance, prospects for the Nigerian economy have improved in recent years. The weak governance and policy inconsistency that are the legacy of Nigeria's turbulent past show strong potential for reversal under the current regime. The poverty alleviation strategy, NEEDS, explicitly places the goals of wealth creation, employment generation, poverty reduction and value reorientation in a stable macroeconomic framework at the heart of the government's vision for Nigeria. As the three pillars for this vision—empowering people, promoting private enterprise, and changing the way the government does its work—take concrete shape, continuing improvement in Nigeria's economy is foreseen. However, Nigeria faces serious poverty challenges. Two out of every three Nigerians live below the poverty line of $1 per day in income.

[1] Named after events that occurred in the Netherlands during the 1970s following the discovery of natural gas under the North Sea, Dutch disease is an economic phenomenon that can be triggered by sudden large inflows of foreign currency. Dutch disease is often associated with exports of a natural resource (typically oil or natural gas), but strictly speaking the foreign currency inflows can come from any source, including remittances, foreign aid, or even taxes. In a country afflicted by Dutch disease, the inflows of foreign currency cause the value of the country's currency to rise, making domestically produced manufactured goods and agricultural commodities less competitive compared to imported goods and commodities. Imports consequently increase, and non-resource exports decrease, resulting in reduced domestic economic activity. Dutch disease weakens the economy when the sectors that are crowded out are vital to the country, as for the forestry sector.

3. Rural Development

3.1. Poverty in Nigeria is concentrated in rural areas, which are home to more than 70 percent of the nation poor[2]. Development indicators for rural areas lag behind those for urban areas: incomes are lower, infant mortality rates are higher, life expectancy is shorter, illiteracy is more widespread, malnutrition is more prevalent, and greater proportions of people lack access to clean water and improved sanitation services. Poor people experience insecurity and vulnerability (drought, desertification, flooding, deforestation, diseases, volatile commodity markets etc.). They are not empowered to influence public policies according to their priorities and they lack opportunities for income generation and benefits from markets. Access to education, safe water supply, sanitation, health, modern energy, telecommunications and roads are important in reducing vulnerability and increasing prosperity.

3.2 For the foreseeable future, the welfare of rural populations in Nigeria will be tied to agriculture including forestry. Agriculture is the backbone of the rural economy, generating about 30 percent of gross domestic product (GDP) and providing by far the largest share of rural employment. Yet growth in the agricultural sector has been disappointing. Over the past 20 years, value added per capita in agriculture has risen by less than one percent per year (WB, 2006). Food production gains have not kept pace with population growth, resulting in rising food imports and declining levels of national food self-sufficiency. The rapid expansion of the oil sector has played a role in eroding the competitiveness of agriculture, because successive governments have chosen the easy path of relying heavily on earnings from oil exports, rather than making the investments needed to diversify the economy by maintaining productivity growth in agriculture and other non-oil sectors including forestry. In the past, agricultural commodities were the main source of export earnings. Following the rise of the oil economy that is no longer the case. Oil now accounts for over 95 percent of export earnings, about 3/4 of government revenues, and about one third percent of GDP (World Bank 2006). The low share of export earnings coming from non-oil exports, including agriculture, reflects the heavy reliance of the Nigerian economy on a single non-renewable resource and explains the strong emphasis in the NEEDS for diversification in agriculture and forestry, potentially renewable resources.

3.3 Basic infrastructure services, like water, energy and telecoms come at relatively high costs in rural communities. While scale, density, distance and purchasing power of rural communities tend to increase investment costs, inappropriate government policies, as for the forestry sector, can also drive the prices for these commodities up in rural areas. Essential expenditures on water and energy often represent a large proportion of the disposal incomes of rural households. While some of these costs are monetized, others are informal and come in form of time and drudgery spent by mostly women and children in collecting water and gathering wood. In a survey conducted by UNICEF in Nigeria, water supply and energy services topped the list of the most pressing needs of rural households. Both needs are fulfilled directly and indirectly by the forestry sector.

4. Forestry Sector

4.1 The forest resource base is dwindling. Today, 4.8 million hectares are termed “forest reserve” corresponding to 598 forest reserves. In actuality, only about 20 percent (800,000 ha) of the land area contains any forests (FRS Study, 1998, Landsat Study, 1995). Within these forested areas, lowland rain forests occupy only about 36 percent with the rest being woodlands/shrubs, freshwater swamp forests and riparian forests. Another 905,930 ha of low rain forest covers the entire country outside the reserves called free areas[3]. The forests in the “Reserve” areas are largely productive rainforests for timber extraction. Most of these reserves are found in the southern lowlands of Nigeria. The States’

[2] From 28.3 % in 1980, poverty among the rural population grew to 51.4 % in 1985, has since risen to 69.8 % in 1991. Poverty tends to affect men and women differently. Women are generally less educated, more vulnerable, deprived and powerless than their male counterparts. (WB, 2006)

[3] During the establishment of reserved forests forest areas with heavy settlements or with production potential were left out for other uses. These areas were called “free area” and mainly controlled by local authorities according to customary laws. Some are currently claimed by private persons, some with communities and others by the local governments. Trees are removed from free areas with the consent of the owner of the land subject to forest department control rules.

forest departments are responsible for the management of these reserves while the local government authority is largely responsible for the forests in off-reserve/communal areas. The forest cover diminished from around 10 million hectares in 1960 to 4 million in 1978 and 3.1 million in 1995. Nigeria's forests are largely degraded, particularly in off-reserve areas. A study of land use change in Nigeria between 1978 and 1995 showed that for most states, forests are disappearing at the alarming rate of more than 3 percent per annum (Land Use Study, 1996).

4.2 The chronology of forest management in Nigeria is one of increasing un-regulation. In 1944, the major forest reserves in the southwest and south centre were divided into 25-year periodic blocks, based on a 100 -year felling cycle, and a quarter of the area was given out as concessions. Each periodic block was divided into 5-year blocks, which formed the coupes, and the exploiting agency was allowed to select the block where it wished to operate first. Only trees larger than the prescribed girths of 60 to 90 cm DBH, depending on species, were felled. Forest reserves were sub-divided into numbered mile-square compartments by the Forestry Departments. This situation lasted until 1960 when 974,115 ha were under working plans (Kio et. al.1992). Trees on lands outside the forest reserve were felled by purchasing a permit for each tree from the Local Authority. This encouraged the development of local sawmilling enterprises, as well as pit sawing operations. After 1960, the tendency was to favor indigenous entrepreneurs but unfortunately also to use forest reserves as a source of government patronage. Concessions were given to political supporters, who might not have always the facilities to exploit them. Concessions were for shorter periods, and working plans were allowed to lapse, or were ignored, and new plans were not prepared. In 1962, to make larger areas available for exploitation, the felling cycle for natural forest was reduced to 50 years. In 1970, the original concessions began to expire and, as subsequent blocks had already been given to new concessionaires, some agencies had to re-exploit compartments that had been previously worked 25 years ago. By the 1980s, forest exploitation had become virtually unregulated, and timber was being removed from the reserves on a massive scale, both legally and illegally (Umeh, 1991). In some states, stump conversion was allowed within reserves. This approach was more wasteful than the traditional pit sawing as the logs were converted into planks at stump site using chain saws, and transported to the market. By this method, the pit sawyers and stump converters tended to select the most valuable specie (creaming).

4.3 Tree plantations between 1970 and 1984 amounted to 82,434 hectares of *Gmelia arborea* and teak plantations. In the mid-eighties, a further 89,000 ha of *Gmelina* were planted to supply the planned pulp and paper mills that was never built with short fiber pulpwood. An additional 127, 000 ha of plantation, including *Terminalia ivorensis*, *Nauclea diderrichii, Triplochiton scleroxylon, Eucalyptus sp, Pinus caribea* and a few other miscellaneous species, were also planted on a trial basis. In 1998, a Forestry Resources Study[4] survey estimated that 196,008 hectares of plantations5 remained within the reserves and 704,000 hectares in off-reserve areas. These plantations have not been managed nor regenerated after harvest except for coppicing the Teak in some cases. Many of these plantations have been cut illegally and de-reserved for agriculture (cocoa, hevea, oil palm, and other agriculture cash crops).

4.4 Nigeria is Africa's largest wood producer, with an annual harvest estimated today at more than 100 million cubic metres[6] well above the sustainable yield of the ecosystems. The vast majority of production is burned as fuel. The industrial forestry sector is also relatively large and produces sawn-timber, plywood, particleboard and paper almost exclusively for local consumption. The Nigerian industrial forestry sector comprises a large number of sawmills (around 2000) of different sizes, ten plywood mills, two functional paper mills, eight safety match factories and four particleboard mills. The sector is producing between 30 and 40 percent of installed capacity. The rate of recovery in the sawmilling sector is lower than 40 percent, partly because of the use of old and obsolete machines made for conversion of large-diameter logs. Most sawmill owners are unable to replace their machines and sometimes even spare parts.

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[4] The Forestry Resources Study was a 3.9 million dollar study, funded by AfDB, beginning in 1995 and completed in 1999. This was an overall forestry review for Nigeria. The focus of the study was a large scale indicative inventory of the forest resource base in 25 states and accompanying management plans for protection in four priority states.

[5] These figures are only for the 23 states that were studied in the Forest Resources Study.

[6] The quality of forest statistics in Nigeria is poor: see Technical Annex 5.4 and 5.5.

4.5 Wood harvesting in Nigeria from all concessionaires and timber dealers is around 4million m^3/yr and stumpage is too low. Logging operations and processing are largely designed and operated by the private sector. The concessionaire or timber operator harvests the wood and supplies the processing industry. Sawlogs constitutes the main product of logging in Nigeria, after fuelwood or poles which comes from a variety of sources including off-reserve woodland areas and mangrove areas. There are generally 3 types of logging operations in Nigeria: (i) small-scale operations that utilize chainsaws (more than half of the log volume taken from forests is through this scale of operation). Fees for this type of logging are usually assessed on a stumpage basis; (ii) medium-sized operations that are usually an integral part of a medium to large industrial organization. This type of logging is usually organized by the concessionaires and their annual production, amounts to approximately 10,000 to 20,000 m^3; (iii) larger operations, also done by concessionaires, used to be a part of a large-scale industrial operation. These operations extract about 60,000 m^3 per year. Logging in plantations starts to take place as Gmelina is becoming used as new raw material by both sawmills and plywood mills. Around 80 percent of all sawlogs come from the forested areas. The forest fees and tariffs levied on the standing timber or cut logs are very low. This situation in addition to protectionist policy (log export ban) depreciates timber prices and so contributes to inefficiency and waste in the logging and industrial processes but can make them very profitable.

4.6 The private sector is pivotal in the supply-demand chain of the wood products industries which are highly inefficient. Concessionaires represent a large proportion of the private sector. The private sector also comprises the wood-based industry. In Nigeria, wood industry is largely dominated by the sawmill industries, which represent 98 percent of the wood-based industry. Most of the mills have a single breakdown saw, although there are few having more than one[7]. There are eight plywood mills and three pulp and paper mills but the latter are not functioning. Gmelina plantations were established to supply pulpwood to two of the Pulp and Paper mills (these were constructed as state economic enterprises in the mid-1970s). The Iwopin mill in Ogun state was never commissioned and the Oku–Ibokun mill, after working for a short period, closed. The Gmelina plantations, without the mills, continued to grow beyond their intended rotation period without any management. Recently (2003-2004), the states decided to use them for timber production

4.7 Non-timber forest products (NTFP) are important for the rural communities and for the urban poor (fuel wood) but are part of the informal economy. In 1998, the World Resources Institute estimated fuel wood consumption at 85 million m^3 per year and was forecasted to increase to approximately 111 million m^3 per year by 2010 but FORMECU (1996) forecasted only 63,099 m^3/yr in 2010. Fuel wood consumption estimates vary widely. It is mostly derived from reserve areas where there are few off-reserve trees, such as in the central and northern states where approximately 40 percent and 70 percent of fuel wood comes from reserves, respectively. In the southern states, however, where there are more off-reserve trees, only 10 percent of fuel wood comes from reserves. In addition to fuel wood, other NTFPs include: gum, resin, wine, wax, oil, honey, rattan (cane) fibers, medicinal plants, fruits, vegetables, bush meat etc. As forests are being degraded, competition for these NTFPs became fiercer and market failures, absence of clear property rights, resulted in non-management of these resources (FAO, 2001). Ecological services provided by the forest include also the protection of the soil from erosion, floods and desertification, the regulation of stream flow, habitat for wildlife, protection of biodiversity, sequestration of carbon, and the provision of microclimate among others. These ecological services were never evaluated and rarely considered in policy decisions.

4.8 The role of forest communities in forest management is presently almost non-existent in Nigeria [8], except in Cross River State, where a DFID-funded community-based forestry management

[7] The five lowland rainforest (LRF) states (Ogun, Oyo, Ondo, Ekiti, Edo) visited by the ITTO mission have about 800 sawmills. This corresponds to close to half the number of all sawmills in the country. Most of these mills are small-scale and very inefficient. Sawmills are all located in close proximity to markets rather than resources because of a lack of dedicated raw material supply.

[8] Firewood issues bringing desertification concern communities in the north of the country. Although reliable data are unavailable (e.g., forest cover in free areas in the non-high forest states), the Forest Resource Study estimates substantial deficits in the sustainable supply and demand balance of firewood in the North of the country that impact negatively communities there. Some woodlot communities have been sponsored by external funds but were never sustainable.

project. That project has empowered communities to manage forest resources and to obtain revenues from them (at the moment this is restricted to timber). In that State, Forest Management Committees from the local communities are involved in the management of plantations and natural forests in both reserve and off-reserve areas. The case of Cross River State shows that communities living in the immediate vicinity of the forest resources are motivated to assure a sustainable forest management if their future rights to the resources are legally secured. Likewise, these local communities can ensure a cheaper and more effective control and monitoring of a sustainable management system than what can be achieved by the State. In order to undertake management responsibilities in the best possible manner, Forest Management Committees are trained not only in forest management but also in accounting and project design. The Nigerian FDF has made the engagement of communities in forestry one of their top new priorities in reforming the sector.

5 Legislation and Chronology of National forest Plans

5.1 In 1901, the first forest ordinance came into effect to regulate the sale of timber concessions, to impose forestry fees and minimum exploitation girths (usually up to 120cm dbh for mahoganies) and to mandate concessionaires to plant 20 tree seedlings at each stump site. This practice was, however, found ineffective and later abandoned. Revenue was also generated from taxes accruing from exported logs. It is on record that the Forestry Ordinance of 1916 was fashioned out of that of Burma. At the formative stage, the Forestry Department was assigned two main tasks, i.e. regulating forest exploitation and establishing forest reserves. The Department determined the size of concessions, minimum exploitable girths and charge appropriate fees and royalties. The rule then was to remove only mature trees of 100cm girth and above. *Gmelina arborea,* which has now become the most popular plantation species in the country, was introduced from Sri Lanka in 1932. After independence in 1960, emphasis was shifted to forest exploitation for industrial development and increased foreign exchange earnings. This requirement accentuated the unregulated exploitation of the forest resources.

5.2 In the context of national forest programmes (NFP) as defined by the Inter-Governmental Panel on Forests, various attempts have been made by successive administrations to ensure the efficient management of forest resources in Nigeria. These include the setting up of the Forest Service, the creation of a Federal Department of Forestry in 1970, the enactment/promulgation of various laws, edicts and decrees by various governments and the undertaking of different programs such as the Tropical Forestry Action Program (TFAP 1991-97). The stages of the TFAP were expected to lead logically from problems and opportunity identification to formulation of policies, strategies, plans and programmes, which would produce a NFP. A review of the existing forest policy was initiated in 1998 by the National Forest Policy Review Committee, completed in 2002 with the help of the NFP-Facility of FAO and put into the administrative machinery for endorsement in 2003. The revised policy has been approved by the National Forestry Development Council (NFDC) which is currently the advisory body that acts as the Steering Committee for implementation of the national forest programme in Nigeria and is also the technical sub-committee of the National Council on Environment (NCE) on forestry matters. A draft Bill for a National Forestry Act was prepared in October 2001 by a National Committee to give legislative backing to forest policy initiatives. It went through limited stakeholders' discussion, but finalization into law was slowed down because its development was ahead of the forest policy review process which was only very recently approved. The National Council on Environment had endorsed already both the Draft National Forest Policy and the Draft Forestry Act in December 2003.

6. Institutions

6.1 The mandate for forestry in Nigeria has moved in recent years from the Federal Ministry of Agriculture to the Federal Ministry of Environment. In Nigeria, responsibility for the forestry sector is shared between the following three levels of government: the Federal Government, State Governments and Local Government Areas (LGAs). Up to the year 2000, the Federal Department of Forestry (FDF) was under the Federal Ministry of Agriculture and Rural Development (FMARD). The Federal Environmental Protection Agency (FEPA), which was expanded in 1992 to integrate environmental concerns into development, was eliminated in the last quarter of 1999 and fused into a

new Ministry of Environment. The Natural Resources Conservation Council (NARESCON), the apex conservation body which was merged with FEPA in 1993, became a department in that new Federal Ministry of Environment (FME). The FDF was transferred to this new Ministry as a Presidential directive. The Department of Conservation and wildlife management was later merged with the Department of Forestry. Under the present arrangement, the FME operates through several Departments whose activities are coordinated by the National Council on Environment (NCE) which is the highest environmental policy formulating organ in the country and is chaired by the Minister of Environment. The National Forestry Development Committee (NFDC) is the highest advising organ and is responsible for policy initiation and co-ordination in the forestry sector. The membership comprises the Federal Director of Forestry who is the Chairman, the State Directors of Forestry and Heads of Research Organisations in both Governments and Universities with Forestry Departments. The National Environmental Action Plan (NEAP) and the Forestry Action Plan are currently being implemented interdepartmentally in the Ministry of Environment.

6.2 The Federal Department of Forestry was created in 1970 to co-ordinate forestry activities throughout the country. The FDF is mandated to propose policies, to oversee forestry administration nationwide, and to coordinate forestry development; it is not, however, an executing agency which is the responsibility of the States. It thus plays an advisory role to the State Forest Departments (SFDs), which are the bodies dealing with the management, development, protection and conservation of forest resources. Furthermore, FDF supports the execution of federally funded projects and is responsible for relations with international development agencies. The Department is structured in three professional Divisions: Forest Management, Forest Resource Survey and Utilization, Agro-forestry, Support Services and Extension [9] . The Department has 3 tiers of administration: (1) headquarters; (2) 6 Zonal Offices and 36 State-based Field Offices.

6.3 The State Forest Departments (SFDs) manage the forest resources at the state level and supervise revenue collection from the forestry sector in the various states. In 19 states, the SDF is the State Ministry of the Environment, and in 17 others it resides with the State Ministry of Agriculture (SMOA). Only Cross- River State is an independent Forestry Commission with a Director General and a Permanent Secretary with the enormous advantage of financial independence and responsibility. Typically, the state forestry departments have three divisions, Forest Management, Silviculture and Utilization. In some departments, Utilization is split into Log Control and Forest Industry units. In practice, although there is a Forest Management Division, this activity is not practiced. Regeneration is a general activity specified under law, but the departments, both lack the necessary funds, technical support, infrastructure and logistics to support the activity. Log Control units are more preoccupied with the control of logs than with regulating volume flows and girth limits. Moreover, these roles are assigned to staff with vocational or no formal grade qualification. With the exception of registration, the departments virtually have no practiced regulatory relationship with the forest industry, such as monitoring of wood flow from sawmills, log grading and mill product inspection. A director of the State forest service reports through the Permanent Secretary to the State Commissioner of Agriculture and Natural Resources or Commissioner of Environment. The Commissioner reports to the Governor and is a member of the State Executive Council. The state forestry service is administered at three levels of operation: headquarters, zones and charges. The main functions at each level are as follows: Headquarters staff is responsible for formulation of policies and administration. A Chief Forest Officer heads the zonal office, sited within a Local Government Area (LGA). Officers at this level are responsible for the implementation of state forestry policies and supervision of the charges. Most of the officers at this level are professional staff. Either a Senior Forest Officer or a Forest Officer heads branch offices or charges within LGAs. Each charge implements the forestry policies and programs. The role of the Local Government Area (LGA) in the forestry sector differs across the country. In the south (where forest resources are abundant), the LGAs have virtually no responsibility for managing forest resources, while the contrary is the case in the north (where forest resources are scarce). Effective implementation of the NFP requires improved

[9] FDF had a specialised unit, Forestry Management, Evaluating and Coordinating Unit (FORMECU) which was created in response to a need for implementation of the World Bank Assisted Forestry Project in Nigeria. That Project Implementation Unit, as many such units, disappeared at project end and built very little capacity in FDF.

and increased dialogue between each of these levels of government as well as with other stakeholders.

6.4 A notable exception on how the State Forest services are organized is in Cross-River state visited by the ITTO mission. Cross River State is the only state that has established a Forestry Commission (FC) instead of a Department within the Ministries of Agriculture or Environment. The FC is headed by a board comprising representatives from different stakeholders and has a clear strategy for the sector. The most important difference between this Commission and the Forestry Departments is its (semi-) financial autonomy. Due to a revision of state laws (through DFID's project in Cross River State), the FC is able to directly access part of the forest revenues to manage its programs including these with the communities. This structure has been particularly important in helping the state gain access to internal and external funds and to more effectively manage its operations.

6.5 The state allocation of timber resources has, since the 1970s, systematically moved away from long-term tenures to short-term (1-3 year) concession period. Since that period, there has been an exodus of large and sometimes foreign-owned concessionaires and now concessions are largely in the hands of small concessionaires. In the off-reserve areas, communities have rights of "ownership"[10] to trees and negotiate freely with timber operators for the sale of trees. Forest planning is minimal today. Timber resources are generally allocated by discretion. In some states (e.g., Ondo and Edo), a committee screens applicants and forwards a list of registered concessionaires who meet statutory requirements to the Commissioner for his final decision. In Ogun State, the allocation is administered directly by the Commissioner. These allocations are not based on sound technical considerations but rather on political patronage

7. Civil Society

7.1 The Forestry Association of Nigeria (FAN) is an NGO and non-profit organization which brings together all foresters from the public and private sectors engaged in forestry related activities in the country. The Association has a National Executive and State Chapters and organizes symposia, workshop and annual conferences where scientific papers are presented for discussion in all aspects of forestry and other natural resources connected with it. The Association publishes the Nigeria Journal of Forestry and annual conference proceedings. The Association through its local and State Chapters engages in activities, such as awareness campaign, aimed at informing people about their environment. It initiated the National Annual Tree Planting Campaign in 1981. The Association lobby state and federal governments and legislatures. In the last decade they have not been active for lack of fund.

7.2 The Nigerian Conservation Foundation (NCF) is one of the leading NGOs in Nigeria working to save the country's flora and fauna from extinction, protect the environment from pollution, degradation and improve the quality of life. NCF was incorporated on February 12, 1982, and became formally affiliated with the World Wildlife Fund for Nature in 1989. NCF has been supporting environmental education program in several universities. They initiate numerous national awareness campaigns. They help with the transformation of the Okomu Forest Reserve endowed with rich flora and fauna (White Throated Monkey, *Cercopithecus erythrogasta,* is endemic of that forest) in a sanctuary then a Park[11] that was visited by the mission.

7.3 The sawmill syndicate is one of the biggest union in Nigeria (more than 300,000) workers but is not particularly active in educating and ensuring a safe working environment for its workers as observed by the mission during its visits to sawmills.

[10] Legally, the state owns all land in Nigeria. Trees tenure rights in communal are ascribed to the owner of the tree – i.e., the person who planted the tree or the person who uses the land on which the tree lies.

[11] There are 7 Parks in Nigerai and Okomu is the smallest one with above 1000 square miles area. They are involved in the RAMSAR site of Hadejia-Nguru Wetland Conservation Forest in Yobe State in the North.

8. Forest revenues

8.1 In Nigeria, relevant actors in the revenue system include the state governments, who set the annual revenue targets, the SDF' s who must deliver, and the forest industry, that responds to the signals provided by the "tax regime". The latter consists of an active participation of about 1800 individuals and enterprises. The SDF staff designated to collect forest revenues and issue certificates and receipts, are usually of vocational grade. The federal authority presently exercises no mandate in the determination of state forest revenues. The source of forest revenues for each SDF depends very much on their forest resources endowment and the types of tariffs that are in effect. For example, in the dry north, most states derive their forest revenues from NTFP's, such as fees for fuelwood collection, poles, gum Arabic, honey, fruit, oil, locust bean, tannin, game- hunting, etc. Because NTFPs are often considered a common, free accessible good, the fee base for such products, with the exception of gum Arabic that is exported, is low. Consequently forest revenue generation in the north is insignificant. In the south, however where states rely on timber and related exploitation and processing, revenues are higher and account for 70 percent to 80 percent of all forest related revenues generated in the country.

8.2 The actual forest revenue system may not be appropriate to promote SFM or investments in down-stream processing: trees and forests are systematically undervalued. The allocation of concessions is by discretion**.** Annual timber removal is most of the time dictated by the states' revenue targets bringing too often over-harvesting of the forest resource. The state government sets the revenue targets based on the level of revenues obtained in previous years and the forest service decides on the level and type of logging activity required to meet that target. Under-valuation of stumpage stems from the fact that timber prices are not market-based. Instead, the price of a tree is arbitrary administered across the states and rarely updated because they are established by legislation. The schedule of fees needs prior approval of the Commissioner. Although fees can be increased, adjusted yearly for inflation, the most effective and transparent means of increasing revenues while safeguarding the forest resource in reserves is through competitive bidding or auctioning but this happens only rarely. In addition, the ban on logs and sawn timber export has contributed significantly to this inefficiency by keeping prices lower than their true competitive international level.

8.3 States 'forests related charges and fees are too numerous and increase transaction costs. They are collected at the regional headquarters, by forest guards, at roadblocks, and by patrol teams. As a result of corruption and ineffective control measures, much of these revenues do not find their way to the state forest reserves. The range of forest charges and fees operated by the States varies. This Multiplicity of applied taxes increases transactions costs substantially. Although the bulk of revenues (70 percent) are collected from tariffs levied on timber production, largely from the lowland rainforests in the south, there are too many fees that make up the rest of the revenue generated. In addition, fees collected are related less to production and trade values and more to service charges and transaction costs. These fees may include for instance: stumpage, Out Turn Volume (OTV), unit area charge, taxes on timber export and excise tax, regeneration fees, firewood fees, pulpwood fees, industry establishment and equipment fees, trade fees, inter-state timber transport fees, registration fees, import and excise taxes, registration fees for hammers, special development afforestation levies, fees applied to NTFPs, penalties for violated forest laws and sale income from confiscated forest products. The multiplicity of applied taxes is a reflection of the weakness of the current fee assessment system applied to forest production.

8.4 Forest Trust Fund (FTF). Forest exploitation tax is the major source of revenue to the SFSs. The objective of these Trust Funds should be to finance the management of long-term concessions and to begin building the necessary forestry inventories required for sound forest management. However, the establishment of Forestry Trust Funds (FTF) has not helped funding SFM, because revenues accruing into such funds are never retained in the SFS and ploughed back into forestry sector for forestry development as originally intended. Rather, in most cases, State governments have utilized these funds for other purposes as observed by the mission and before the mission by FAO (1999). In some cases, the trust funds were established through edicts, which were military laws and were subjected to the dictate of the State Executive. These edicts will need to be revised by the House of Assembly and made more effective with clearly defined mandates, sources of funds, application procedures, etc. The Forestry Trust Fund is collected from the following sources in southern lowland forest states (through this may vary from state to state): (a) 20 percent from forest revenues; (b) 5 percent from the annual budget of local government councils; (c) 30 percent of

Taungya farm; (d) permit fees; (e) donations from NGO's and members of the public; (f) 50,000 Nairas contribution from permit holders who have forest allocations; (g) 20,000 from permit holders who have a relics allocations; (h) many states collect a "reforestation fee". None of these FTF are replenished by the sales of environmental services.

Diagnosis

1. Forest Policy

1.1 The 2002 participatory review of the old National Forest Policy (1988) which also covered wildlife resources, has been concluded and recently approved by the FGN, but copies have not been printed yet for distribution to all stakeholders and the general public. It is the first National Forest Policy that stands alone and not subsumed under the policy of another sector, e.g. Agriculture or Environment. The Forestry Act in preparation for several years now has not been passed. The review took into account, changes in the present state of the forestry sector in Nigeria and also addressed emergent global and /international issues in sustainable forest management. The National Forest Act should harmonize/streamline the different state forest laws/ordinances etc. and provide legal backing to the National Forestry Policy. The new policy and accompanying Act aim to address the problems and issues of the sector. It has some similarities to the current policy[12] in that it also calls for mobilization of private sector capital for investment, aims to expand the productive base by establishing new plantations, promotes agro-forestry and renews a focus on forest research. However, it is an improvement over the current policy in that it focuses on both forest management and community involvement as a means to reforming the forestry sector through a process involving the states, private sector, NGO's and the National Assembly. An analysis of the new draft policy and act shows that there are some major points of departure in the new policy that suggests that its application could strengthen sustainable forest utilization and environmental protection. Unlike the old policy, the new policy focuses on putting in place the necessary environment to ensure the longer-term sustainability of forest resources. For example, it mandates the preparation and implementation of scientific forest management plans; stresses the importance of developing community-based forest protection and management; urges the federal and state Governments to increase revenue by valuing forest products at their true market value and tightening up control of harvest operations. It recommends special funding arrangements to support research and development and the expansion of the forest estate. The National Council of Environment adopted the draft policy and act already in 2003. A comprehensive National Land Use Policy is currently being developed. It contains *inter-alia*, an Action Plan for Forestry and Wildlife Habitat Development for the long term in Nigeria. The Convention on International Trade in Endangered Species of Flora and Fauna (1976) CITES Act is currently also being reviewed after many complaints of non-compliance.

1.2 The most recent NFPs approved by the National Executive Council for implementation are (1) the four-year (2000-2003) National Forestry Development Programme, which aims at establishing forest plantations through community participation, and (2) the Afforestation Programme for Environmental Management. Due to unavailability of funds, the implementation was stalled and the programme has been extended to the next four years 2003- 2007. The funding is still lacking. Successful implementation of the NFP process has been constrained by: (1) forest ownership patterns, inhibiting Federal intervention for sustainability; (2) unlimited powers of the State Chief Executives to de-reserve or exploit forests; (3) obsolete and unenforceable State forestry legislation, plus the absence of a legal backing for forest policy, with consequent impossibility for its enforcement; (4) States under-funding of forestry programmes and forest management, as well as of research and training; (5) inadequate financing by the Federal Government for forestry development; (6) absence of a reliable data base for forestry planning and development; (7) low forest tariffs and lack of frequent revisions; and (8) a very important constraint is the un-coordinated land-use policy. Of the external factors affecting the deterioration of Nigeria environmental capital is the population growth making Nigeria one of the most populated country in Africa with more than 150 persons per square kilometre. These problems are further compounded by the continuous loss of forests as a consequence of natural disasters such as drought and flooding, forest fires due to bush burning, extensive arable farming and over grazing on forest lands. The current reality in Nigeria is that the new policy is far from being applied on the ground for all the above reasons.

[12] The current forest policy, which is defined within the 1988 agricultural policy, has failed to attain its goals. The policy aimed to: (i) protect forests; (ii) attain and maintain self-sufficiency in forest products; (iii) further develop forest industries; (iv) protect the environment; (v) establish sustainable forest management; (vi) encourage agro-forestry practices, and vii expand the productive base through plantation development. The role and the potential of the private sector in achieving these policy goals were mentioned.

1.3 This situation shows the lack of political will in Nigeria to tackle the destruction of its vegetation cover and soil that contributes to lower agriculture productivity. The agriculture sector is the backbone for survival of the majority of Nigerians. While most professional and higher officials in the Ministry of Environment (under which forestry lies) are deeply concerned with what is happening in the forestry sector, there is relative apathy at higher levels, where funding decisions are made. Why is there an apparent reluctance on the part of state and federal governments to protect the forest cover and to invest in the forest sector? Some reasons summarized by the WB (2005) have been corroborated by the ITTO mission:

- There is a lack of awareness among politicians and decision makers outside the forestry sector on the role of forestry in national development or the potential the forestry sector has in generating revenues to state governments and communities. This is shown by the NEEDS document, which currently does not have a single strong reference for significant investment in the forestry sector. Though this was likely because, constitutionally, the federal level is not responsible for forests, this should have been reflected more in the SEEDS and referenced in the NEEDS as a national priority.

- The forestry sector may be perceived as insignificant and unprofitable since the revenues generated are minimal and cannot pay for the state forestry department staff or program costs in most states.

- Despite the role of NTFPs in the economy, NTFP outputs are not calculated as part of GDP and, therefore, their contribution to livelihoods is disregarded. There is little public and political awareness of the potential role and contribution of NTFPs to the national and state economy.

- There are insufficient lobbyists for the case of forestry, particularly at the state level, where it is necessary to ensure that adequate funding is given to the forestry sector. Part of the problem is the lack of qualified, professional staff at this level.

- The term '*payments for environmental services"* is a new concept that did not yet sink in with politicians. Most ignore that the country's genuine savings[13]are quite negative (-28.2%)

2. Socio-economic Aspects of the Forestry Sector

2.1 There are very limited investments in the forestry sector. The Forestry sector is not as important a contributor to GNP (2% in the primary sector for around 30% for agriculture) and the balance of payments (used to be exporter and now contribute to the balance deficit) as it used to be but Nigeria forest products industries still represent more than 5% of the industrial GNP. The forest estate represents roughly 10% of the territory but is declining at more than 3.5% annually due to encroachments, excisions, and outright de-reservation but importantly also for the wrong sector economic policies. The policy to increase the forest area from 10 to 20% has been elusive. The Timber Export Promotion decree No 1 of 1998 prohibits the export of timber (whether process or not) and this hurt the competitiveness of the sector. This decree with the combined effect of negative investment factor such as identified by the Global Competitiveness Index 2007 (Annex 5.6) makes new investments in the forest products industry problematic. With the macroeconomic volatility of the economy mentioned earlier and the Dutch disease responsible for increasing factor cost of production, attractiveness of new investments in the forest sector is bleak.

[13] Little Green Book, 2006. WB Washington DC. Genuine savings is a measure related to GNP but corrected for resources depletion.

2.2 Timber is priced too low because prices are not market-based[14]. On the one hand, low forest fees aid the processing industry financially, by providing cheap logs inputs to the industry. However, the subsidy of cheap log inputs does not help the industry achieve efficiency and better utilization. Instead, it encourages sawmills, veneer and plywood mills to substitute cheap logs for other inputs, labor and capital. Thus, timber in Nigeria is treated as a cheap input, overused and poorly utilized. Old and obsolete machines also increase this inefficiency. With low forest fees and cheap logs (further depressed by protectionist policies), recovery and labor productivity is low and there is little incentive to improve the utilization of the logs and the efficiency of the capital investments. Consequently, not only is the forest products industry very inefficient, but it also generates less value from the forest than it could (Gray, 2002).

Table 2.2 International Log Price Comparisons, US$ per m^3

	Cameroon	**Nigeria**	**Nigeria**
		Highest Price	Domestic Domestic- Int. Price Ratio
Species			
Iroko (hardwood)	274	86	32%
Obeche (softwood)	210	46	22%
Ceiba Softwood (core)	137	30	22%

Source: ITTO, Tropical Timber Market Report; 16 – 31st August 2002. Prices are US$ equivalent of quoted Euros

2.3 Within this protectionist climate, sawmills are profitable even though many of them are inefficient and do not operate at full capacity. This contributes to expansion trends in the sawmilling industry, passing from 350 sawmills in 1973 to 1700 in 1993 and around 2000 in the low tropical forest areas, well above the sustained yield of these unmanaged forests (WB, 2005). While this may be considered good for business and private sector development, it has a negative impact on forestry resources, because an expanded, inefficient industry means further demands on limited forestry resources. As wood consumption increases, it provides further incentives for illegal logging. In the long term, the industry will have to consolidate, as it will be limited by the combined effect of tree scarcity, electricity shortages, lack of funds to buy sawmilling equipments and parts and problems with maintenance. However, consolidation in the longer term is not enough. It is clear that sustainable management of the forests cannot even support the current size of the wood industry. This will cause a serious employment problem to the around 68,000 workers linked to the sawmilling industry. This is, therefore, of concern and at the centre of trade-off issues when options are being considered for bringing demand for the forest resources in line with a regulated harvest level (World Bank, 2005). This is of particular importance since the *export ban's intent was to increase employment* and income opportunities. These social issues, in a country where poverty is high, will have to be addressed. The new private sector-oriented agenda under the Government's NEEDS concentrates on policies that are focused away from the present protectionist policies that have been unsuccessful for forestry and agriculture industries. There is an increasing focus on competition enabling reform[15]. This trend has to be followed in the forest sector also if it wants to play a role in the sustainable development of the country's economy.

[14] The FOSA Country Report for Nigeria by FAO: Present Status of the Forestry Sector of Nigeria notes that: "Forest tariffs are ridiculously low and not revised frequently. Industry inefficiency is compounded by Nigeria's ban on round-log exports. The log export ban on logs and sawn timber was put in place to protect forestry resources and encourage domestic processing. Prior to the ban on log exports, the export market set the pace in pricing logs. Foreign competitors paid higher prices than domestic firms could pay to obtain the logs showing domestic competitors were inefficient and couldn't compete in the same markets". Currently, with the ban on log exports continuing, domestic sawmills are protected from competition and pay prices that are well below the former prices paid to log exporters. This keeps the domestic price of timber inputs low – approximately 40 percent below international prices. The effect is to increase inefficiency: the wood industry produced only 615,000 m3 of "grade" wood material from a total log input of 1,700,000m^3 WB, 2005.

[15] Nigeria Value Chain Analysis. WB, Africa, Private Sector Unit Note 15, September 2005,

3. Forests Conditions

3.1 Forest areas are dwindling. They have been changing fast in Nigeria and the absence of monitoring of the forest cover makes the figures on the forest areas provided in different reports hypothetical. The area of natural forests managed for timber production in Forest Reserves is about 778,000 ha., and is concentrated in the low land rain forest (LRF) in Cross River, Edo, Ekiti, Ogun, Ondo, Osun and Oyo States. Another 905,930 ha. of LRF occur in off reserve areas throughout the southern part of the country. Deforestation being estimated at around 3.5%, these forest areas are dwindling rapidly.

3.2 Change in forest types is occurring rapidly. Many of the reserves are de facto de-reserved as only 1/6 of the forest reserves are covered by a forest. The reserves are degraded as a result of encroachment and a total lack of forest management, industrial inefficiency and a revenue system that has created perverse incentives and has encouraged unsustainable harvesting. The off-reserve forests are usually only marginally productive, largely because they are in communal areas and have been severely degraded due to lack of management, expansion of agricultural land, overgrazing and slash-and-burn agriculture. The total growing stock of the rain forest in Nigeria in terms of timber volumes is shown in Table 3.3 below. It shows that assuming a standing forest average growth of one m3/ha/year (or double that) and accepting the production figures of Annex 5.4 and consumption and trade forecast of 5.5, the high rain forest of Nigeria would deplete fast in the next decade.

Table 3.2 High Forest Gross Timber Volumes, Excluding Bark, by Forest Designation and Forest Types

Forest Land	Forest Type	Area(ha)	Gross Volume (m^3)
Forest Reserve	**Lowland Rain Forest***	788,053	140,682,489.73
	Sub-total	788,053	140,682,489.73
Off-Reserve Areas	**Lowland Rain Forest**	905,930	120,742,644.93
	Mangrove Forest	948,430	212,613.14
	Sub-total for Forests	1,854,360	120,955,258.07
Gross total		2,642,413	261,637,747.8

Source: Federal Department of Forestry, 1988 and Forestry Resources Study, 1998
* Not including mangrove and swamp

4. Forest Production

4.1 A detailed assessment of the forest resources has not been carried out for a long time. The exact forest cover as of today is unknown and the available data vary widely. Some forests reserves may not have any trees growing on them as observed in Edo field visit. In other areas still forested, the forests are in poor conditions. An important reason for that sad state of affair is the abolishment of the long-term concessions of the 70s. With the States takeover of management, sustained forest management practices were soon abandoned generally due to low budgetary allocations and in some cases due to lack of technical skills and the drive for revenues. Today, the objective of forest management focuses on attaining some level of revenues, as dictated by the state governments. The actual 3-year concession (from 25 year concessions on a felling cycle of 100 years in the 60s) is another serious constraint to forest management. While the decentralization of forestry should be a good thing, the lack of local transparency disconnects the source of revenue from the sustainable management of the resources. Communities living in and out of the forest reserves have not been involved in their management. A good way to correct for this problem is to reconnect people with their resources to avoid this tragedy of the common due to the lack of clear land ownership and responsibility.

4.2 State-run plantations are not managed. They are performing below expectation because their potential users do not manage them for lack of means. One possible option to remove that constraint could be to encourage the private sector, both private firms and communities to participate in the development and management of these plantations. Plantations, if the communities properly manage them, would help alleviate the great demand for fuel-wood. It would also help the industry that starts increasingly to use them. However, the second largest demand (outside of fuel-wood consumption) comes from the sawmills and currently, the industry would have to be restructured to be able to utilize plantation wood, and to utilize it efficiently.

4.3 Planning and control procedures are basic and most often not followed. A national Forest Resources Study (FRS) was commissioned by FDF and funded by the ADB in 1995. The overall objective of FRS was to make plans for the future management of the forest resources of Nigeria with particular attention to the high forest of the south and plantations over the entire country. One of the products of FRS was the report on each state's existing forest resource base; the data was used as basis of state-level Forest Management Plans (FMP) prepared in accordance with principles of SFM. The revised FMP for Edo state visited by the ITTO mission, for example, indicated that: forest management was minimal: (1) forest management planning was virtually non-existent within the state; (2) high forests were being degraded and eradicated at an alarming rate. (3) forest resources were not being managed on a sustainable basis. (4) re-investment into the resource base was virtually non-existent. The Edo state study revealed many problems found also in other States (see box 4.3 below):

The review of State management Plans in the forests reserves of the lowland rain forests revealed many limitations:

- The development of clear management goals and objectives regarding forest resource base was required.
- Forest policies and laws in the State were insufficient for management requirements.
- That before the FRS, the sustainable AAC was unknown. Annual harvest levels were mainly driven by revenue generation.
- Inadequate re-investment into forest resource base to ensure sustainability.
- Existing high forest felling cycle, although established in principle, was not strictly adhered to. That negatively affected forest integrity, forest ecological health and the ability to sustainable supply timber.
- Timber harvesting practices were poorly planned, regulated and controlled.
- The wood industry was allowed to engage in poor utilization practices resulting in excessive waste of raw material and thereby increasing the demand on the forest resource base.
- Although local communities are heavily reliant on forest resources, they are largely excluded from all forest management planning/decision making.
- Silvicultural treatments in plantations and high forests are virtually non-existent .
- Losses in the forest resource base are continuing due to illegal felling, over harvesting and encroachments,
- Means and resources are insufficient to properly plan, manage and administer the states forest resources.
- The state has a very poor record-keeping system.
- A forest resources database is non-existent.
- Forest management planning and technical capabilities within the state are inadequate.

4.4 The States normally carry out their own inventories before exploitation but capacity and budget are constraining. However, in some States, it is the concessionaires who do it since the States do not have the capacity and budget to do it. Forestry ''field notes'' usually contain guidelines for the locating, construction and maintenance of extraction roads, directional felling and time of exploitation. These principles are all part of the basic training for every professional forester. However, today, due to insufficient number of staff and budget, forestry laws cannot be enforced and exploitation cannot be monitored or controlled. Illegal extraction is rampant and can be carried out sometimes by heavily armed men who operate mostly at night. Planting drugs in forest reserves occurs in Nigeria. Poor funding and lack of operational vehicle cripple implementation of guidelines on forest exploitation. In recent times, concessionaires basically exploit and transport their logs as they deem fit without proper monitoring or supervision by the Forestry Department. Usually, every log extracted from any forest reserve was pass-hammered to show that the log was legally extracted from a particular forest reserve

and was given a code number. At present, log hammers are no longer being used because Forestry Departments are unable to purchase them. Corruption further compounds the implementation of these guidelines.

4.5 Post-exploitation surveys and treatments are no longer being carried out. Current exploitation diminish forest reserves and upset the forest ecosystem by “creaming” all available trees and ‘high grading’ choice logs/branches with utter disregard to minimum tree size guidelines. Apart from the Tropical Shelter-wood System (TSS) no other form of natural forest treatment has been tried. Some times they are converted into forest plantations using the Taungya System (mixing agricultural crops with trees for few years until the trees occupy the site) but often unsuccessfully because the main interest of the farmers is to continue their agricultural activities. Many of the exploited forest reserves are now usurped by cocoa farmers, hevea and palm oil plantations, since there are no funds to engage in forest management, in establishment and management of plantation or in forest and land protection.

4.6 Control of operations at all stages of the concessions process has practically disappeared because of some of the reasons enumerated earlier: (l) lack of funds for sustainable forest management; (2) shortage of trained/skilled personnel; (3) Absence of management plans in many cases and little/zero application of provision of plans where they exist; (4) existing management plans are outdated; (5) shortage of forest guards/rangers to patrol/protect the forest from illegal logging and hunting, encroachment by farmers, fires, pests etc. (6) shortage of equipment/vehicles for forest protection; (7) instigation and pressure from local politicians for de-reservation of parts / whole of some forest reserves, for agriculture or urbanization. As a result, existing arrangements for monitoring and renewing prescriptions in most cases are not followed. State Governments lost interest in forest management and rather favour policies that liquidate the forest to provide cash for other state priority.

4.7 The communities with customary right to the land receive very little of the benefits, if any. This creates a situation in which the potential custodians of the land receive no incentive to keep the forest cover. In most cases, it is the State, and eventually in part the local government that benefits with preciously little return to the State forest service. The Forestry trust Fund created in some States to allow the funding of forest operations have not succeeded because: (1) payments have not been made to the Trust Fund as expected; (2) money collected under the Trust fund has been transferred to the State General Budget and used for other purposes; and (3) the laws establishing the Trust Fund exists as edicts but which still need to be ratified by existing democratic institutions. The industry, often also the concessionaires, benefit most of the operation because of the high margin on the processing of timber due to low stumpage fees and the ban on exports of logs and wood products.

4.8 Effect of exploitation on sustainable forest management and investment in the sector has been negative. The actual conditions of exploitation and revenue system have had a detrimental effect on the forest sector at every level. Increase in revenue is usually accompanied by annual increase in volume harvested instead of increase of efficiency and minimization of waste. The revenue system for the forest has been used by the State Government as an automatic revenue system and is not a function of the sustainable management of the resources. Forest management is neglected in pursuit of revenue objectives. Instead of providing incentive for forest management, increased utility and increased revenue, the exploitation system has resulted in: (1) creating disincentives for efficient forest management, (2) maximizing damage to the stand structure and (3) in lowering utilization of the forest both in logging and processing.

4.9 The range of forest charges and fees are numerous, cumbersome and reduce the likelihood of compliance. For exploitation in free areas for example, a timber contractor has to obtain consent from the farmer to cut down a tree on his land. If the tree is transported out of the state, a transportation fee may also be charged. The number of fees actually creates an incentive for illegal activities. If collected, the fees are not reinvested even partly in the sustainable management of the forest resources. When they are reinvested in plantations, the funds arrived often too late for the planting season and thus reallocated to the State budget. The paperwork required to get all the licenses and to pay the fees results in delays, unofficial payments and evasion. Finally, the collection of some of these taxes and fees, such as the inter-state transport fee, requires a lot of SDF staff on transport routes to monitor and ensure complete compliance.

4.10 Forestry research has received scant attention and capacity building is the most often declared constraint on the sector. Research has not been used to resolve the forest management issues stated above. Research is not related to a clear strategy for the sector. The Academic system of Nigeria, once one of the best in Africa has deteriorated together with the quality of teaching and the absence of extension services activities. The new crop of students arrived on the market unable to practice forestry. The lack of funds de-motivate faculty who are badly paid. They don't have the facilities and material (forest tools) to train properly students, professionals, forest-dependant communities, and other stakeholders of the forestry sector. Capacity building has been mentioned by all the persons met by the ITTO mission as the first constraint to the forestry sector development. Vocational training has been neglected as much as the academics; this contributes to the high inefficiency of the production processes in the sector.

5. Forest Protection

5.1 Biological diversity is important in Nigeria but disappearing quickly for lack of development of environmental services. The seven Parks are not enough to protect a rich biodiversity that could be preserved also trough a better land use and protection of the forest reserves. The institutional situations are much better than for the forest service because the Park Service is financed through the regular budget of the Ministry of the Environment. Payments for environmental services does not exist yet in the country but as observed by the mission, some private initiatives are starting as in the example of Cross-River State where Michelin (Osse River Rubber Estates Ltd.) helps Okomu National Park to protect its biodiversity through the funding of some equipments.

5.2 Soil and water protection are disappearing with the forest cover in many of the deforested areas of the lowland rain forests. Hydro erosion cause ravine that are sometimes fought at high cost. The main constraint being the lack of understanding of the link between the forest cover and the beginning of irreversible erosion problem in several areas of the country. Here again, environmental services of the forest cover are still a new concept to Nigerian decision makers. However, few good examples of such services were encountered foe instance in Edo where NNPC/Elf/AGIP/Shell have a joint venture for the watershed management on the Gele-Gele Forest Reserve.

Main Constraints, Recommendations and Actions

1. Vision and opportunities

1.1 The Forest Policy offers a sector vision that should be broadened. The forest policy resulted from a participatory process that was lengthy, showing the difficulty of reaching a clear consensus on the importance of the sector for the sustainable economic development of the country. The forestry Act has been discussed for almost 10 years but never passed so far. The vision stays very sectoral and do not account for the many factors external to the sector that for Nigeria are crucial constraints to the forestry sector. The vision fails to pass the message that the forestry sector should be mainstreamed in the overall macro and different sector policies of the country. A clear picture of the place of the forests in land use and regional development of the States is not offered in any of the documents the mission consulted.

1.2 Many crucial constraints for forestry development are external to the forestry sector per se as seen in the diagnosis section: demography, macroeconomic volatility, competitiveness of the country, enabling environment for investments, governance and a minimum of infrastructure roads but also basic needs. The population growth that in some areas is over 3% makes it difficult to improve the GNP per capita and rural poverty in many regions has increased with the resulting increased pressure on natural resources and forest resources in particular. The political will at the Federal and State levels do not seem to exist to reverse the irreversible disappearance of the forest cover and the forest reserves in many parts of the country. Because of the low competitiveness, absence of minimal infrastructure including roads, and governance, no new investments are made in forestry. The industry use depreciated and obsolete equipment as the diameters of the logs diminished and the supply of logs become more uncertain.

2. Main Constraints

2.1 The main constraints internal to the sector are numerous (Annex 5.6) and are each important in their own right since many of them if they are removed one by one would not allow any development until all constraints have been tackled. However, some constraints if removed will improve many of the problems enumerated in the text and listed in annex 5.6. Again the external constraints linked to the sector are crucial bottlenecks but will require political will, better governance and corresponding macro economic policies. However, the economic reform in the sector itself is overdue: to open the markets of forest products to allow free trade which should to a large extent resolve many of the constraints enumerated in the report by getting the price right. This is also a policy decision but one internal to the forestry sector. The mission suggests that a good study be undertaken by respected Nigerian economists who would explain to policy makers the high opportunity costs of such a policy in terms of trade but also environmental impacts and in the long run with no employment benefits. The political economy aspect of this issue is making this reform difficult.

2.2 The technical constraints can be grouped under three main headings: capacity building, community-based forest management and public awareness. Concerning the first group of constraints, all the stakeholders mentioned capacity building as their main constraint to change anything. The forestry knowledge in academic circles did not evolve much from the glorious years of the Ibadan graduates who often continued their graduate studies in the best universities around the world. The next crop of foresters are not of the same caliber due to the neglect of academic institutions in Nigeria. The didactic material use for forestry classes today is old material from former days. The new technological innovations have not yet taken roots in modern forestry training in Nigeria to the extent it should have. The applied research is almost inexistent today for a lack of funds and a clear strategy of research and extension has not been conceived. The extension activities with relevant training material for adult education are almost inexistent. It results from this situation that from the State forestry director to the field foresters and the laborers in the forest products industry, the sector lacks of effectiveness and efficiency in what is undertaken. From this limitation, results many problems in the field from the calculation of the proper standing volume of trees to the lack of proper management plans, the planning of logging activities and roads, the proper pricing of the resources, adequate economic sector studies to invite policy reforms, inconsistent data set which are not adjusted and other technical constraints listed earlier.

2.3 The second group of technical constraints is related to the centrality of the communities in the management of forest reserves and communal forests and in the conservation of the forest cover for

environmental services. The issue is the non-clarity of land tenure policy and the difference between the official legal situations giving ownership of the land to the Government while in practice much of the land in Nigeria is *de facto* owned by communities and individuals. Given the lack of public means to manage and conserve forest resources, this lack of communities' involvement is an important cause of the unsustainable management of the forests and the de-reservation occurring everywhere in the country while in fact these communities should be the solution to the problem. By empowering communities and hiring their labors for forest management many of the constraints listed in the report could be partly resolve, even though CBFM is not a panacea: proper monitoring of the resources, diminution of illegal felling, absence of management plans or inapplicability of these plans when they exist, proper pricing of the resources, more value added to the forest products[16] industries and NTFP, creation of environmental services, among others.

2.4 Last but not least, the lack of public awareness on the forestry issues and their importance for the sustainable management of the country economy is responsible for many of the constraints to the sustainable management of the forest resources identified. All from the policy makers to the community leaders should better understand the economic impact of the unsustainable path of the forest sector causing the deficit of the balance of payment for the sector, the huge negative impacts on agriculture productivity, and environmental services. The absence of political will was mentioned again by most of the stakeholders met by the mission during their field visit. This group of constraints, lack of public awareness are clearly related to the lack of budget allocations to State Forest Services, lack of governance in concession allocations and the type of concessions given, illegal felling, governance at every level along the value added chain, and involvement of communities among others

3. Recommendations

3.1 Government should give high priority to capacity building from the academic institutions to vocational training and to improve data collection and reliability on which good analysis and policies should be based. Presently, the conditions are not enticing for the universities to take the lead in rebuilding capacity in the forestry sector. Actions directed in improving the content of the courses and providing essential material and modern technology for training and research would go a long way to improving the situation especially if the information is spread around using the web and distance education. An improvement in data collection for following the essential ITTO criteria and indicators as well as basic statistics to assess present and future trade is long overdue in Nigeria.

3.2 Communities should be given a bigger responsibility in the management of forest and protection of the forest cover. The absence of community involvement in the forestry sector should be remedied as an urgent priority. This community development will require important effort in capacity building and so should benefit from improved training institutions as mentioned in the previous priority.

3.3 Industries should be reformed after the appropriate economic policies have been put in place through a better investment environment and credit facilities. While the mission recognizes the difficulty in reverting present misguided forest policies, it believes that the improved knowledge in collecting data and analyzing them as proposed in the first recommendation, would allow much sharper analysis of the situation. From these national studies, the policy implications would become clearer and its chance to be acted upon much enhanced.

3.4 Civil Society should be aware of the forestry issues in order to change the political will to act while it is still time to reform at reasonable costs: work with forestry and industrial associations (FAN), legislators, schools, atlas of Forest reserves, etc…The forestry sector needs better prepared lobbyists. Again, improved academic research, training and extension, will prepare politics and associations to be more forceful when presenting their case to the politics and decision makers. The role of the forest in the sustainable development of the economy needs to be clear and related to facts and figures to be convincing. We recommend actions to improve and divulge these messages through all levels of society. Only then will political will change from the shortsighted policies toward more long-term policy reforms.

[16] A communitu chief told the mission that they are very much interested to processing the logs if given the opportunity. We realize that they give us Naira 5000 for a log that will generate them $ 5000. We rather do thes huge benefits ourselves, he said.

4 Actions

4.1 International Development Organizations have been involved for a long term in forestry projects in Nigeria. All have a role to play but what is important is that the Federal Government ensures its task of coordinating all the donors' goodwill. The preferred approach to do so is to follow a budget support[17] approach by which funds are channeled through the regular country budget procedure in order to improve the modalities of government businesses instead of creating parallel structure each time a project is proposed by donors. A sector budget support would go a long way in strengthening the institutions related to forestry. Governance is presently the major constraint to such an approach.

4.2 ITTO role is clearly to ensure the sustainable trade of forest products from Nigeria. Nigeria that was a major source of tropical timber trade could very soon become a net importer of forest products as a result of the identified constraints. The numerous reasons for this state of affair described in this diagnostic cannot all be tackled all at the same time. The possible actions for ITTO along the group of constraints identified by the mission above are to (1) contribute to capacity building by focusing on improving the knowledge basis of the Universities, communities and the public at large, (2) help involving communities in all phases of forest managements and on different land ownerships; and (3) contribute to raising awareness of the forestry issues for the country's development. These actions could be the object of three self-contained project yet to be developed in details but for which a summary table has been prepared in Appendix 6.

4.3 A first series of activities would aim to improve the technical content and didactic material for basic forestry courses leading to (1) the capacity to prepare proper management plans and their administration and monitoring with an example from the management of one forest reserve in few States in different ecological area of the country and (2) the proper economic analysis of the forestry sector and an improvement of the statistical data for the sector. This should ease some of the constraints mentioned: (1) lack of capacity building in the forestry sector; (2) lack of reliable data and proper economic analysis leading to inadequate forestry policies; and (3) lack of guidelines on the preparation, implementation, monitoring of sustainable forest management plans, among others.

4.4 Another group of actions would be to establish the technical guidelines for Communities involvement in the management of forest resources from the land use plan of their land to the management plans of the communal forest with one pilot project in different ecological areas. These activities would attempt to reverse the present absence of participation of communities in the management and protection of the national and communal forests. It will help alleviate the constraints of (1) no budget for SDF, (2) unsustainable utilization of forest resources; and the absence of control and protection of forest areas in and out of the forest reserves.

4.5 Finally another group of activities will focus on raising awareness on SFM issues in the country with a view to changing the lack of interest for national forestry issues. These activities would create awareness of forestry issues by having academics and consultants preparing relevant and telling extension material, by beefing up Forestry related associations including the Forestry Association of Nigeria, by organizing workshops for the federal and state legislators and through other relevant means and by enhanced networking and lobbying for SFM. This would address a number of constraints such as (1) the lack of funding to manage forest; (2) the uncontrolled access to forest reserves; (3) the de- reserving of forest reserves; and the lack of support for policy reform and implementation.

4.6 Many actions to help resolve the constraints such as lack of proper sector work and management plans should not be solved by a "project" Rather better implementable forest management plans for instance will be obtained by appropriately train foresters (project 1) and the communities (project 2) and ensuring funding preferably by sectoral budget support through proper awareness raising and lobbying (project 3). The links between the diagnosis, constraints identification and recommendations/actions is clearer under this proposed longer term, non-project approach. Nigeria has known many plantations projects before with usually very little impacts on the ground.

[17] OECD, 2007. A joint Evaluation of General Budget Support 1994-2004.

Conclusions

1. The national accounting aggregates (The Little Green Data Book, WB, 2006) shows us that the real economic growth of the country is quite negative, or -28.2% of the GNI of the country for 2004 when one takes into consideration the depletion of capital including the natural capital of which forestry is an important component. This information alone should be enough for creating the political will to reverse this unsustainable development path.

2. Three main recommendations are suggested here as a first step to help reversing the situation in Nigeria: build sustainable capacity in forestry knowledge, involve the communities in the management of the forests and raise awareness of SFM for sustainable economic growth. From this sequence of simple recommendations three groups of actions are proposed for ITTO: build capacity of the institutions of high learning, the communities and the public at large. The medium term objective of these recommendations/actions is to resolve many of the underlying causes of the constraints identified in the diagnostic.

Annexes

Annex 1 Terms of Reference

TERMS OF REFERENCE FOR DIAGNOSTIC MISSIONS

The Terms of Reference of a Diagnostic Mission to any country will be to:

1. Identify the factors that are most critical in preventing the attainment of sustainable forest management in that country.
2. Assemble these constraints in order of importance.
3. Recommend a sequence of actions to remove the constraints, providing cost estimates whenever possible.

NOTES OF GUIDANCE

The principles underlying the Diagnostic Missions are these:

1. In any situation, there is usually one factor that is most crucial in preventing progress. Until this constraint is removed, no progress is possible on any other front. But, once this first constraint is removed, there may be another that, in its turn, limits progress, etc.
2. The objective of the Diagnostic Mission is to identify these constraints, to arrange them in a sequence and recommend appropriate action.
3. The exact procedures for the Mission will depend upon the circumstances in the country concerned. It should, however, include:
   - Discussion with government ministers and senior members of the department responsible for forests, land use and trade.
   - Discussion with forest managers and representatives of the timber trade.
   - Discussion with the principal NGOs concerned with forest questions.
   - Examination of the National Forestry Action Plan.
   - Visits to selected forest areas and forest industries that illustrate particular problems or opportunities.
4. The important constraints are likely to lie in Criterion 1 of the National Level Criteria and Indicators, and particularly in the subjects dealt with in Indicators 1.1 to 1.5.
5. The following questions may be found helpful <u>in defining the subject areas in which constraints may be found</u>. It is <u>NOT</u> intended that the Mission should provide answers to all these questions.

   Policy Is there a national land use policy? Is there a national policy for the sustainable management of a permanent forest estate? If not, why?

   Extent What area of natural forest is managed for the sustainable production of timber?

   Allocation Is there a satisfactory system for choosing, demarcating and protecting those areas that will be used as production forest? If not, why?
   Is there a satisfactory system for choosing, demarcating and protecting those areas that will be used as protection/conservation forest? If not, why?
   Are there pressures from other sectors or interests to remove productive forest from forest use? What measures are being taken to counter or divert these pressures?

   Sociological and economic conditions. In what ways do the various people who have an interest in or are affected by the management of the forest, benefit from this management or suffer from mismanagement (people dwelling in or near the forest, loggers, middlemen, wood processors, small industries, the Forest Authority, consumers generally, other government revenues)? Are the benefits adequate to provide an incentive to good management? Is there equitable distribution of these benefits? If not, why?

   Management Are there any management plans guiding timber production? Are the objectives of management conducive to sustainable production? Are the management prescriptions appropriate for the particular forest type? Are they rigorously applied and reviewed? If not, why?

Pre-exploitation survey How comprehensive and adequate is the pre-exploitation survey: choice and marking of trees for felling; analysis of trees to remain unfelled; existing regeneration; environmental conditions; routing of extraction roads? If inadequate, why is this so?

Choice of exploiters Does the choice take into account the best long-term interests of the forest? How?

Conditions of exploitation Do these bring reasonable benefits to the various parties concerned: government revenues, any reforestation fund, the logging companies, local contractors, logging labour, those with customary rights in the land?
Are the conditions of exploitation such as to encourage long-term investment in the sustainable management of the forest? Are there reasonable incentives to encourage good management? What proportion of revenues are returned to forest management? If these conditions are not met, what prevents it?

Quality of exploitation Are there guidelines for the siting, construction and maintenance of extraction roads, weather in which exploitation should not take place, equipment to be used, directional felling, cutting of lianes etc.? Are such guidelines followed? If not, why?
Are the above conditions monitored during and after exploitation? How? How well?

Post-exploitation survey and treatment Are there guidelines? Are they sensitive to different forest types? Are they adhered to? Is later performance monitored? How? If not, why?

Control Is there effective control of operations at all stages? If not, why?
Follow-up Are there arrangements for monitoring and reviewing prescriptions? If not, why?

Research Is research designed to support sustainable timber production from natural forest? Is it adequate to provide the necessary information to answer the questions set out above? Are there permanent sample plots to provide the data upon which sustainable yield can be calculated? Are the data processed and made available to management within a reasonable time?

Education and training Are sufficient trained staff at all levels being produced with qualifications in the skills needed in natural forest management?

Annex 2 Field visits

ITTO TECHNICAL, /DIAGONISTIC MISSION TO NIGERIA

4 – 18 August, 2007

MISSION WORK

DATE	TIME	LOCATION	ACTIVITY	REMARK
Sat 4th August 2007	7.30pm	Abuja	Pro P A Harou arrived by air	Kept the night at Abuja
Sun, 5th August 2007	4.30am and 7.30pm	Abuja	Arrival of the rest Mission members	Arrived Abuja, Spent night at Abuja
Mon, 6th August 2007	9am – 10 am: 10 am–12noon: 12. - 1pm 1.30pm 2pm: 2pm – 5 pm:	At Abuja	Held familiarization talk with Director of Federal Department Forestry Concluded technical session with the Director of Federal Department of Forestry Had courtesy call on Permanent Secretary Finalized programme of work Discussed Preliminary Country Report and Reviewed available reports	Spent night At Abuja
Tues 7th August 2007	9am -11am: 12 noon 6 pm:	At Abuja On the way to Akure Akure later in the day	Concluded technical session with the Director of Federal Department of Forestry and the relevant officials of the Department. Traveled by road to Akure Ondo State - Held familiarization talks and plan of work in Ondo State with the Director of State Forestry	At Abuja Arrived Akure 5pm and spend the night at Akure.

Wed 8th August 2007	9am -1pm: 1pm– 2pm: 2pm – 6pm:	At Akure	Start ed Technical session with the Director and Staff of the Forestry Divisions from Ogun, Osun and Ekiti and Ondo States Lunch Break Continued technical sessions with the invited Directors and Staff and staff of the Ondo state forestry Department	Spend the Night at Akure
Thu 9th August 2007	9am – 12noon 12.30 pm– 1pm 1pm-3pm 2pm –5.pm 5.30pm	At Akure At Akure	Visit ed Premier Timbers Bolorunduro Akure Had courtesy call on the Commissioner of Agriculture Visited Angela Adelola Wood Complex Akure and Olukayode Sawmill Akure Continued and finalized technical Sessions with the invited Directors Lunch Break The invited Directors departed	Spend the night at Akure
Fri 10th August 2007	8am 11am - 11.30am: 11.30am – 12.30pm 12 30-1 30pm 1.30 pm - 5.30pm	Benin	Traveled by land to Benin Edo State, Held preliminary talk with Director of Forestry Checked into hotel Had courtesy call on the permanent Secretary/Hon. Commissioner for Environment and Transport Lunch break Held technical session with the Director and staff the State Forestry Department	Spend the night in Benin City

Sat 11th August 2007	9 am -11am: 12.05pm 40pm :	:	Visited ODIASE WOOD IND LTD and NOSA ABUSOMWAN AND SONS WOOD Ind. ltd . Visited Okomu forest reserve/plantation	Spend the night in Benin City
Sun 12th August 2007		Benin City	REST DAY	Spent the night in Benin City
Mon 13th August 2007	8 am -4pm 6pm -7.30pm	On the way to Calabar Cross River State At Calabar	Traveled to Calabar Lunch break Held preliminary talk with the Permanent Secretary Forestry Commission	Traveled to Calabar, Cross River State by road and spent the night at Calabar
Tues 14th August 2007	9am - 9.30am 10-1pm 1pm –3pm 3pm= 4.30pm	At Calabar	Courtesy call on the Permanent Secretary Forestry Commission Hold technical session with the Permanent Secretary Director – General and staff of the State Forestry Commission Visited Rite Edge Wood Industry Calabar Visited La Mandria Wood Complex (NEPZA) Calabar	Spent the night at Calabar
Wed 15th August 2007	8 am - 3pm 3pm- 6.30pm	Jalingo, Taraba State	Traveled by road to Jalingo Taraba State Held technical session with the Director and staff of the State Forestry Department	Spent the night in Jalingo Taraba State.

Thurs 16th August 2007	9am -14.30 14:30 – 22.30pm	Jalingo-Abuja	Returned to Abuja and started Preliminary Report Writing	Spent Night in Abuja
Fri 17th August 2007	7:30am- 11:30 12:00- 16:00	At Abuja	Draft Report Writing Team working sessions on priority constraints and actions	Spent Night in Abuja
Sat 18th August 2007	6 am 7:30- 11 am 11am-2pm 7.30pm	At Abuja	Ms E. L Rojas departed for Airport Writing of the Preliminary Field report a Debriefing with the Director of FDF Departure of the rest international consultants	

Annex 3 Persons Met

ITTO TECHNICAL/DIAGNOSTIC MISSION TO NIGERIA 5 – 18 AUGUST, 2007 PERSONS CONSULTED DURING THE FIELD VISITS

ITTO MISSION MEMBERS

International Consultants Mission Members

S/N	NAME	ORGANIZATION/ADDRESS	DESIGNATION	TELEPHONE No	E-MAIL
1	Prof. P. Harou	Pinchot Institute for conservation 1616 P. Street, NW Suite 100, Washington DC 20036, USA	Senior Fellow	+1202/716-344 (Washington DC) 01133383396868 (Nancy, France)	pharou@pinchot.org
2	Mr. M. Hasan	(ITTO), Inter national Organization centre 5th Floor, Pacifico Yokohama, 1-1-1, Minato-mirai, Nishi-ku, Yokohama 220-0012, Japan.	Finance/Admin Officer, Management Services	(045)223-1110	hasan@itto.or.jp
3	Mrs. E. Lopez	Sierra Mojada 1414 Guadalajara Jalisco Mexico 44340.			lopezrojas_erika@hotmmm
4	Mr. Z. T. Zhang	Dept. of International Cooperation State of Forestry Admin People's Republic of China.			zhanazi@forestry.gov.cn

National Consultants Mission Members

5	Chief O.O. Nwokeabia	OEEEN Consultancy Services Abuja.	MD/CEO	08035926431 08055321229	odawokeabia@yahoo.com
6	Dr. W.W. Modugu	Dept. of Forestry and Wildlife University of Benin B/C	Head of Department		odeenconsult@yahoo.com

Federal Department of Forestry Mission Members

7	Mr. O.O. Amosun	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	Assistant Director	08042118348	Lere_2003@yahoo.co.uk
8	Mr. L.G. Ogundare	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	Chief Forest Officer (ITTO Dek Officer)	08056416822	darebola2@yahoo.co.uk
9	Mr. A.A. Ukpai	FMEHUD, Abuja (FDF)	Forest Officer II	08069708911	

MEETING WITH THE PERMANENT SECRETARY, DIRECTOR AND STAFF OF THE FEDERAL MINISTRY OF ENVIRONMENT, HOUSING & URBAN DEVELOPMENT, ABUJA 6TH AUGUST, 2007

S/ NO	NAME	ORGANIZATION/ ADDRESS	DESIGNATION	TEL	E-MAIL	REMARKS
10	Ammuna Lawan Ali OON nmi	Federal Ministry of Environment, Housing & Urban Development, Abuja	Permanent Secretary	+2349434942		
11	Mr. M.A Oyebo	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	Director of Forestry (DF)	08037874805 08042118023	maoyebo@yahoo.co.uk	
12	Mr. A.A. Afolabi	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)		08023396714	amosafolabi4@yahoo. co.uk	DD (Util)
13	Mr. J.B Adesina	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	08042118919			DD (FRS)
14	Mr. O.O. Amosun	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	A.D	08042118348		
15	Mr. C.M. Okeke	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	A.D	08023017290	Amosafolabi 4@yahoo.co. uk	Head FORMECU
16	Mr. J.K. Auta	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	A.D			
17	Mr. L.G. Ogundare	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	CFO	08056416822	darebola2@ yahoo.co.uk	ITTO Desk
18	Mr. A.A. Ukpai	Federal Ministry of Environment, Housing & Urban Development, Abuja (FDF)	FO II	08069708911		Officer

MEETING WITH DIRECTORS AND STAFF OF FORESTRY DEPARTMENTS OF EKITI, OGUN, ONDO AND OSUN STATES

S/ NO	NAME	ORGANIZATION/ADDRESS	DESIGNATION	TEL	E-MAIL	
19	Dr. Jidayo Oyebade	Ministry of Agriculture, Akure	Hon. Commissioner	-	-	
20	Mr. T. Adetula	Department of Forestry and Wild Life Services Akure.	Director of Forestry	08033531414	E-MAIL	
21	Mr. M. Aloba	Department of Forestry and Wild Life Services Akure.	Director of Forestry	08033633009	-	
22	Mr. M.D. Temenu	Department of Forestry and Wild Life Services Akure.	Chief Forest Supt.	08034715694	-	
23	Mr. A.O. Akintola	Department of Forestry and Wild Life Services Akure.	Chief Forest Supt.	08035174344	E-MAIL	
24	Mr. A.D. Falusi	Department of Forestry and Wild Life Services Akure.	DD (Forestry)	08034704614	-	
25	Dr. A.A. Akinsanmi	Ondo State Afforstation Project P.M.B 533 Ondo.	Chairman of Board of Directors	08033145603	-	
26	Mr. M. Aloba	Department of Forestry and Wild Life Services Akure.	Director of Forestry	08033633009	-	
27	Mr. S.A. Olokuntaye	Ministry of Agriculture Akure, Ogun State.	DD (Forestry)	08033543516	-	
28	Mr. O.A. Adekoya	Ministry of Forestry Abeokuta, Ogun State.	Director of Forestry (R&U)	08033743439		
29	Mr. A. Olomo	Department of Forestry and Wildlif Services, Akure, Ondo State.	P.F.S.II (Protection)	08036758652		
30	Mrs. E. Umoh	Department of Forestry and Wildlif Services, Akure, Ondo State.	SFO (Wildlife)	08060564026		
31	Ms. B. Ogunloye	Department of Forestry and Wildlif Services, Akure, Ondo State.	Ind. Attachment Student (Wildlife)	08067180948		
32	Dr. S.D. Oloye	Department of Forestry and Wildlif Services, Akure, Ondo State.	Director (Forestry)	08035625165	oloyesamdape@yahoo.com	
33	Mr. S.O. Akingbohungbe	Premier Timber Industries, Bolorundo, Ondo State.	Executive Director	08033298561, 08057976922		
34	Mr. M. Adeuti	Premier Timber Industries, Bolorundo, Ondo State.	Forest Manager	08080725645, 08033588809		
35	Mr. A. Sofa	Premier Timber Industries, Bolorundo, Ondo State.	Sales Officer	08038463634		
36	Mr. V. Owhewhenu	Premier Timber Industries, Bolorundo, Ondo State.	Personnel Officer	08035690677		
37	Mr. B. Ogbonna	Premier Timber Industries, Bolorundo, Ondo State.	Computer Asst.	080357995113		

38	Mrs. Adaramola	Angela Adelola Wood Complex P.O. Box 2330 Km 3 Ondo Road, Akure.	Director	08037077181		Products, paraquettes for export and lumber for local market
39	Chief J.O. Olukayode	SOASE Group of Companies, Km 2 P.O. Box 529, Akure, Ondo State.	Chairman/CEO	08036709928		The above 2 Sawmills were visited.

MEETING WITH DIRECTORS AND STAFF OF FORESTRY DEPARTMENTS OF FORESTRY, EDO STATE AND VISIT TO 2 SAWMILLS AND OKOMU NATIONAL PAR, EDO STATE 10 – 12 AUGUST, 2007.

S/ NO	NAME	ORGANIZATION/ADDRESS	DESIGNATION	TEL	REMARKS
40	Engr. (Dr.) A. Edeki	Ministry of Environment and Transport Sapele Road, Benin City, Edo State.	Permanent Secretary	08058765811	
41	Mrs. I.E. Azeke	Ministry of Environment and Transport Sapele Road, Benin City, Edo State.	Director (Forestry)	08023281917, 08033536168	
42		31 Ihama Road, P.O. Box 5212 GRA, Benin City Edo State.	Private & Retired Civil Servant.	08035473097, 08023001862, 08052251150	Former State Director of Forestry & P.S. Ministry of Lands, Edo State.
43.	Mr. C.Y.O. Lawani	Dept. of Forestry, B/C Edo State.	A.D. (Forestry)	08033712489	
44	Mr. D.O. Hammed	Okomu National Park Edo State	Principal Paris Officer	08034310669	
45	Mr. M. Audu	Department of Forestry, B/C, Edo State	A.D. (Forestry)	08034171723	
46	Mr. O.S. Ikponmwonba	Department of Forestry, B/C, Edo State	A.D. (Forestry)	08035736733	
47	Mr. V. Enebi	Department of Forestry, B/C, Edo State	A.D. (Forestry)	08036672187, 08023383288	
48	Mr. O.T. Yakub	Department of Forestry, B/C, Edo State	A.D. (Forestry)	08036672187	
49	Mr. J.G. Akhimien	Department of Forestry, B/C, Edo State	A.D. (Forestry)	08023383288	
50	Mr. F.O. Adah	Department of Forestry, B/C, Edo State	Asst. Chief for Spt.	08032291838	

51	Mr. F. Okoloise	Department of Forestry, B/C, Edo State	Principal for Supt.	08063176536	
52	Mr. S.O. Okokhere	Department of Forestry, B/C, Edo State	AD (Forestry)	08023595290	
53	Mr. E.M. Isikhuemen	BAP, B/C, Edo	PFO/CPM	08033885159	
54	Mr. O.C. Omoregie	Dept. of Forestry Benin City Edo State.	ACFO	08039289500	
55	Mr. G.O. Okojie	Dept. of Forestry Benin City Edo State.	ADF	08033910915	
56	Mrs. I.I. Edokpayi	Dept. of Forestry Benin City Edo State.	Snr. Forest Officer	08056728067	
57	Mr. F.O. Edokpayi	Dept. of Forestry Benin City Edo State.	Forest Officer	08064348444	
58	Mr. O.U. Okunwgwe	Dept. of Forestry Benin City Edo State.	Forest Officer II	08028821958	
59	Ms. I.V. Adesukhun	Federal Ministry of Environment Ekewan	F.O. Ekenwa	08038665517	
60	Ms. R.O. Ogbefun	Dept. of Forestry. Min. of Environment B/C, Edo State.	F.O. Ehor	08039289389	
61	Mr. R.S. Edebor	Dept. of Forestry. Min. of Environment B/C, Edo State.	F.O. (HQS)	08033152321	
62	Mr. A. Iziretu	Dept. of Forestry. Min. of Environment B/C, Edo State.	Asst. Director	08051522089	tonyizirem@yahoo.com
63	Mr. E.O. Osagiede	Dept. of Forestry. Min. of Environment B/C, Edo State.	Chief Forest Supt.	08036689057	
64	Mr. K.I. Omoregbe	Dept. of Forestry. Min. of Environment B/C, Edo State.	ACFO	08023390905	
65	Mr. E.O. Ofeimum	Dept. of Forestry. Min. of Environment B/C, Edo State.	PFS I	08036998986	
66	Mr. S.I. Eiwakare	Dept. of Forestry. Min. of Environment B/C, Edo State.	HFS (Inspectorate)	08028171616	
67	Mr. R.A. Omobhude	Dept. of Forestry. Min. of Environment B/C, Edo State.	ACFS	07039299457, 08059765236	
68	Mr. N. Cole	Dept. of Forestry. Min. of Environment B/C, Edo State.	ACFS	08058765156	
69	Mr. J.O. Okoeko	Dept. of Forestry. Min. of Environment B/C, Edo State.	PFS	08055239475	
70	Mr. V. Uhimwen	Dept. of Forestry. Min. of Environment B/C, Edo State.	SFS	08052410739	
71	Mr. E.O. Adun	Dept. of Forestry. Min. of Environment B/C, Edo State.	HFS	08039534934	
72	Mr. G. Imafomoh	Min. of Environment	CFO	08056066975	-

73	Mr. R.N. Odiase	Richard Odiase Petrol Km 4 Upper Siluko Rd Benin City	Executive Director	08035763772	-
74	Mr. N. Abasomioan	Nosa Abusomwan and Sons Ltd. upper Siluko Rd. Benin City	MD/CEO	08023541295	-
75	Mr. M. Ajayi	"	Sawmill Manager	08036632923	
76	Mr. J. Agbor	"	Saw Doctor	08027221636	-
77	Mr. E. Okechara	Okomu National Park	Ranger	08077813668	-
78	Mr. L. Uyigue	Forestry Dept. I guo	Forester	08030779084	-
79	Mr. J.O. Oronsaye	Okomu National Park	For. Supt	08039597126	-
80	Mr. L. Jaro	PMB 1329, Benin City	40D TSM	08072220408	-
81	Dr. Chris Odu Agbor	Forestry Commission CRS Forestry	P/S & CEO	08033221562	
82	Fidelis Anukwa	Forestry Commission, Calabar	Deputy	08059872595	Is the only
83	Ita P.B	Forestry Commission	Director of Forestry	08056532720	One of its kind in Nigeria
84	Bridget O. Nkor	Forestry Commission	Prin For. Supt	08036678782	
85	Out Ibor	C.R.S. Forestry Commission	Deputy Director of Forestry	08033486980	
86	Edward U. Mgbang	C.R.S. Forestry Commission	Ag. Dir. (O & T)	08077448849	
87	Ogar Assam Effa	C.R.S. Forestry Commission	Director (R&A)	--	
88	Chief Edwin Ogar	Ekwi Initiative	Project Coordinator	08035461507	Produces and
89	Chief W.C. Onyekwere	Rite Edge Ltd, Odukpani	Chairman, CEO	08033055464	See us to local
90	Ofem Ewum	Rite Edge Ltd, Odukpani	Manager, Furniture Ops	08056196485	
91	Otamere Ephraim	Rite Edge Ltd, Odulupani	Supervisor Division mill	08053164752	Components moulding! scau
92	Mr. M. Ronchini	La Mandria FZE Aa-A10 Calabar Free Trad Zone, CRS	Managing Director	08064354744 0802087973 08056213055 08043033361	Exports parquestoney were visit

Annex 4 Partial List of Documents consulted

1. *Adeyoju,J., E. 1993*. " Forestry and the Nigerian Economy. Ibadan University Press. Ibadan

2. *Aruofor R, FDF, 2001*, Nigeria/FAO Forestry Outlook Studies in Africa, Country Report.

3. *Barbone Luca and Zalduendo Juan (2000)*. Forest Taxes, Government Revenues and the Sustainable Exploitation of Tropical Forest. www.worldbank.org/afr/wps/wp5.htm Africa Region Working Paper 5

4. *Beak, 1999*. "Forest Resources Survey"

5. *Binswanger, H. (1987).* "Fiscal and Legal Incentives with Environmental Effects on the Amazon," Agriculture and Rural Development Department, World Bank, Wash., DC.

6. *Blakeney, J. (1993).* "Performance Deposit – An Incentive for Sustainable Forest Management," in E. D'Silva and S. Appanah (editors), Forestry Management for Sustainable Development, EDI Policy Seminar, Report No. 32, World Bank, Washington, DC.

7. *Buongiorno,J., P.A. Harou, A. Omoluabi and L.Ogundare. 1994.* "Timber Demand and Supply in Nigeria: Models and Forecasts to 2010. J. of Forest Resources management. V7: 101-127.

8. *FORMECU, 1993,* Review of the Wood- Based Sector in Nigeria, Consultancy Report by University of Ibadan, and GWVC Ltd., Canada.

9. *FAO, 1979,* Re-Appraisal of Forestry Education and Training Needs in Selected Countries in West Africa. Rome, Italy.

10. *FAO, 2001,* Non-wood Forest Products in Africa; a Regional and National Overview.

11. *FGN, 2002,* National Tree Nursery Development Programme.

12. *FAO, 2001,* Forest Finance: the Forest Revenue System and Government Expenditure on Forestry in Nigeria.

13. *FGN, 2000,* Report on Inter-Ministerial Committee on Combating Desertification and Deforestation.

14. *FORMECU, 1998,* Forest Resources Study.

15. *FORMECU, 1996,* Nigeria Statistics. Publication No 14

16. *Forest Revenue System Development in Nigeria (1993).* Proceedings of the Seminar on Forest Revenue System Development in Nigeria held at Benin City, Edo State. 10-11 November.

17. *FAO (2001):* The Forest Revenue System and Government Expenditure on Forestry in Nigeria. Available from www.fao.org/forestry/site/4072/en

18. *Federal Ministry of Science & Technology. 2003,* "Wood and Wood Product Sector" Multi-Disciplinary Committee Report on the Techno-Economic Survey.112p

19. *Federal Department of Forestry, Federal Ministries of Environment, Nigeria (February, 2005).* Nigeria Draft National Forest Policy: The National Forest Policy Direction and Strategies for its Implementation.

20. *Federal Ministry of Environment, Federal department of Forestry, Abuja (February, 2002),* Draft National Forestry Act. (With Amendments based on the Stakeholders' Workshop held in Minna, Niger State on the 23rd-24th October 2001).

21. *Federal Department of Forestry, Federal Ministry of Environment, Abuja (September-December, 2002).* FAO-Administered National Forest Programme Facility Support in Nigeria.

22. *Forest Resources Study Nigeria (1998).* FRS Main Report Volume I Funded by AfDB. Prepared by Geomatics Nigeria, Beak Consultants Lmt and Geomatics International.

23. *Forest Resources Study Nigeria (1998).* FRS Main Report Volume II: Forest Inventory, Management Planning and Recommendations. Funded by AfDB. Prepared by Geomatics Nigeria, Beak Consultants Lmt and Geomatics International.

24. *Forest Resources Study Nigeria (1998).* Private Sector Involvement and Socio-Economic Assessment. Final Report. Funded by AfDB. Prepared by Geomatics Nigeria, Beak Consultants Lmt and Geomatics International

25. *Gray, John (2002)*. Forest Concession Policies and Revenue Systems. Country Experience and Policy Changes for Sustainable Tropical Forestry. World Bank Technical Paper No. 522. Forest Series.

26. *Grut, M., N. Egli, and J. Gray (1990).* "Forest Revenue Systems and Concession Management Policies for West and Central African Moist Forests," World Bank, Washington, DC. Kio 1991

27. *Kio, P.R.O., Abu, J.E. and Lowe, R.G (1992).* "High Forest Management in Nigeria" *in* Proceedings IUFRO Centennial Celebration

28. *NFAP, 1996*. Incentive for Private Forestry. Mimeo.

29. *Nwokeabia, O., D. 1997*. "Forest Products Certification: A Tool for Sustainable Forest Resources Trade and Environment Management in Nigeria". Proceedings of the 11th World Forestry congress, Antalya, Turkey 13-22 October 1997.

30. *Nwokeabia, O., D. 2005*. "Forest Concession Management in Nigeria" paper presented at ITTO National Training Workshop on PCI for Tropical Rain Forest in Nigeria, Abeokuta, Ogun State, Nigeria.

31. *ODEE EN Consultancy Services. 2006*, " Development of Methods and Strategies for Sustained Management of Moist Tropical Forest in Cameroon" .Report on the Ex-post evaluation of ITTO Project PD 26/92 Rev.2(F1). 38p.

32. *Papka, P.M., 2005*. "The Challenge of Sustainable Forest Management in Nigeria" Invited Keynote address delivered at the 30th Annual FAN Conference in Kaduna, Kaduna State. 9-11 November 2005.

33. *Profor (2003)*, Reforming Forest Fiscal Systems: A Workshop Summary. Vol 1, Issue I: Innovative Financing for SFM (available: http://www.profor.info)

34. *SKOUP & Co. Ltd, 1983*, Forest Revenue Systems Study for Nigeria.

35. *Sutter, H,. 1978*. "The Industries Inventory of Reserves High Forest in Southern Nigeria, 1973-1977. FAO, Rome.

36. *Umeh, L.I. (1991).* Forest management in Nigeria: Problems and the needed Strategies. Invited paper for the Distinguished Seminar Series of Forest Research Institute of Nigeria, delivered in July17.1991

37. *World Bank (June, 2007)* Nigeria Competitiveness and Growth. Executive Summary. Report No 36483. Washington DC.

38. *World Bank.(2005)* Strengthening the Nigerian Forestry Sector to Enable Sustainable Forestry and Revenue Generation in Nigeria's Productive Forests. Report No 32406-NG. Washington DC

39. *World Bank (2006).* "Getting Agriculture Going in Nigeria—Framework for a National Growth Strategy", Report No 34618-NG. Washington, DC.

40. *World Bank (2006).* "The Little Green Data Book" from the World Development Indicators. Washington DC. 235p.

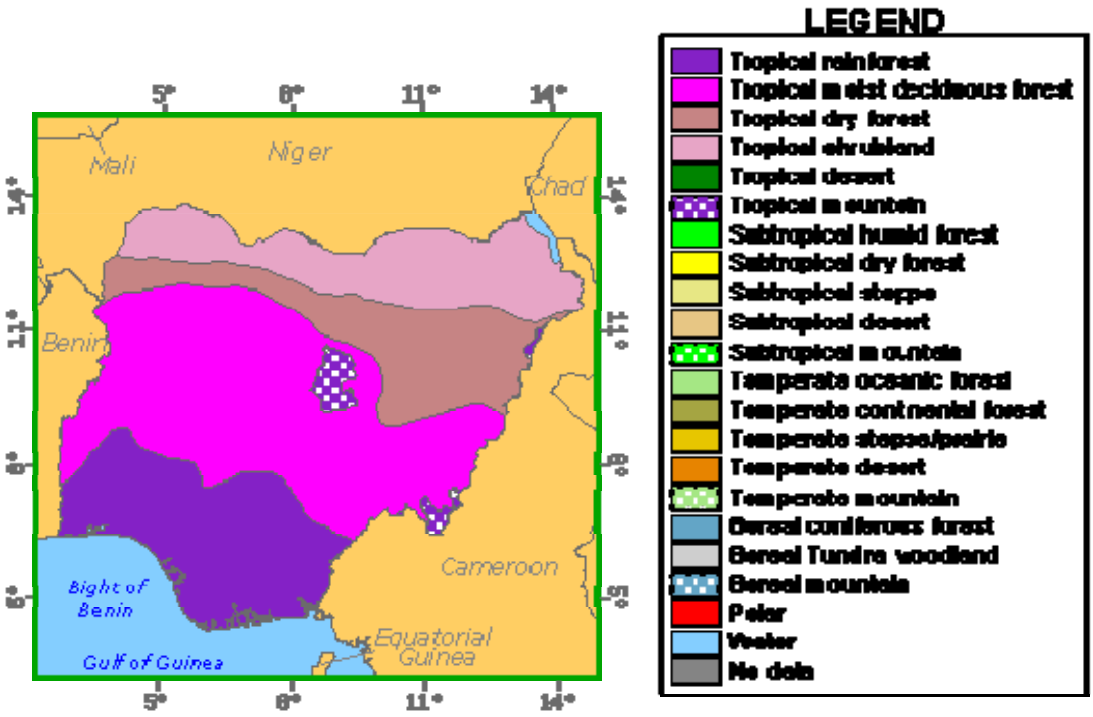
41. *World Bank (2007).* "A Fiscal Agenda for Change – Public Expenditure Management and Financial Accountability Review (PEMFAR). Executive Summary. Report No 36496-NG. Washington DC. "

Annex 5 Technical annexes

Annex 5. Technical Annexes

Annex 5.1 Administrative Map of the States

Annex 5.2 Ecological Zones



Source: FAO web

The vegetation of Nigeria is determined by climate, in particular by the rainfall and the severity of the dry season. Farming, fires and soil also profoundly affect it. The following main vegetation zones can be distinguished:

(1) The forest zone (mangrove forest and coastal vegetation, freshwater swamp forest and lowland rain forest), a belt 50 to 250 km wide along the coast corresponding to rainfall generally higher than 1 600 mm, exceeding 2 500 mm in the delta and along the eastern coast (3 600 mm, for instance, at Forcados in the delta);

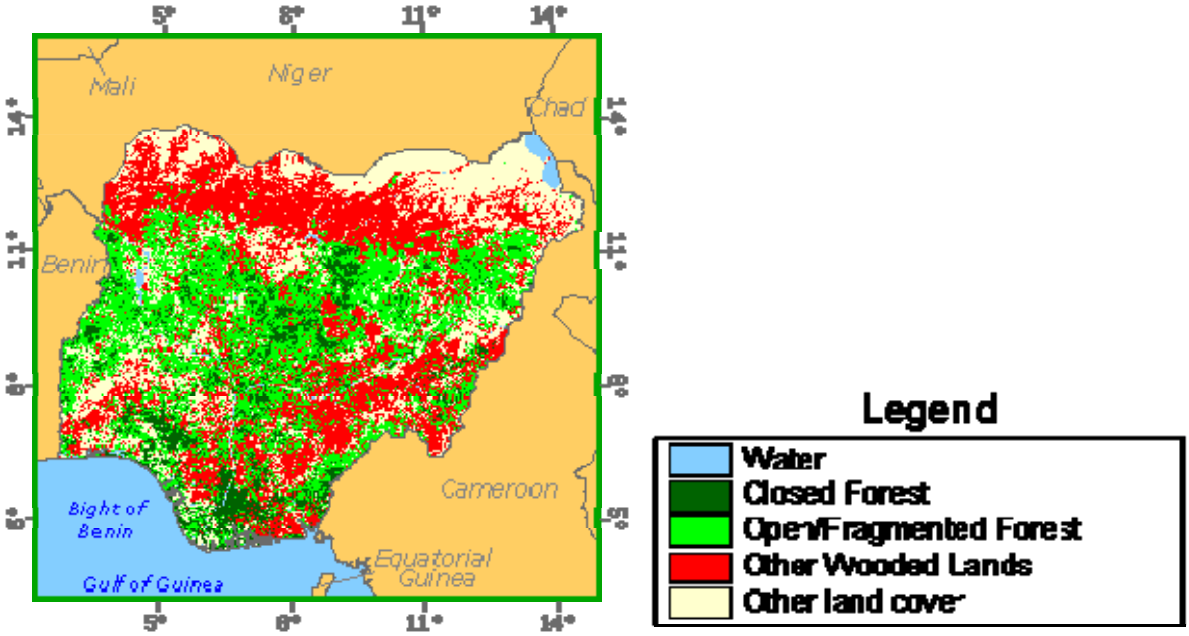
(2) The derived savanna zone with a 1 150 to 1 500 mm rainfall and a 3-months dry season, bordering the forest zone on the north;

(3) The savanna zones, including:

- The southern Guinea zone (1 150 to 1 500 mm, 4 to 5 months dry season);
- The median and northern Guinea zones (1 000 to 1 250 mm, 5 to 6 months dry season);
- The Sudan zone (500 to 1 500 mm, 5 to 7 months dry season), which can be subdivided in a northern, median and southern Sudan zones;
- The Sahel zone (250 to 500 mm, 7 to 8 months dry season).

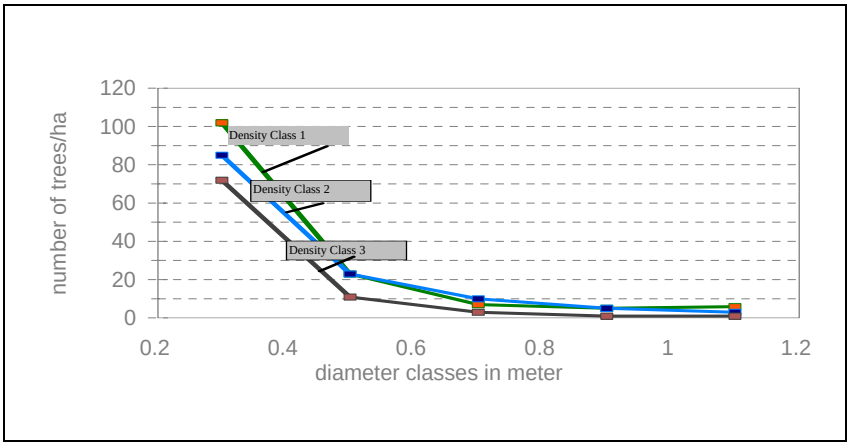
The savanna zones extend in this order from south to north, with the Sahel zone covering only approximately 1% of the total area of the country along the north-eastern border with Niger. However with climatic change, this area could become much more important than presently Altitude is a dominant factor for vegetation only on higher elevations of the Bauchi plateau and in the mountainous area along the central section of the Cameroon border.

Annex 5.3 Forestry map of Nigeria



Source: FAO 2005

Figure 0-1: Diameter Class Distribution in High Forest



Source: Table created from Forest Resources Study Data, 1998

Annex 5.4 Tree Plantations

Area of Forest Plantations in Forest Reserves and Off-Reserve Areas within Individual States (FRS Study, 1999)

S/N	State	Plantation Area in Forest Reserves (ha)	Plantation Area in Off-Reserve Areas (ha)
1	Abia	4,505	0
2	Adamada	1,273	0
3	Akwa-Ibom	2,282	0
4	Anambra	3,828	0
5	Benue	2,432	0
6	Cross River	14,508	1 plantation, size unknown
7	Delta	4,015	0
8	Edo	21,527	0
9	Enugu/Ebonyi	13,752	0
10	Imo	1,253	0
11	Kaduna	5,867	0
12	Kano	1,825	0
13	Kebbi	904	0
14	Kogí	5,275	404
15	Kwara	9,752	0
16	Lagos	1,049	0
17	Níger	5,588	115
18	Ogun	39,882	185
19	Ondo/Ekiti	32,086	0
20	Osun	9,264	0
21	Oyo	6,745	2 plantations, size unknown
22	Plateau/ Nasarawa	6,957	0
24	Taraba	1,439	0
	TOTAL	196,008	704

Annex 5.4 Production, Consumption, and Trade of forest products

Removals of wood products

FRA 2005 categories	Volume (1000 cubic meters over bark)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	4,660	10,830	13,916	-	-	-
Woodfuel	59,096	68,172	72,711	-	-	-
Total	63,756	79,002	86,627	-	-	-

Value of wood removal

FRA 2005 categories	Value (1000 USD)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	302,891	1,119,156	1,527,288	-	-	-
Woodfuel	262,618	404,492	475,429	-	-	-
Total	565,508	1,523,648	2,002,718	-	-	-

Production, trade and consumption of forest products - Forest products production 1990-1998

	Units x1000	1990	1991	1992	1993	1994	1995	1996	1997	1998
Roundwood	Cum	88772	83087	85062	87058	89076	91115	93392	96072	98514
Industrial Roundwood	Cum	8263	8263	8263	8263	8263	8263	8479	9079	9418
Sawlogs and Veneer Logs	Cum	5984	5984	5984	5984	5984	5984	6200	6800	7100
Other Indust Roundwd	Cum	2279	2279	2279	2279	2279	2279	2279	2279	2279
Wood Fuel	Cum	80509	74824	76799	78795	80813	82852	84913	86993	89096
Sawnwood	Cum	2729	2719	2715	2711	2533	2356	2178	2000	2000
Sawnwood (C)	Cum	6	0	0	0	0	0	0	0	0
Sawnwood (NC)	Cum	2723	2719	2715	2711	2533	2356	2178	2000	2000
Wood-Based Panels	Cum	102	105	112	105	103	100	98	95	95
Veneer Sheets	Cum	0	0	0	0	0	0	0	0	0
Plywood	Cum	67	70	72	65	63	60	58	55	55
Particle Board	Cum	35	35	40	40	40	40	40	40	40
Wood Pulp	Mt	7	7	7	7	7	7	7	15	23
Semi-Chemical Wood Pulp	Mt	3	3	3	3	3	3	3	6	9
Chemical Wood Pulp	Mt	4	4	4	4	4	4	4	9	14
Recovered Paper	Mt	8	8	8	8	8	8	8	8	8
Paper and Paperboard	Mt	43	29	21	5	3	6	21	19	19
Newsprint	Mt	31	21	13	3	0	0	0	0	0
Printing+Writing Paper	Mt	0	0	0	0	0	3	1	1	1
Other Paper+Paperboard	Mt	12	8	8	2	3	3	20	18	18

Source: FAO web

Import / Export of Forest Products - Trade of Forest Products for 2002

	Units	Import		Export		Production	Consumption
		Quantity	$US (x1000)	Quantity	$US (x1000)	Quantity	Quantity
Sawnwood	Cum	400	181	60600	33383	2000000	1939800
Sawnwood (C)	Cum	400	181	0	0	0	400
Sawnwood (NC)	Cum	0	0	60600	33383	2000000	1939400
Wood-Based Panels	Cum	11925	3342	260	365	95000	106665
Veneer Sheets	Cum	31	13	166	337	0	-135
Plywood	Cum	885	700	91	27	55000	55794
Particle Board	Cum	1173	300	0	0	40000	41173
Fibreboard	Cum	9836	2329	3	1	0	9833
Wood Pulp	Mt	3284	1753	0	0	23000	26284
Mechanical Wood Pulp	Mt	64	23	0	0	0	64
Semi-Chemical Wood Pulp	Mt	0	0	0	0	9000	9000
Chemical Wood Pulp	Mt	3066	1562	0	0	14000	17066
Dissolving Wood Pulp	Mt	154	168	0	0	0	154
Paper and Paperboard	Mt	143800	100160	0	0	19000	162800
Wood Fuel	Cum	0	0	266	27	89096000	89095736
Wood Residues	Cum	0	0	0	0	0	0
Other Fibre Pulp	Mt	3362	2306	0	0	0	3362
Recovered Paper	Mt	414	141	650	73	8000	7764

Source: FAO web

Annex 5.5 Production, Import-Export Projections for forest products 2010 and 2020 (Buongiorno et al. 2007)

Table 1 Fuelwood production (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	76799	61258	61258	60595	59838	59162

Table 2 Industrial roundwood production (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	8263	9418	9418	9913	10286	10563

Table 3 sawnwood production (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	2715	2000	2000	2152	2283	2387

Table 4 Veneer and plywood production (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	72	55	55	63	71	78

Table 5 Particleboard production (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	40	40	40	46	51	56

Table 6 Fiberboard production (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 7 Mechanical pulp production (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 8 Chemical pulp production (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	7	300	300	303	299	293

Table 9 Other fiber pulp production (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	23	23	24	24	25

Table 10 Waste paper production (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	11	221	221	244	264	279

Table 11 Newsprint production (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	13	545	545	571	592	607

Table 12 Printing and writing paper production (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 13 Other paper and paperboard production (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	8	18	18	20	16	10

Table 14 Fuelwood import (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 15 Industrial roundwood import (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	1	1	1	1	1

Table 16 sawnwood import (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	1	1	1	1	1	1

Table 17 Veneer and plywood import (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	3	0	0	0	0	0

Table 18 Particleboard import (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	2	2	2	3	4

Table 19 Fiberboard import (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	16	53	53	67	83	99

Table 20 Mechanical pulp import (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	16	16	17	18	18

Table 21 Chemical pulp import (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	2	1	1	1	1	1

Table 22 Other fiber pulp import (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 23 Waste paper import (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	1	1	1	1	1	1

Table 24 Newsprint import (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	5	22	22	23	26	29

Table 25 Printing and writing paper import (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	65	121	121	154	191	226

Table 26 Other paper and paperboard import (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	51	108	108	133	165	197

Table 27 Fuelwood export (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	1	1	1	1	1

Table 28 Industrial roundwood export (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	5	27	27	22	17	14

Table 29 sawnwood export (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	41	28	28	22	17	14

Table 30 Veneer and plywood export by region (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 31 Particleboard export by region (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 32 Fiberboard export by region (thousand CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 33 Mechanical pulp export by region (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 34 Chemical pulp export by region (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 35 Other fiber pulp export by region (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 36 Waste paper export by region (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 37 Newsprint export by region (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 38 Printing and writing paper export by region (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	0	0	0	0	0	0

Table 39 Other paper and paperboard export by region (thousand MT)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	29	2	2	2	1	1

Table 53 Area by region (thousand Hectares)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	16620	10679	10679	8987	7563	6588

Table 54 Stock by region (million CUM)

	Actual		Projection			
	1992	2006	2006	2011	2016	2020
Nigeria	1022	1341	1341	1192	1040	919

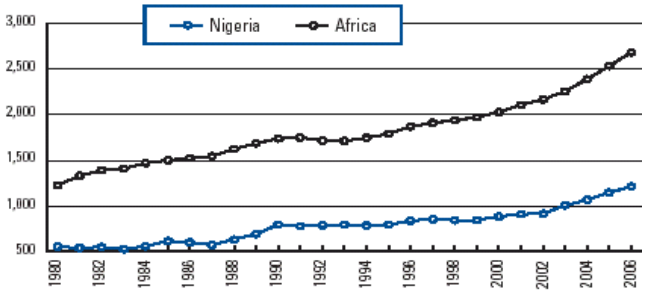
Annex 5.6 Key Economic indicators and competitiveness index

Key indicators

Population (millions), 2006	134.4
GDP (billions, current US$), 2006	115.4
GDP (PPP US$) per capita, 2006	1,213
Sectoral value-added (as percentage of GDP), 2004	
Agriculture	17
Industry	57
Services	26
Human Development Indicator rank (out of 177 economies), 2004	159

Source: UNFPA, IMF, EIU, UNDP

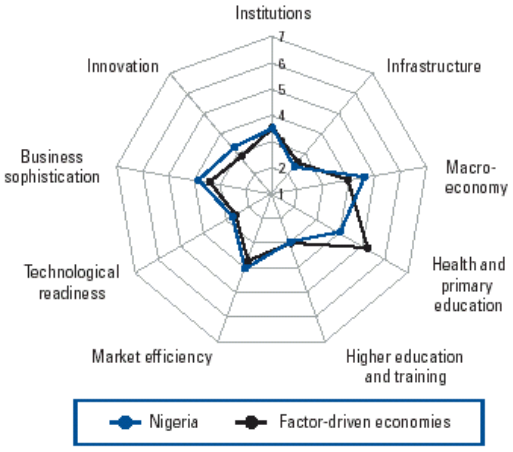
GDP (PPP US$) per capita, 1980–2006



Global Competitiveness Index 2007

	Overall rank (out of 128)	Score (1–7)
Global Competitiveness Index 2007	**102**	**3.5**
GCR 2005–06 (out of 117 economies)	83	3.7
Basic requirements	**113**	**3.6**
1st pillar: Institutions	93	3.5
2nd pillar: Infrastructure	108	2.3
3rd pillar: Macroeconomy	57	4.6
4th pillar: Health and primary education	119	4.0
Efficiency enhancers	**90**	**3.3**
5th pillar: Higher education and training	103	3.0
6th pillar: Market efficiency	71	4.1
7th pillar: Technological readiness	90	2.8
Innovation enhancers	**69**	**3.6**
8th pillar: Business sophistication	75	3.9
9th pillar: Innovation	52	3.3

Stage of development



Annex 5.6 Competitiveness Index

The Global Competitiveness Index in detail

INDICATOR	SCORE	RANK/128
1st pillar: Institutions		
Property rights	3.8	90
Diversion of public funds	2.3	118
Public trust of politicians	2.2	78
Judicial independence	3.2	85
Favoritism in decisions of government officials	2.5	100
Government spending	2.8	89
Burden of government regulation	3.2	45
Business costs of terrorism	3.7	119
Reliability of police services	2.7	119
Business costs of crime and violence	2.9	110
Organized crime	3.0	119
Ethical behavior of firms	3.8	89
Efficacy of corporate boards	4.8	42
Protection of minority shareholders' interests	4.1	74
Strength of auditing and accounting standards	4.1	85
2nd pillar: Infrastructure		
Quality of overall infrastructure	2.6	94
Quality of railroad infrastructure	1.8	83
Quality of port infrastructure	2.8	85
Quality of air transport infrastructure	3.5	96
Quality of electricity supply	1.8	122
Telephone lines*	0.9	111
3rd pillar: Macroeconomy		
Government surplus/deficit*	9.9	8
National savings rate*	33.4	14
Inflation*	17.9	124
Interest rate spread*	7.4	81
Government debt*	n/a	n/a
Real effective exchange rate*	–1.2	58
4th pillar: Health and primary education		
Business impact of malaria	3.7	116
Business impact of tuberculosis	4.1	111
Business impact of HIV/AIDS	3.1	112
Infant mortality*	103.0	121
Life expectancy*	46.0	118
Tuberculosis incidence*	531.3	113
Malaria incidence*	2,103.6	109
HIV prevalence*	5.4	116
Primary enrollment*	60.1	116
5th pillar: Higher education and training		
Secondary enrollment*	34.6	111
Tertiary enrollment*	10.0	96
Quality of the educational system	3.3	72
Quality of math and science education	2.9	105
Quality of management schools	3.4	95
Local availability of research and training services	3.9	61
Extent of staff training	3.5	66

INDICATOR	SCORE	RANK/128
6th pillar: Market efficiency		
Agricultural policy costs	4.0	43
Efficiency of legal framework	3.2	85
Extent and effect of taxation	4.4	24
No. of procedures required to start a business*	9.0	50
Time required to start a business*	43.0	81
Intensity of local competition	4.1	106
Effectiveness of antitrust policy	3.6	72
Imports*	36.8	73
Prevalence of trade barriers	3.7	108
Prevalence of foreign ownership	5.1	66
Exports*	64.5	27
Hiring and firing practices	5.0	19
Flexibility of wage determination	5.0	75
Cooperation in labor-employer relations	3.8	112
Reliance on professional management	4.6	55
Pay and productivity	3.3	103
Brain drain	2.4	104
Private sector employment of women	5.4	19
Financial market sophistication	3.2	80
Ease of access to loans	2.5	97
Venture capital availability	3.0	75
Soundness of banks	4.8	92
Local equity market access	5.3	49
7th pillar: Technological readiness		
Technological readiness	3.0	88
Firm-level technology absorption	4.4	80
Laws relating to ICT	3.4	69
FDI and technology transfer	5.2	45
Mobile telephone subscribers*	14.1	99
Internet users*	3.8	99
Personal computers*	0.7	111
8th pillar: Business sophistication		
Local supplier quantity	4.8	54
Local supplier quality	3.6	95
Production process sophistication	2.9	96
Extent of marketing	4.0	70
Control of international distribution	4.4	40
Willingness to delegate authority	3.5	67
Nature of competitive advantage	3.4	66
Value chain presence	3.2	79
9th pillar: Innovation		
Quality of scientific research institutions	4.0	45
Company spending on R&D	3.6	38
University-industry research collaboration	3.3	49
Gov't procurement of advanced tech products	4.5	20
Availability of scientists and engineers	4.1	86
Utility patents*	0.0	80
Intellectual property protection	2.9	89
Capacity for innovation	3.3	58

Annex 5.7 Teaching, research and extension

Research

1. The Federal Department of Forestry Research was created in 1954, under the old Ministry of Information and Research and later on, was domiciled in the Ministry of Economic Development.
In 1961 the Forest Product Research Laboratory was opened to work on forest products utilization. The Department was under the Federal Ministry of Agriculture and Natural Resources from mid – 1960s till 1976, when it became the Forestry Research Institute of Nigeria (FRIN), under the Agricultural Research Council of Nigeria (ARCN). The ARCN became the National Science and Technology Development Agency (NSTDA), until it transformed into the Federal Ministry of Science and Technology. The Institute is now under the FMEHUD.

2. The research, training and information activities of FRIN are organized on an interdisciplinary basis, embracing the various subject of soil and tree nutrition, entomology and pathology, silviculture, biometrics, tree growth and yield, physiology, economics, wood chemistry and technology.
The projects being implemented are as follows:

i. Improving the growth, establishment and yield of general purpose timber and pulpwood species.
ii. Supply of improved breeders of forest tree seeds.
iii. Agroforestry
iv. Research into development and improvement of non-wood forest resources of the savanna and high forest.
v. Conservation of natural vegetation types and their genetic materials.
vi. Research into production of wildlife.
vii. Arid and semi-arid zone savanna afforestation.
viii. Afforestation of ecologically degraded sites.
ixa. Improvement of timber utilization and research into development of wood based panel products.
ixb Wood/Cement based building tiles research and production.
x Studies on utilization and regeneration of mangrove forests.
xi Forestry and wildlife education and training.
xii Dissemination of forestry and wildlife research results.

3. The research objectives of the **outstations** are ecozone specific but together cover the overall. Shelterbelt Research Station (SRS), Kano.

i. Savanna Forestry Research Station (SFRS), Samaru, Zaria, Kaduna State
ii. Eastern Research Station (ERS), Umudike, Umuahia, Abia State
iii. Moist Forest Research Station (MFRS), Sakponba, Edo State.
iv. Mangrove Research Station (MRS), Oone, Rivers State

4. Apart from the research outstation listed above, the Institute maintains permanent sample plots (PSP), strict nature reserves (SNR) and experimental plots distributed across the country from the south (coast-land) to the Sudan/Savanna zones of the north. Information from the SNRs are a useful guide for long term management of natural forest and savanna. The PSPs which are measured more frequently are expected to give information on the growth rate and regeneration capacity of specific species.

5. The experimental plots have shorter term objectives and are more intensively monitored. The PSP and SNR, if properly managed, should contribute to SFM. However, it is uncertain whether these plots are still being monitored. There are 10 PSPs, 17 SNRs, and 11 experimental plots (EPs).

6. Research is structured to address problems associated with SFM along ecological lines.

- Research is designed to support sustainable timber production from natural and artificial forests (plantations) as well as environmental conservation/protection.
- It is not adequate to cover all information requirements/listed because of a number of constraints.
- There are sample plots, strict nature reserves, and experimental plots to provide data upon which sustainable yield data can be calculated but theare no being well-maintained.

- The data, when available are processed but the agricultural extension approach used for information/technology dissemination delays availability of such outcomes to management in reasonable time and the direct application of the results to sustainable forest management.
- Important achievements have been scored in research in areas such as: improved yield in the savanna, use of lesser known tree species, tree improvement and breeding, tropical forest conservation and management, arid zone shelterbelt development, policy and social economic research.

Education and Training

7. Forest management involves the use of scientific and technical knowledge of several disciplines like management, economics, silviculture, ecology, soils, botany, mensuration, climatology, forest engineering, sociology, wildlife management and recreation, etc. The interplay of these components and several others is required for sustainable forest management. Rapid human population growth in Nigeria has further compounded the staffing problems of forest development. In addition to this, is the creation of several states, each with its own Forestry Department which requires staffing in various disciplines. There is a general shortage of staff both quantitatively and qualitatively. Inadequate, untrained or poorly trained manpower has been the bane of forestry development in Nigeria. The staff situation is further exacerbated by the lack of employment of new staff and the haphazard retirement of the few available staff. From all indications, there is no plan for manpower development in forestry or other disciplines, neither is there any conscious effort being made to address the manpower requirements for forestry in years to come. FAO (1979) found that the staff available at present in the sub-region is far below the requirements for fulfilling committed functions and the forecasts for the future. The reason for the low level of qualified forestry staff is that there are very few institutions which provide training for the various manpower levels. Many of the institutions are also poorly staffed and ill-equipped for adequate professional, technical and vocational training in forest development. At the current level of forestry activities in Nigeria, manpower requirements would have to increase substantially to keep pace with the level of activities nationwide. The shortage of trained manpower in forestry cannot be adequately addressed without a proper assessment of the future requirements of trained manpower, followed by a consistent and pragmatic pursuit of identified training needs.

Professional Forestry Training in Nigeria

8. Professional training in Forestry, has become so unattractive to young people that extremely few are interested in pursuing a career in Forestry. This apathy has emanated from government's neglect of agricultural development. In addition, the situation for Forestry graduates has resulted in the lack of interest for professional Forestry training in Nigeria. There are a number of universities in Nigeria which offer professional training in forestry. Foremost among these is the well-developed, well-equipped and well-staffed Department of Forest Resources Management, University of Ibadan, which was established in 1963 with support from the FAO/UNDP, to provide the training needs (B. Sc. Forestry) for Nigeria, Ghana, Cameroon, Sierra-Leone, as well as other African countries. The University of Ibadan co-operated with the Forest Research Institute of Nigeria (FRIN), Federal Department of Forestry (FDF), and the Chief Conservators of Forests in all the states of Nigeria , to develop an adequate curriculum for professional forestry training. Since 1963, other Nigerian Universities have established Departments of Forestry and Wildlife, Fisheries and Wood Technology. They include:

- Usmanu Dan-Fodio University, Sokoto: Department of Forestry and Fisheries.
- University of Calabar: Department of Forestry
- University of Benin: Department of Forestry and Wildlife.
- University of Agriculture, Abeokuta: Department of forestry and Wildlife.
- University of Agriculture, Makurdi: Department of Forestry.
- University of Technology, Akure: Department of Forestry and Wood Science.
- Ahmadu Bello University, Zaria: Department of Wildlife Biology.

According to FAO (1979), Nigeria's future demand for forestry training at the B.Sc. level is not likely to be met by the existing capacity, especially with the growing population and the worsening levels of environmental degradation. However, student intake in Forestry, has continued to decline, over the years.

Technical Forestry Training in Nigeria

9. Technical Forestry training in Nigeria is a middle manpower training programme which offers two-tier Diploma Courses: (1)the Ordinary Diploma Course, is a 2-year course. (2) the Higher Diploma Course is theoretically open to direct candidates who have GCE 'A' – Level, but mainly for in-service training, for those with Ordinary Diploma in Forestry. Generally, those candidates for technical Forestry training usually have no access to the University degree courses because they do not have the entry qualification which is GCE 'A' Level.

10. There are a number of schools which provide technical Forestry training in Nigeria: *(1) College of Forestry, Ibadan* which provides: Higher Diploma Course in Forestry, Ordinary Diploma Course in Forestry and Short Courses for Silvicultural Assistants and Nursery Assistants; (2) *College of Forestry, Jos*, which provides: Higher Diploma Course in Forestry, Ordinary Diploma Course in Forestry and Short Courses for Forestry Guards, Survey Assistants, Nursery Assistants; (3)College of Wildlife Management, New Bussa, provides: Diploma courses in Wildlife Management, Wildlife Guards' Courses; and (4)College of Forestry Mechanization, Afaka, Kaduna, provides: Diploma Courses in Forestry Mechanization, Short Courses in wheel tractor operation and maintenance, mechanized and nursery and plantation operations.

11. Vocational Forestry Training. FAO (1979) found that the forecast requirements of manpower at this level were huge, and available manpowere extremely scarce. There are only one or two schools offering formal vocational training in the country. The vocational personnel are supposed to receive on-the-job training, but this alternative was not as satisfactory as the institutionalized training at a school which has the advantages of speed, standardization, full coverage and efficient instruction. FAO (1979) reported that the experience in the sub-region shows that, the vocational level is often neglected. The number of different skills required at this level is also often not fully appreciated. The few schools that provide vocational forestry training in Nigeria include: The College of Forestry, Ibadan, which provides a six-month course for Silvicultural Assistants. The College of Forestry, Jos, which also provides a six-months course for Forest guards and Game Guards.The Forest Utilization Center, Benin, provides training in saw-doctoring and all other aspects of timber utilization.The existing facilities for vocational forestry training in Nigeria are very inadequate and need to be expanded to satisfy the requirements for SFM in Nigeria.

Annex 5.8 Constraints to SFM

Many constraints to the proper development of the forestry sector and their consequences have been identified in Nigeria. A List of factors (non exhaustive) that militates against the achievement of SFM in the country, *inter alia,* found in the numerous documents consulted by the mission, are:

- Lack of political will to provide adequate resources for SFM
- Under-funding of forest management/research activities
- Overgrazing for livestock production
- Uncontrolled forest fires
- Illegal felling/logging
- Pressure for de-reservation for infrastructures development (urbanization, roads, rail etc)
- Deforestation for agriculture (arable farming)
- Under valuation/pricing of forest products/services
- Absence of effective forest policy
- Absence of deterrent forest laws
- Absence or lack of implementation of operational working/management plans
- Wasteful wood utilization practices
- Exclusion of local/indigenous communities from forest management
- Inadequate resources for SFM (e.g. funds, vehicles, equipments, computers etc).
- Poor data base/record-keeping at all level.
- State Governments perception of forests as a source of ready funds/revenue
- Non determination/application of AAC
- Non creation of FTF in many States
- Shortage of lack of adequately trained/skilled manpower
- Shortage of Forest Guards/Rangers to patrol/protect the forest estate/reserves against illegal logging, poaching of wildlife, encroachment by farmers, cattle/stock breeders, forest fires, pests, diseases etc.
- Shortage of equipment and materials for forest protection (e.g. accoutrements, communication, vehicles watch towers etc).
- Infrequent forest inventories
- Population growth
- Agricultural subsidies
- Roles of FDF/States in forest management
- Duration of concession tenure.
- Insufficient awareness of the public on the importance of SFM

Annex 6 Nigeria Diagnostic Mission- Examples of Potential Projects

Annex 6.1 Project 1 Capacity and knowledge Building

Establish the technical content and didactic material of basic forestry courses leading to (1) the proper management plans and their administration and monitoring with an example from the management of one forest reserve in one State and (2) the economic analysis of the forestry sector and improvement of the statistical data

Title:	Research, training and services for building capacity in the forestry sector.
ITTO Sector:	Reforestation and Forest Management
Development objective:	Contribute to improve sustainable forest management.
Specific objectives:	The prepared knowledge will lead to: (1) elaborate proper management plans and their follow-up and monitoring with an example from the management of one forest reserve in **Ondo** state (2) improve the analyses of the forestry sector and statistical data
Specific constraint(s) to SFM addressed by project:	- Lack of capacity building in the forestry sector - Lack of reliable data and proper economic analysis leading to inadequate forestry policies - Lack of guidelines on the preparation, implementation, monitoring of sustainable forest management plans.
Impacts of constraint(s) on attainment of SFM if not dealt with:	- Absence of proper management of forest resources - Absence of management plans for concessions - Resistance from concessionaires towards sustainable forest management - Risk of resource depletion
Priority of project:	Essential
Summary description of projects:	Could include 1.- Assemble the theoretical knowledge and practical application in the country 2.- Conduct training with a view to improve forest management 3.- Improve the didactic material for: forest management inventory, silvicultural prescriptions, social economic base study, environmental impact study
Expected Outputs and outcomes related to SFM	1.- Improved didactic material. 2.- Improved quality of training. 3.- Staff from FDF and SDF, forest concessionaires, communities, better versed in the preparation implementation and monitoring of sustainable management plans.
Possible executing agencies:	FDF, SDF, Universities, FRIN
Estimated required inputs for execution of the project and budget:	- Man power - Material - Travel Total : US$ 380,000.00
Duration:	2 years (24 months)

Annex 6.2 Project 2 Participatory Community Forest Management in Nigeria

Establish the technical guidelines for Communities involvement in the management of forest resources from the land use plan of their land to the management plans of the communal forest with one pilot project in Cross-River State.

Title:	Participatory community based forest management in Nigeria
ITTO Sector:	Reforestation and Forest Mangement
Development objective:	Contribute to the sustainable management and conservation of community forest management
Specific objectives:	- Bring the community in the management and production of forestry in the free areas and forest reserves. - Resolve conflicts of land use related to community forest. - Establish two pilot projects for participatory forest management involving communities.
Specific constraint(s) to SFM addressed by project:	1.- Lack of man power in SDF for forest management 2.- Community land use conflicts 3.- Illegal logging 4.- Loss of revenue to communities
Impacts of constraint(s) on attainment of SFM if not dealt with:	1.- No budget for SDF 2.- Continued unsustainable utilization of forest resources 3.- Uncontrolled and unprotected forest area
Priority of project:	Urgent
Summary description of projects:	1.- Establish guidelines for participatory land use plan and land use management of the community forest 2.- Training of communities in the management of their forest resources 3.- Establish two (Cross River and Taraba) community based forest management plans as models for the country.
Expected Outputs and outcomes related to SFM	- guidelines for sustainable forest management by communities - training of communities in the different ecological zones of the territory - increase forest management in the free area - more participatory management in forest reserve area
Possible executing agencies:	FDF, SDF, NGOs, Universities
Estimated required inputs for execution of the project and budget:	Man power Travel Material Total: US$ 360,000.00
Duration:	2 years (24 months)

Annex 6.3 Project 3 Create Awareness of SFM Issues

Create awareness building of forestry issues by having academics and consultants preparing relevant and telling extension material, beefing up Forestry related associations including the FAN, organizing workshops for the federal and state legislators and through other relevant means. Build networking and lobbying for SFM

Title:	Create awareness of SFM issues
ITTO Sector:	Reforestation and Forest Mangement
Development objective:	Raise political will in the country to tackle forestry issues.
Specific objectives:	- Gather the information on forestry issues likely to make greatest impact on public and politicians. - Sensitize the politicians on SFM issues. - Organize radio and television programs. - Strength the Forestry Association of Nigeria (FAN). - Strength Forest Products Associations. - Support activities of NFDC for public awareness raising - Atlas on Forest Reserves and Parks of Nigeria
Specific constraint(s) to SFM addressed by project:	- Lack of revenue to state and federal forest budgets - Absence of strong lobbing for forestry - Absence of awareness in local communities on forestry issues
Impacts of constraint(s) on attainment of SFM if not dealt with:	- Lack of funding to manage forest - Uncontrolled access to forest reserves - De- reserving of forest reserves - Lack of support for policy reform and implementation
Priority of project:	Urgent
Summary description of projects:	1.- Develop training and communication forestry issues awareness raising for different types of media 2.- Develop networking for lobbying on forestry issues. 3.- Undertake communications activities outreach. 4.- Strengthen the FAN
Expected Outputs and outcomes related to SFM	- Material for public awareness of SFM issues, including material for exhibits, etc. - Outreach programs delivered. - Effective release of Funds for forestry activities at the State and Federal levels. - More effective lobbying for the forestry sector.
Possible executing agencies:	FDF, SDF, FAN, NGO's
Estimated required inputs for execution of the project + budget:	Man power Material Travel Total: US$ 180,000.00
Duration:	2 years (24 months)

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