FINAL REPORT

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FOR
STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT (SESA) FOR NIGERIA REDD+ READINESS

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List of Acronyms

ATA	Agricultural Transformation Agenda
CBC	Climate, Community, and Biodiversity
CBD	Convention on Biological Diversity
CBFM	Community Based Forest Management
CBOs	Community Based Organizations
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COP	Conference of Parties
CRS	Cross River State
CSOs	Civil Society Organizations
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organisation of the United Nations
FCPF	Forest Carbon Partnership Facility
FGRM	Feedback and Grievances Redress Mechanism
FMARD	Federal Ministry of Agriculture and Rural Development
FME	Federal Ministry of the Environment
GDP	Gross Domestic Product
GHG	Green House Gas
ICCPR	International Covenant on Civil and Political Rights
LUA	Land Use Act
MDAs	Ministries Departments and Agencies
NFCCN	National Forest Conservation Council of Nigeria
NGOs	Non-Government Organizations
NPC	National Population Commission
NPS	National Park Service
NTFP	Non-Timber Forest Product
PGA	Participatory Governance Assessment
R-PP	REDD+ Readiness Preparation Proposal
SESA	Strategic Environmental and Social Assessment
SFM	Sustainable Forest management
SNC	Second National Communication
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change

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EXECUTIVE SUMMARY

Reducing Emissions from Deforestation and Forest Degradation (REDD+) is one of the international policy instruments and mechanism currently being developed with the goal of combating climate change by reducing the emissions of greenhouse gas caused by deforestation and degradation of the forests in developing countries.One of the targets in the implementation of REDD+ as a[1] climate change mitigation programme is to ensure that REDD+ activities do not impose negative impacts on the people particularly the local communities. Moreover, REDD+ is to deliver on benefits beyond carbon and avoid potential risks to the environment and social well-being. REDD+ ("plus") goes beyond deforestation and forest degradation and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks [1].

The Strategic Environmental and Social Assessment (SESA) is a tool that seeks to integrate social and environmental considerations into policymaking processes, leading to making REDD+ policies and programs more sustainable. It supports the design of the National REDD+ policy framework, including the National REDD+ Strategy. SESA is therefore essential for avoiding the negative impacts and enhancing the positive REDD+ benefits, especially regarding socioeconomic, cultural, and livelihood development gains, governance enhancements, and broader environmental or biodiversity benefits. SESA has the strategic objective of integrating social and environmental concerns into the policy-making process of REDD+. SESA is complemented by an Environmental and Social Management Framework (ESMF), leading to making REDD+ policies and programs more sustainable.

The Objectives

The aim of the SESA will assess the potential environmental and social impacts of the REDD+ programme and prepare an Environmental and Social Management Plan. The study was carried out to establish modalities of implementing the project in line with the World Bank safeguard policies as stated in decision 1/CP.16, on results-based payments. This gives the summary of information on how all of the safeguards referred to in decision 1/CP.16, appendix I, are being addressed and respected, as referred to in decisions 12/CP.19 and 12/CP.17, chapter I; a link to the national strategy or action plan as referred to in decision 1/CP.16, paragraph 71(a), as appropriate;

The terms of reference and scope covers:

i. Providing an understanding of the link between REDD+ and Forest sector vis-à-vis REDD+ process, activities, and the operation
ii. Identify key stakeholder that will be directly or indirectly affected by the REDD+ process, including vulnerable groups,
iii. Provide policy, legal and institutional framework at local, state, national and international level for the implementation of the REDD+ strategies in line with the world bank safeguard
iv. Identify potential environmental and social impact/risks of the REDD+ programme
v. Provide alternative/ options to mitigation adverse environmental and social impacts and enhance positive impacts.
vi. Integrate the environmental and social concerns in decision making for Nigetia's REDD+ readiness

[1] http://bft.cirad.fr/cd/BFT_310_3-9.pdf).

vii. Design a framwework for stakeholders' involvement in the REDD+ process including relevant MDAs, private sector, CSOs/NGOs, academia, communities among others. Lso taking into consideration vulnerable groups such as women and the disabled.
viii. Provide guidelines n line with international standards and world bank safeguard for the implementation of the REDD+ interventions as stated in the strategies

The SESA study process entailed:

a. Conducting an Environmental and Social Assessment of the REDD+ implementation to identify and assess the potential environmental and social impacts.
b. Appraising the programme activities and determine any potential negative and positive impacts on the environment
c. Carrying out consultations with relevant stakeholders, including local communities, relevant MDAs, Private sectors, CSOs/NGO's,etc, to obtain their views and suggestions regarding the environmental and social impacts of the programme which will be reflected in the SESA document
d. Identifying existing and expected environmental regulations (Local, State, Federal)
e. Preparing an Environmental and Social Management Framework (ESMF) detailing mitigation measures as well as institutional roles and responsibilities in the operationalization of the ESMF

The focus of this report is on SESA, to be followed by ESMF, RPF, and PF in separate documents.

2.0 DESIGN OF METHODOLOGY/APPROACH TO SESA

The information for this study was primarily derived from multiple sources comprising desk review of relevant literature and policy documents, consultations with principal officers of the National and State (Ondo, Nasarawa and Cross River) REDD+ Secretariats for confirmation of REDD+ policy thrust at both national and state levels, including CSOs/NGOs, community and private sector groups. The information sources above erewere combined with primary data collection through Focus Group Discussion (FGD) and Questionnaire Survey on REDD+ related issues and context across REDD+ pilot sites.

The specific methodologies utilized for the SESA study include:
Stakeholders' profiling/mapping/Analysis including gap analysis to identify stakeholders not included in the R_PP; consultation; assessment of environmental and social issues; institutional assessment; document analysis; prioritizing environmental and social issues; Governance assessment. Data were collected using questionnaire surveys, Key Informant Interviews (KII), desk review, document analysis, policy analysis. Assessment of Institutions' and other related issues aswas carried out using various governance criteria. GIS and remote sensing applications were undertaken to track deforestation hotspots in the pilot sites. Cost-benefit analysis of REDD+ strategy options aswas undertaken from the data collected.
A reconnaissance survey and preliminary visits to REDD+ sites were considered critical to a successful field data collection. Several stakeholders' workshops were carried out to validate the SESA study methodology and instruments, including questionnaire and FGD tools and work plan. The field data collection was carried out in Nasarawa and Ondo states and scaled up to eight other states in the four remaining geopolitical zones for national coverage.

3.0 SITUATIONAL ANALYSIS AND BASELINE INFORMATION

The situational analysis describes the baseline conditions of Nigeria under the physical, social, and biological environments, including land use patterns, land tenure, and land rights and associated drivers of deforestation and forest degradation. The baseline information highlighted existing forest management regimes amidst key environmental and social challenges in the forestry sector and explored funding sources for forest interventions.

4.0 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK IN FOREST AND NATURAL RESOURCE MANAGEMENT

The enabling policies for forest conservation and natural resource management relevant to REDD+ implementation in Nigeria were reviewed. These include international conventions:
International conventions ratified and domesticated by Nigeria, which supports REDD+ are:

- The UNFCCC and the Kyoto Protocol
- United Nations Convention on Biological Diversity (CBD)
- United Nations Convention to Combat Desertification
- The Ramsar Convention- support wetland conservation
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- International Human Rights Instruments, including International Covenant on Civil and Political Rights (ICCPR).
- The Indigenous and Tribal Peoples Convention (ILO Convention No. 169)
- The UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)
- The African Charter on Human and Peoples Rights (and the Protocol to the African Charter on Human and Peoples Rights on the Rights of Women)

4.1 National laws, Policies, Strategies and plans in the forest and natural resource management

Nigeria has several enabling policies, strategies, and legal instruments that could be drawn upon to support REDD+ related programmes. They are namely:

- **The Constitution of the Federal Republic of Nigeria:** The constitution is the supreme legal instrument that provides the basis of the entire legal order in the country. The Constitution provides that one of their functions is to participate in the development of agriculture and natural resources other than the exploitation of minerals
- **Draft Bill for a National Forest Act, 2003:** The bill sets out to provide for the establishment, conservation, sustainable management of the nation's forest resources and its rich biodiversity in conformity with local, national and international processes and initiatives on global forests and environment.
- **National Forest Policy, 2006:** policy is to achieve sustainable forest management that would ensure increases in the economic, social and environmental benefits from forests and trees for the present and future generations including the weak and vulnerable groups.
- **National Park Service Act, Cap N65 LFN, 2004:** The Act established the National Park Service (NPS), with a mandate for the preservation, enhancement, and protection of wild animals, plants and other types of vegetation in the National Parks (and for matters connected in addition to that).
- **Land Use Act Cap 202 LFN 1990 Cap L5 LFN 2004:** The Land Use Act (LUA) is the principal law in Nigeria regulating the use and access to all lands in the country.

- **Minerals and Mining Act, 2007:** It provides that the use of land for mining operations shall have priority over other uses of land, as it constitutes an overriding public interest within the meaning of the Land Use Act.
- **Petroleum Act Cap 10, LFN, 2004:** Provide standard guidelines and Standards for the Petroleum Industry in Nigeria. There are gaps in the acts which include an Inadequate framework for biodiversity considerations in the petroleum industry activities; Lack of specific provision for offset planting to adequately mitigate the impact of deforestation and forest degradation; and Inadequate safeguard considerations and conservation values at the very early stages of activities.
- **Environmental Impact Assessment Act, Cap E12, LFN 2014:** The Act sets out the general principles, procedures and methods to enable the prior consideration of environmental impact assessment on certain public or private projects
- ***National Policy on Environment, 1999:*** The policy identifies key sectors requiring integration of environmental concerns and sustainability with development
- **National Policy on Climate Change, 2012:** The strategic goal of the Climate Change policy is to foster low-carbon, high growth economic development and build a climate resilient society
- **The Green Alternative Agricultural Promotion Policy, 2016-2020:** aims at solving the core issues at the heart of limited food production and delivery of quality standards for the country's food production value chain as well as increasing export earnings through the involvement of and partnership building among all key stakeholders.
- **National Biodiversity Strategy and Action Plan, 2016-2020:** guide the conservation and sustainable utilization of biodiversity, access to genetic resources and the fair and equitable sharing of the benefits arising from their utilization
- **National Renewable Energy and Energy Efficiency Policy (NREEEP)**: The policy is aimed at driving the development of electricity generation from biomass through the implementation of the following national strategies

4.2 State policy and Legal Framework in support of REDD+:

The states policy and legal framework provide for environmental protection and conservation of forest. Some of the policies include policies on agriculture, environment, forest, water resources, and waste management, among others. These are not entirely different from the national laws regarding their provisions.

4.3 Community customary laws in forest and natural resource management

The customary laws make provision for the protection of laws and resource governance over the years. The alignment of existing policies and legal instruments to REDD+ objectives and the World Bank Safeguards are captured together with their corresponding gaps and inherent challenges:

Policies and laws	Key points related to REDD+	Opportunity for world bank safeguard	Challenges
Federal level			
The Constitution of the Federal Republic of Nigeria	Specify The role of the Federal Government comes to play in its implementation of treaties and other international instruments entered into by concerning forest products and resources.	**OP. 4.04 on Natural Habitat:** Particularly section 20, Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions. **OP 4.10:** Indigenous Peoples: Recognize indigenous people and their rights as well as the right to seek redress	The Constitution does not make any particular reference to the role of the Federal or State Government in forestry matters,
Draft Bill for a National Forest Act, 2003	The bill made detailed provisions for access to genetic materials and community rights and the necessity for the free, prior informed consent of communities/ indigenous people. It was not far-reaching on principles for REDD+ implementation as this was not within the international arena at that time.	**OP 4.10:** Indigenous Peoples: Recognize indigenous people and their rights to access as well as right to seek redress	The draft bill is out-dated, and most of the provisions need to be reviewed and updated in line with the current national and global imperatives and to support REDD+ implementation in Nigeria.
Land Use Act, 1978	By the provisions of s.1 of the LUA, all lands in Nigeria are under the control of the respective State Governors LFN 2004; and (iii) Electric Power Sector Reform Act, No. 6 of 2005		No record of any community forest land that has been registered under the LUA.
The Minerals and Mining Act LFN 2007	The act promotes and supports REDD+ activities through: Exclusion of lands constituting National Parks from minerals exploration and exploitation (s.3);	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable. **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development, **OP 4.11:** Physical Cultural Resources: mitigation measures when there are adverse impacts on physical, cultural resources or avoid if possible	The Act is silent on the exploration and exploitation of minerals and mining within forest reserves and other ecologically sensitive areas or critical ecosystems which are under the control and management of the state government.
Environmental Impact Assessment	There are nineteen thematic areas of mandatory study activities. The drivers	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure	However, the law is silent on access to the final approved EIA report of a

Policies and laws	Key points related to REDD+	Opportunity for world bank safeguard	Challenges
Act Cap E12 LFN 2014	of deforestation for which mandatory study is required include agriculture, infrastructure, logging and conversion of forest to other land use, mining, and housing. E.g., need EIA if Conversion of hill forest land to other land use covering an area of 50 hectares or more; conversion of mangrove swamps for industrial, housing or agricultural use covering an area of 50 hectares or more; and others (see p. 15 of study).	that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development. **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop an appropriate pest management plan to address risks	project which is recommended for stakeholders monitoring and reporting on the level of compliance. The main gaps identified in the EIA process, include No clear procedural guidelines on criteria/indicators or application of precautionary principles or defined parameters for assessment of the ecosystem values in consideration of EIAs for mining rights.
Freedom of Information Act, 2011, LFN	To make public records and information more freely available, provide for public access to public records and information, protect public records and information to the extent consistent with the public interest and the protection of personal privacy	**OP 4.10:** Indigenous Peoples: Recognize indigenous people and their rights to access as well as right to seek redress	Implementation bottleneck
Endangered Species Act (Control of International Trade and Traffic in Endangered Species), Cap E9 LFN 2004	This Act provides for the conservation and management of Nigeria's wildlife and the protection of some of her endangered species in the face of extinction as a result of over-exploitation, as required under certain international treaties to which Nigeria is a signatory, e.g., CITES and CBD.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	*Lack of]* regular updating and inadequacy of scientific knowledge on species. Low public participation inadequate enforcement capacity.
National Park Service Act Cap N65 LFN, 2004	Established the National Park Service (NPS) responsible for the preservation, enhancement, and protection of wild animals and plants and other vegetation in the National Parks (NPs) Protected areas for biodiversity management could overlap with potential REDD+ activities insofar as habitat for flora and fauna can be preserved while also reducing the emission of greenhouse gases.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	Cross River National Park is one of the seven NPs managed under the Act. Management of the enclave host communities and their livelihood needs is a challenge

Policies and laws	Key points related to REDD+	Opportunity for world bank safeguard	Challenges
Regulations of the National Environmental Standards and Regulations Enforcement Agency (NESREA)	Relevant ones may incl: National Environmental (Soil Erosion and Flood Control) Regulations, National Environmental(Access to Genetic Resources and Benefit Sharing) Regulations, National Environmental(Watershed, Mountainous, Hilly and Catchments Areas) Regulations.	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop an appropriate pest management plan to address risks	Lack of institutional workforce for conservation compliance monitoring and enforcement
National Policy on Environment, 1999	The goal of the policy is to achieve sustainable development and, in particular to (i) enhance the quality of the environment; (ii) promote the sustainable use of natural resources; (iii) restore and maintain the ecosystem and ecological processes and preserve biodiversity; (iv) raise public awareness and promote understanding of linkages between environment and development; and (v) cooperate with government bodies and other countries and international organizations on environmental matters.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress	Contains broad guidelines that could be supportive of REDD+ implementation and interpretation of some provisions on the safeguards could be conjecture. No specific mention of REDD+, which was not a global agenda in 1999
National Forest Policy, 2006	The overall objective of the National Forest Policy is to achieve sustainable forest management that would ensure sustainable increases in the economic, social and environmental benefits from forests and trees for the present and future generations including the poor and the vulnerable groups.	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	Strategies for effective cross-sectoral coordination inadequate. There is a need to cover the cost of REDD+ implementation and opportunity cost and appropriate benefit sharing formula Adequate measures or mechanisms are not in place to respond to local community grievances.

Policies and laws	Key points related to REDD+	Opportunity for world bank safeguard	Challenges
National Policy on Climate Change, 2012	Summarised Objective is to Strengthen national institutions and mechanisms (policy, legislative and economic) to establish a suitable and functional framework for climate change governance	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Biodiversity Strategy and Action Plan (NBSAP)	It provides frameworks for addressing biodiversity conservation; sustainable use of the biological resource The current NBSAP 2016 -2020 provides a strategic framework and programme instrument for the conservation of Nigeria's biological diversity and its sustainable use by integrating biodiversity considerations into national planning, policy, and decision-making processes	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Policy on Drought and Desertification, 2007	The main thrust of the policy is to reduce (or where possible prevent) the adverse effects of drought and desertification, and halt or even reverse the processes of desertification, so that people's lives are immensely improved and poverty reduced.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	

Policies and laws	Key points related to REDD+	Opportunity for world bank safeguard	Challenges
National Policy on Erosion, Flood Control and Coastal Zone Management, 2005	Strategies include: protection of the marginal lands by limiting utilization to their carrying capacity and subjecting resources users and developers to guidelines to reduce the vulnerability of the environment to flood and erosion-related disasters	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Agricultural Policy, 2001	A vital feature of the policy is to reduce risks and uncertainties in agriculture by reducing the natural hazard factor militating against agricultural production and security of investment.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	These initiatives have expanded into forestry frontiers in meeting the increased demand for more land. The country has in the past made significant investments to increase productivity in agricultural sectors, and most cases had resulted in the conversion of forests to agricultural land
National Renewable Energy and Energy Efficiency Policy (NREEEP), 2015	This is aimed at driving the development of electricity generation from biomass	**OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	p.22
National Forest Development Programme(s)	Presidential Initiatives on Afforestation Programme, 2009 **–** Approved Forestry Development Programme, 1999; and Report of the Inter-Ministerial Committee on Combating Desertification and Deforestation, 2000	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	Governance issues exacerbated by inadequate funding and political commitment among other competing sectoral needs.
Great Green Wall For The Sahara And Sahel Initiative National Strategic Action Plan (GGWSAP), 2012	It is ale essential tool for the implementation of the AU Agreement to Combat Desertification. This has been domesticated in Nigeria as the Great Green Wall Project (GGWP) under the Great Green Wall Agency.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions. **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	This has been domesticated in Nigeria as the Great Green Wall Project (GGWP) under the Great Green Wall Agency, but the level of implementation is below expectation and target

State level			
Policies and laws	Key points related to REDD+	Opportunity for world bank safeguard	Challenges
Forest Policy of state	Forest Policy is to encourage and support an aggressive ecological restoration of indigenous species and foster the re-direction of development resources. Extraction of forest resources	**OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop an appropriate pest management plan to address risks	Most of the laws need reviews Support commercial forestry and granting of a concession Does not lay considerations to the ecological environment such as watersheds
Agricultural Policy of states,	Agricultural Policy to "provide an enabling environment and service towards sufficiency in Agricultural Production guaranteeing for security and the wholesome development of our resources."	**OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop an appropriate pest management plan to address risks	The agricultural policy of State could be a threat to the REDD+ activities if the forest estates are converted to agricultural plantations without provisions for outset replacement.
Environmental policies of states	Advocates a low carbon/green economy; effective adaptation to climate changes; Conservation of forest resources to provide Eco-services for the reduction of Green House Gas (GHG) emission and global warming	**OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress	
Land Use Policies	Respect right of communities, recognize Land use plan and ensure efficient use of land	**OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress	
Policy on water and sanitation	Efficient management of water resources and increasing access to water and sanitation services for all (men, women, and children), the poor and other vulnerable groups	**OP 4.10: Indigenous Peoples:** Recognize indigenous people and their rights to access as well as right to seek redress	

5.0 FOREST AND NATURAL RESOURCE USE SYSTEMS

5.1 Forest Products And Natural Resources

Across the six geo-political zones of Nigeria and all forest communities around pilot sites, the forest remains a source of energy where fuelwood is extracted. It is also a source of food where non-timber and forest products are extracted and a great source of building materials (wood) as well as medicine for the treatment of ailments.

5.2 Livelihoods System

Forest-based livelihoods mainly consist of farming, fuelwood business, charcoal business, NTFP gathering, and logging, among others. This varies across gender and age. Farming is the predominant occupation mostly carried out by youths.

Apart from the main occupation of individuals, people are also directly or indirectly involved in other alternative sources of income. Non-formal forest business is highly utilized by people as an alternative source of livelihood as shown by 30.85% of respondents. This is followed by other forms of agriculture and livestock production (22.34%).

There is variation in the monthly income of respondents. The average monthly income of the people is between N20, 000 to N40, 000, which is less than US$100 a month and less than US$3 a day.

5.3 Economic Dimension Of Forest Products

The major benefits of forest products to the communities area source of energy, income, food, building materials, herbal medicine, and energy for household use.

There are various sources of energy in Nigeria. However, a large proportion of the population utilizes energy sources such as Charcoal and fuelwood.

The data shows that Firewood is the primary source of energy being utilized by 71.8% of respondents. Firewood as an energy source is mainly utilized by females. Preference for charcoal and fuelwood as the source of energy in REDD+ pilot sites and forest-dependent communities is mostly a function of availability and affordability.

5.4 Agricultural Systems and Forestry

The main features of the agricultural land use and cropping systems typical of the REDD+ pilot sites and selected forest-dependent communities across the geopolitical zones of Nigeria are briefly highlighted. They generally consist of monocrops and intercrops of grains, legumes, roots, and tubers in private or communal holdings. Some limited forms of agroforestry exist. Land management techniques are both organic and inorganic. Land use types are crop rotation and rotational bush fallow with shortening lengths of fallow (2-5 years).

5.5 Forest Management Interventions

Among the commonly received forest management interventions in descending order of magnitude were forest regeneration activities (tree planting), forest management plans, and forest livelihood support. Some of the interventions could not deliver on the targeted objectives, and the local people express dissatisfaction with the interventions programme.

6.0 LANDUSE LAND COVER CHANGE AND SPATIAL ANALYSIS OF DEFORESTATION DRIVERS

6.1 Land Use/Land Cover Trends

Land use/land use change analysis of three epochs between 1990 and 2017 (1990-2000; 2000-2010; 2010-2017) and identification of deforestation "hotspots" was carried out. The result shows that:

- In Ondo state, the land use land cover change from 1990 till 2018 shows a continuous decline of the forest from 42.6% in the 1990s to 34.1% in 2000s and then to about 31.3% in 2018.
- Significant drivers of forest cover change in Ondo state include Rapid population growth, increased urbanization, Agricultural expansion (cocoa plantation agriculture), lumbering industries, and Energy (fuelwood).
- In Nasarawa state, from 1990 till 2018 shows a decline of forest from 39.5% in the 1990s to 31.8% in 2000s and then dramatically declined to 16.4% in 2018.
- Significant drivers of forest cover change in Nasarawa state are Rapid population growth, Increased urbanization due to service proximity to Federal Capital Abuja; Agricultural expansion (Subsistence farming, cash crops, and plantations), Open Mining, and Energy requirements (fuelwood).

6.2 Matrix Ranking Of Deforestation Drivers (National and State Scenarios)

Respondents ranked twenty potential drivers on a weighted scale of very high to low. At the national level, the five topmost drivers in descending order of magnitude include forest fire through annual bush burning, fuelwood harvesting, overgrazing, large scale/commercial agriculture, and high population growth driving demand on land/forest products. In Nasarawa state, Logging/Illegal logging and charcoal production top the list with others as the inefficient processing of timber, fuelwood harvesting, and timber fees. In Ondo state, overgrazing and forest fires were perceived to exert the highest impact on deforestation alongside corruption in the forest sector, logging/illegal logging, and weak forestry department. The magnitude of the perceived drivers also varies across the different ecological zones in the country.

7.0 COST BENEFITS ANALYSIS OF REDD+ STRATEGY OPTIONS

7.1 Opportunity Costs Of Different Land Use

The cost-benefit analysis(CBA) of SESA pilot study in REDD+ strategy options considered were energy sources(firewood and charcoal production), commercial logging and agriculture which fundamentally facilitates emissions of Green House Gases(GHG) for Nasarawa and Ondo States. In line with REDD+ strategic options, therefore, as per the CBA, aspects being considered in parallel are in two folds:

a. The potential scale of land area implementation to be covered and included in REDD+ activities
b. The opportunity cost of the land user as an indication for the level of effort required to change from firewood (fuelwood) harvesting, charcoal production (which require clearing of the ground and upper storey biomass), commercial logging operations and agriculture (which in most cases may be shifting cultivation practices, rather than permanent cultivation in degraded areas) in order to reduce emissions.

Economic benefits and comparisons were based on the net-present-value (NPV) for one year, costs and revenues were discounted using a rate of 18%, reflecting the high costs of capital in Nigeria and understandably adjusted to inflation.

7.2 REDD+ Opportunity Cost

The REDD+ opportunity cost is the cost to the land user of forsaking/forgoing the change from the current land use to another that leads to change of GHG emissions and economic performance of the land. Understandably, opportunity costs are relevant for the design of the REDD+ strategy as they are used to indicate the economic incentive to the land user required to encourage a change of land use practices in support of forest protection. In this situation, if current land use changes (practices) are very profitable, the opportunity costs of forgoing that profit will be high, and land users will require relatively large incentives to be persuaded to change their practice.

The profitability of land uses related to the four target strategies was calculated for the business as usual (BAU) scenario for one year. Thus, a comparison of profitability, which is expressed as net-present-value (NPV) over one year for BAUis presented, beginning with Ondo State for the four strategies.

7.3 Valuation Of Potential Benefits To Selected REDD+ Sites

The costs and revenues for firewood harvest, charcoal production, commercial logging, and agriculture are provided below for Ondo and Nasarawa states.

Costs and benefit of firewood, charcoal and agriculture (crop) of SESA in REDD+ strategy options for Ondo State

S/N	Parameter	Unit	BAU	REDD+
1.0	**Costs and revenue**	**₦/ha per annum**		
1.1	Cost of firewood production	₦/ha per annum	171,000.00	
1.2	Revenue of firewood production	₦/ha per annum	236,520.00	-
1.3	Cost of charcoal production	₦/ha per annum	1,265,674.00	-
1.4	Revenue of charcoal production	₦/ha per annum	2,600,700.00	-
1.5	Cost of commercial logging	₦/ha per annum	1,348,000.00	-
1.6	Revenue of commercial logging	₦/ha per annum	161,718,465	-
1.7	Cost of agriculture(crop)	₦/ha per annum	8,606,590.00	-
1.8	Revenue from agriculture(crop)	₦/ha per annum	22,386,000.00	-
2.0	**Economic benefit**		**CBR**	**NPV[1](₦/tCO$_2$)**
2.1	Firewood	₦/ bundle	1.38	55,528.20
2.2	Charcoal	₦/ 100kg	2.05	1,131,434,54
2.3	Commercial logging	₦/ log	119.97	135,913,969.10
2.4	Agriculture(crop)$^{+}$	₦/ ha	2.60	11,678,049.98

Notes: 1= the discount rate is 18% and the values are inflation adjusted; + = Subsistence/peasant crop production/under permanent site; - = No intervention; CBR = Costs-Benefit Ratio; NPV = Net Present Value; BAU = Business as usual; tco$_2$ = Tonnes of carbon
Source: SESA Pilot REDD+ Field Survey(2018)

Costs and benefit of Firewood, Charcoal and Agriculture (crop) of SESA in REDD+ Strategy Options for Nasarawa State

S/N	Parameter	Unit	BAU	REDD+
1.0	**Costs and revenue**	₦/ha per annum		
1.1	Cost of firewood production	₦/ha per annum	90,300.00	-
1.2	Revenue of firewood production	₦/ha per annum	740,520.00	-
1.3	Cost of charcoal production	₦/ha per annum	873,156.00	-
1.4	Revenue of charcoal production	₦/ha per annum	9,030,000.00	-
1.5	Cost of commercial logging	₦/ha per annum	327,140.00	-
1.6	Revenue of commercial logging	₦/ha per annum	1,070,733.50	-
1.7	Cost of agriculture(crop)	₦/ha per annum	3,154,200.00	-
1.8	Revenue from agriculture(crop)	₦/ha per annum	33,865,900.00	-
2.0	**Economic benefit**		**CBR**	**NPV[1](₦/tCO$_2$)**
2.1	Firewood	₦/ bundle	8.20	551,061.50
2.2	Charcoal	₦/ 100kg	10.34	6,912,925.30
2.3	Commercial logging	₦/ log	3.27	630,195,50
2.4	Agriculture(crop)$^{+}$	₦/ ha	10.74	26,028,165.80

Notes: 1= the discount rate is 18% and the values are inflation adjusted;+ = Subsistence/peasant crop production/under permanent site; - = No intervention; CBR = Costs-Benefit Ratio; NPV = Net Present Value; BAU = Business as usual; tco$_2$ = Tonnes of carbon

Source: SESA Pilot REDD+ Field Survey (2018)

8.0 ENVIRONMENTAL AND SOCIAL CHARACTERISTICS IN FORESTRY AND NATURAL RESOURCE SECTORS

8.1 Characteristics of the REDD+ Pilot Site

One unique aspect of REDD+ intervention is understanding the conditions that may influence the sustainable management of natural resources. Environmental and social characteristics in the pilot sites matters in the planning and implementation of activities.

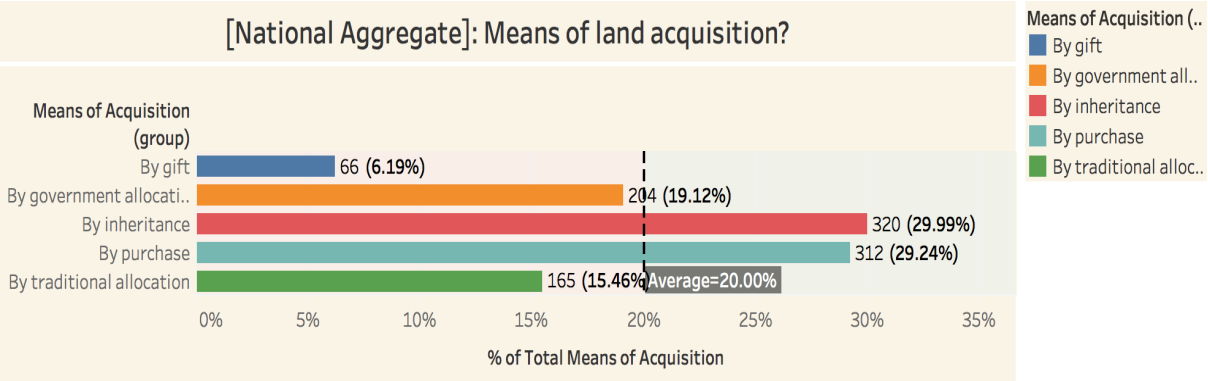
The economic characteristics in the pilot sites are quite similar, and this will form the level of involvement in activities that have direct impacts on the forest.

8.2 Land Ownership Status

Land ownership status aggregated by occupation shows that farmers as a significant landowners among the livelihood groups with 78.59% indicating a positive response. However, relative to other occupation, farming activities also indicated a high proportion of people without land among other groups. This shows the high vulnerability of farming activities and poses a risk of deforestation and forest degradation if the land is not available for farming. Land ownership is differentiated by gender, with the proportion of females without land higher than those who own land.

8.3 Land Tenure

There are different modes of land acquisition. This differs across occupation and gender. Land acquisition by inheritance and purchase are the most typical means of land acquisition.



8.4 Rights To Forest Resources

Access to forest resources is determined by rights. This determines access to livelihoods options in the communities. Approximately, 75% of the respondents were uncertain of the existence of rights for members of the community to forest resources. A low proportion of respondents in Nasarawa and Ondo (23.25% and 38.26% respectively) are aware of their rights and access to forest resources. Lack of access and rights to forest resources, and a disproportionate access others have at the detriment of some other groups may result in conflict. Rights need to be defined to enhance the sustainability of livelihood.

8.5 Land Tenure And Private Sector Activities

Responses to the awareness of company activities around the various communities' show that a good percentage (55.17%) were uncertain. Nasarawa and Ondo states recorded 27.27% each of people who admitted that companies carry out activities close to their various communities. The operation of the private sector and their access to forest resources often result in encroachment into community forests.

8.6 Involvement In Forest Management Activities

Involvement of communities in forests management in Nasarawa and Ondo states rank highest for each category, including forest livelihood activities, forest management plan, and forest regeneration project, among others.

8.7 Land Use and Land Use Plan

Currently, land use plan is practiced in some communities and respected by every member of the community. For instance, there is an open area which is free for all. There are also restricted areas such as the forest reserves. Permission must first be obtained in the later before entry is allowed for the collection of seeds and leaves.

9.0 GRIEVANCES AND REDRESS MECHANISM

9.1 Impact Of REDD+ On Land Tenure/Forest Governance System

The impact of REDD+ is perceived differently by different communities. In REDD+ states, 31.8% of females from Ondo state expressed concerns of a likely negative impact of REDD+ while 29.30% of males indicated the same. However, 35.59% of the male said there would not be any impact of REDD+, while 12.50% of the females indicated the same. In Nasarawa State, 30.86% of males indicated there would be the impact of REDD+, 18.84% of females indicate same. However, 87.50% said they do not know if there will be any impact. This cynicism and

uncertainties about the impact of REDD+ interventions on the communities need to be addressed.

9.2 Conflicts In Natural And Forest Resources

Grazing and crop cultivation are the two land use activities that have resulted in conflict in many communities. In several of the study sites in the Northwest, Northcentral, Northeast, and Southwest geopolitical zones, herdsmen were found around these communities. The herdsmen are living very close to their homes and farm settlements. There are no areas demarcated for grazing. Hence, the herdsmen move around the farm and forest area to feed their herds.

Conflicts had cropped up between the community people and the herdsmen that had even led to the loss of lives and properties, especially in Benue state, Kaduna State (Agban-Kagaro, Gododo, Gidan wire, and Tadowada).

Moreover, within communities, the youth usually have conflicts with the community leaders on the use of forest resources. Intra-community conflicts are usually between families and resource user groups over natural resources. Inter-personal conflicts usually over NTFPs and forest area cleared for farming.

9.3 Grievances And Redress In The Forestry Sector

There are myriads of factors responsible for conflicts. These in descending order of magnitude include restricted access, forest encroachment; population increase and pressure on land for development. In Ondo state, the lack of access to reserves has the highest score. In Nasarawa state, the more dominant causative factor is an encroachment on forest reserves while political interference, changes in government policy and encroachment of forests are the least.

9.4 Awareness of Right To Seek Redress

In assessing the citizens' right to seek redress, a study in the communities' shows that 36.53% of respondents in Nasarawa State are aware of their right to seek redress, 31.52% are not aware while 8.3% do not even know anything about the right to seek redress. In Ondo state, 37.44% indicated they are aware, 28.80% are not aware, while 53.15% do not know about their right to seek redress.

9.5 Conflict resolution mechanism

The primary available resolution mechanism in this area include:-

- The traditional institutions. We have the Emirs, District heads, etc in Nasarawa and Obas, chiefs in Ondo.
- Regular courts- These are made up of High courts, customary/area courts, sharia courts in Nasarawa. They all adjudicate in their constituted areas.
- Alternative Dispute Resolution (ADR) - Arbitration and Conciliation Act 2004 cap A18 is the unified law that is applicable in all the states.

Some of the suggestions for resolving conflicts include the following:

- securing the boundary of reserves through fencing;
- establishing forest management committee;
- paying compensation to land owners;
- employing youth to guard the reserves;
- providing communal facilities for people such as schools, hospitals;
- granting access to the reserves;
- equitable sharing of benefits;
- prevention of grazing in reserves;

- consulting with the community on development and management of reserves;
- promoting dialogues to resolve conflicts;
- sensitizing the community on the befits of forest conservation;
- involving community leaders and traditional council in forestry management;
- Timely resolution of grievances;
- Providing robust feedback after resolution; and
- Quick judgment

Some of the reasons given by respondents for not expressing their grievance when they ought to include the following:

- The government will not respond as it should have done;
- To prevent the situation from escalating into violence;
- Lack of trust and confidence in the resolution to be reached;
- Fear of attack by Herdsmen;
- Non-available of government officials to complain to; and

Tolerance and long-suffering

Some of the appropriate means of receiving feedback suggested by the respondents include the following:

- Mandating government agents to give prompt and timely feedback in a transparent and accountable manner;
- Improvement of communications channels between the aggrieved and the mediators of grievances.
- Involving community heads in a feedback mechanism
- Involving the Divisional Forest Officer in the feedback mechanism
- Publicizing the resolution of grievances in the media.
- Communicating with the aggrieved person through writing
-

10.0 GENDER AND NATURAL RESOURCE USE SYSTEM

There are distinct differences in gender roles, responsibilities, access, and entitlements, in regards to forest/land resources. In Nigeria, the patriarchal system subsists which has placed women in a socio-economically subordinate/disadvantage position not only in access to and use of resources but decision making in the management of the resources.

10.1 Gender Inequality In Access And Rights

Women generally have less access to land than men. Trade in timber-related to forest products (lumber and charcoal) tend to be dominated by the men folk. In Ondo state, women folk are involved in gathering NTFPs for their livelihoods. The women group were unhappy with the rate of logging in which *Irvingia gabonensis* (*Bush mango*) is sawn by male loggers and has affected their means of livelihood. This is because logging has reduced the availability of the bush mango and the income of women.

From the field study, responses to gender equity in forests and land rights indicate a lack of awareness to the rights of women. In Nasarawa, majority represented by 30.16% do not think there is gender equity in forest and land rights. However, the majority of respondents in Ondo represented by 46.99% believe that women have equal rights as men in forest and land resources. Moreover, women involved in decision making indicatethat high proportion of

respondents are not aware, especially in Nasarawa state. There are variations in views as touching the involvement in decision making by women.

10.2 Gender And Agriculture

Women are involved in agriculture through the cultivation of vegetables, domestication of NTFPs, homestead garden, and other food crops. From the FGD in Ondo and Nasarawa, women are involved in the cultivation of crops such as root and tubers including cassava and yam; grains such as millet, maize, guinea corn, sesame seed, melon.

10.3 Gender And Land Rights

Women are also affected where there are potential conflicts between communities; the need for an equitable benefit-sharing mechanism; land tenure issues, especially concerning the inadequacy of current laws to formally recognize community tenure and issues of gender and ownership of land.

10.4 Gender And Access To Forest Resources

Women play various roles in the household as providers of resources which make them dependent on forest resources for direct household consumption needs for drinking water, fuelwood, medicinal herbs and plants, fruits, and berries. In many communities, there is free access to the forest by all groups. However, in some cultures, women are denied access to certain forest resources except when in the company of their husbands to give them cover as the tradition demands. This indicates that they are deprived of access, particularly in forbidden periods and seasons, cannot enter on their own but under the cover of their husbands.

10.4 Women Cooperative And Economic Activities

In all communities in which the FGD was conducted, women have organized themselves into associations and groups with the potential to contribute effectively to natural resource management, particularly concerning non-timber forest products and empowerment of women on livelihood. For example, the women's group is also responsible for regulating access to resources and markets, supporting the management of forest resources**,** Promoting law and order among women andContribution to community development. In Nasarawa and Ondo, women over the years have used cooperatives in providing their basic needs. In Ondo, women obtain World Bank interventions for empowerment. However, seizure of the opportunity by male counterpart has been a significant challenge in some communities.

10.5 Disability And Natural Resource Utilization

The level of resource use and management decision is characterized by the existence of unequal opportunities for different social statuses within the societies, particularly the disabled. The United Nations (UN) report estimates more than 650 million people living with disabilities (PWDs) as at 2006. Around 85% of the total PWDs population in the world are among the world's poorest people. They are excluded from consultations and participation in decision making concerning resource use and management.

PWDs are not visible, particularly those that cannot communicate, those with hearing impairment as well as those with a psychiatric disability. They are excluded from economic activities such as marketing of NTFPs. PWDs, especially disabled women, cannot become a part of the country's productive labour force. Their income generation is limited by the lack of wage driven and self-employment opportunities. Employment opportunities are in turn restricted by poor

access to resources, skills development (vocational training). However, they take part in extraction of NTFPs, farming and other activitie but with minimal interaction with people.

11.0 PRIORITY ENVIRONMENTAL AND SOCIAL ISSUES

Critical environmental issues in Nigeria were identified from the R-PP document, CRS REDD+ strategy document, and Participatory rural appraisal at the community level. *These issues are categorized into two Viz: environmental and social issues*.

11.1 Positive Environmental And Social Issues

There are positive environmental issues which REDD+ can leverage to achieve the objectives of REDD+. These include:

11.1.1 Agroforestry And Taunya System

The practice of agroforestry by the local communities enhances the opportunity for conservation and enhancement carbon stocks especially with Bush mango (Irvingia gabonensis) to provide livelihood source for women and to enhance carbon stocks is still being practiced at the local level.

11.1.2 Taunya System

This is also practiced in forest reserve by communities where they buy the reserve from the government for farming but not to carry out slash and burn system.

11.1.3 Watershed Protection

Some communities' protect forest around watersheds. Strict Sanctions are imposed to implement this, and this also enhances conservation and SFM as well as enhancement off carbon around the watershed.

11.1.4 Soil Fertility Management

The use of organic materials to improve soil conditions has been the long standing indigenous system. The practice of agro forestry provides organic manure for food crops and protects the soil from erosion and drought.

11.1.5 Tree Plantation and Woodlots

In the Savannah zones, tree plantations have been carried out. Though this is often government initiated, some communities however, plan *Tectona grandis* (Teak), *Gmelina*, mango, orange and other tree crops around their homes.

11.1.6 Community Forest Reserve

Besides government reserve, communities also have reserves with restricted access. The open areas are free for all, while reserves are for conservation purpose and sometimes for cultural purposes as sacred grooves to enhance sacred values, protecting the cultural rights of the local people. These practices enhance the achievement of REDD+.

11.1.7 Community Organizations And Cooperatives

Non-formal and formal organizations relevant to natural resource management exist in many communities of SESA study. In most of the SESA study communities organizational structure was found to be similar as well as a mode of operation, and level of influence.

11.1.8 Benefit Sharing Mechanism
Benefits-sharing in the communities follow the traditional practice. Here, benefits are shared among the main community groups – Council of Chiefs, Women, and Youths.

11.1.10. Financial Management
Though this may not be effective, communities generate revenue and manage the same. This helps them to carry out micro projects. The money is held by the treasurer while the financial secretary keeps the account record.

11.1.11 Community Laws
Community by-laws exist in both written and unwritten forms. The written bylaws are formalized, and interestingly some communities assert that they are recognized in the court of law.

11.1.12 Conflict Resolution
In all communities, the Council of Chiefs and Elders was reported as the main organization responsible for resolving conflicts. Others mechanism include police and law courts.

11.2 Negative Environmental And Social Issues
Existing challenges in the forestry sector may hinder the successful implementation of REDD+ strategy options. The implementation of the strategy options should take into consideration the need to override social and environmental challenges in the forestry sector while harnessing some beneficial environmental and social impacts
Some of the environmental and social challenges in the forestry sector include:

11.2.1 Deforestation
Deforestation in Nigeria is driven by various factors (fully discussed in section 3 and analyzed in section 12). Utilization of resources is driven by human factors such as population growth and expansion in human needs. Small holder agriculture, including NTFP extraction by women and youths, and mining has been increasing due to demand.

11.2.2 Restriction To Livelihood Sources
The protected area system (PAS) of parks, reserves, sanctuaries etc. for the conservation and protection of forest and other natural resources restrict peoples' access to livelihood sources. This has been a major source of conflict and concern over the years. In doing so, it creates severe externalities, which affect the people and their livelihood.

11.2.3 Land Degradation And Erosion
While deforestation is highly topical as an environmental challenge owing to its contribution to climate change, biodiversity loss, erosion, flooding, siltation, landslides and soil degradation, the further intensification of land, without appropriate management practices drives activities in the same trajectory which portends a downward trend in the degradation of environmental assets and natural resource base.

11.2.4 Mining
There is a proliferation of mining activities in several communities leading to the destruction of the natural habitat.

11.2.4 Energy Crisis and Forest Loss

The demand for fuelwood in Nigeria is very high because more than 70% of rural households use fuelwood in meeting their energy needs for cooking and heating. The unsustainable and constant use of fuel-wood by Nigerian households, institutions (schools, prisons, hospitals, IDPs camps) and cottage industries (e.g., fish smoking, cassava processing, and palm oil processing, bakeries) are one of the main causes of deforestation and land degradation in Nigeria.

11.2.5 Desertification in the Northern States

Desertification is the most daunting challenge in northern Nigeria.
Others include:

- Soil and water quality concerns- from increasing agrochemical usage
- The high rate of poverty
- Demographic pressure
- Migration
- Weak institutions and insufficient policies at the state and national level
- Conflicts in Forest and natural resource
- Low capacity
- The open regime of Resource Use
- Deforestation of watersheds
- Herdsmen vs. Farmers crisis
- Benefit sharing issues in carbon trading
- Limited financial resources- hampering effective forest management
- Forest Governance
- Limited livelihood activities putting pressure on forest resources
- Market failure
- Lack of policy on carbon rights and payment for ecosystem services
- Gender inequality and dominance of men and the elite group
- Cultural attachment to access and right to tenure
- Weak policy and legal framework for enforcement
- Abuse of power/conflict of interest by some traditional leaders and government officials to benefit from encroachment
- Ineffective collaboration among crucial government institutions
- Lack of GRM
- Resource wastage- during exploitation and use of timber

11.2.6 Forest And Climate Change Management Interventions

There are ongoing forestry programs at the national level, these include:

- ''The *Great Green Wall for the Sahara and the Sahel Initiative* focuses on arresting the high rate of desertification in the country through community participation. This project aims to establish 1,500 km of shelterbelts 15 km wide from Kebbi State to Borno State along the northern fringes to serve as a barrier against the advancing Sahara desert.
- The *Nigeria Erosion and Watershed Management Project (NEWMAP)* has the objective of reducing vulnerability to soil erosion in targeted sub-watersheds. This innovative project is helping prevent and reverse land degradation and other factors that are exacerbated by impacts of climate change.
- *Rural Women Energy Security* aims at providing rural women with access to clean energy. The National Clean Cook Scheme is part of this program, geared towards reducing dependence on fuelwood by 70 percent amongst rural populations. This scheme works on retrofitting kitchens in government institutions. The program launched in secondary

boarding schools, hospitals, and hotels are demonstrating high volume consumers' switch from cooking with firewood to cleaner fuels. [2]

- The *National Bamboo and Rattan Value Chain Development Program* launched by the Department of Forestry in partnership with the United Nations Industrial Development Organization and the International Association of Bamboo and Rattan aims at providing substitutes for timber and sustainable charcoal.
- The *National Biodiversity Action Plan* was recently reviewed and updated, setting out targets for biodiversity and forms an essential nucleus for livelihoods. (World Bank report No: 9323).

12.0 ENVIRONMENTAL AND SOCIAL ASPECTS OF REDD+ STRATEGY OPTIONS

Several strategic options for REDD+ implementation were derived from R-PP documents, Cross River State REDD+ strategy document and the issues generated from the SESA study.
The section analyses the potentially positive impacts and risks of the strategic options extracted from the views of the key experts, consultation carried out at different levels. The issues are identified, assorted into appropriate strategic options, and then analyzed.

REDD+ strategy options

A synopsis of the indicative strategy options for REDD+ is here provided.

- Policy and legal reforms
- Inter-Sectoral/Inter-agency Coordination
- Multi-Stakeholder Synergy and Participation
- Clarification of Forest and Land tenure system
- Land use zoning and planning
- Sustainable Forest Management
- Enhancement of Forest Carbon Stocks
- Agricultural Intensification
- Sustainable Alternative Energy
- Livestock management
- Alternative Livelihood
- Equitable Benefit Sharing
- Watershed protection
- Grievance Redress Mechanism
- Protected Area System
- Market and Value chain for Forest Products
- Sustainable Financial Mechanism
- Sustainable Mining
- Capacity Building

The extent to which the above strategy options addresses the identified drivers of deforestation and forest degradation are delineated.

Potential Environmental and Social Benefits of the Proposed REDD+ Strategic Options
The environmental and social benefits of the indicative strategic options of REDD+ implementation in Nigeria are highlighted in the table provided.

[2] https://www.forestcarbonpartnership.org/sites/fcp/files/2015/April/Nigeria%20FCP).

Environmental and social benefits of the indicative strategic options

Strategic Options	Environmental Benefits	Social Benefits
SO1: Policy and legal reforms	1. Curtail agricultural expansion into forest areas 2. Enhance reduction in deforestation and forest degradation 3. Protect the fragile ecosystem such as wetlands 4. Enhance conservation of carbon stocks	- Good policy for conservation enhance ecological services - Change in attitude and practices of forest users through the implementation of laws and policies - Create awareness on the need for conservation - Strengthens forest laws and policies
SO2: Inter-Sectoral/Inter-agency Coordination	1. Reduction in deforestation and forest degradation 2. Effective conservation strategy through inter-sectoral collaboration	- Create an opportunity for policy harmonization - Create a platform for stakeholders involvement in forest conservation - Change in strategic sectoral policy to integrate conservation - A platform for knowledge and information sharing - cross-sector coordination in the implementation of the REDD+ programme
SO3: Multi-Stakeholder Synergy and Participation	1. Build capacity to reduce deforestation and forest degradation 2. Increase contributions to sustainable forest management by all stakeholder groups particularly women and vulnerable groups 3. Encourage participation in the conservation of biodiversity	- The existence of effective management framework - Participation enhance change in attitude towards environmental resources - Create awareness on the benefit of conservation and REDD+ - Gender mainstreaming in natural resource management - Curtail conflict in resource use and management - Empowerment of local communities in decision making (including the poor, marginalized groups and women - Strengthen local level institutions involved in the implementation of REDD+ initiatives - Curtail deprivation by creating avenues for the involvement of people with disabilities
SO4: Clarification of Forest and Land tenure system	1. Enhance stakeholders' involvement in forest conservation 2. Security of tenure promotes commitment and long-term investment in sustainable use and management of forest resources	- Enhance equitable benefits sharing - Enhance benefits for vulnerable groups - Security of asset, access, control and rights to land and forest resources (including carbon rights)
SO5: Land use zoning and planning	1. Enhance the protection of biodiversity through zonation of different land uses 2. Increase efficiency in natural resource utilization 3. Curtail deforestation and forest degradation 4. Enhancement of carbon stocks 5. Decreased in carbon emissions directly from forest conversion to other land uses	- Reduce conflict in resource use and management - Enhance productivity from efficient use of resources such as land - Improve the community's knowledge in resource planning
SO6: Sustainable Forest Management	1. Reduce deforestation and forest degradation 2. Enhance the availability of forest resources 3. Enhancement of carbon stocks 4. Reduce illegal logging and other activities	- Strengthens community involvement in forest resource management - Resource availability through sustainable utilization - Reduce poverty and unemployment

	5. Reduce loss of species and biodiversity particularly threatened species 6. Enhancement of ecosystems services in general (e.g., water availability; protection against landslides and other erosion hazards) 7. Enhance Restoration and rehabilitation of degraded areas 8. Removal of invasive alien species and improving regeneration of natural forest	- Change in attitudes towards resource management - Increase the local economy and livelihood opportunity - Integrating livelihood into forest conservation programme - Can reduce pressures on conservation areas - Conservation and sustainable use of resources can strengthen cultural services
SO7: Enhancement of Forest Carbon Stocks	1. Protection of forest and natural resources 2. Reduce carbon emission 3. Protection of soil and reduce ecological problems 4. Enhance biodiversity conservation 5. The decrease in carbon emissions directly from forest conversion to other land uses 6. Increase in effective rainfall, reduction of erosion & run-off, improved land stability	- Provision of ecosystem services - Create awareness and increase knowledge - Create an opportunity for carbon economy at the local level and opportunity to earn carbon credits
SO8: Agricultural Intensification	1. Reduce deforestation and forest degradation by reducing agricultural expansion to forest areas 2. Reduce proliferation of small farm holdings to the forest area 3. Encourage organize agriculture 4. Conservation of agro-biodiversity 5. Lower emission from the agricultural sector	- Enhance the productivity of the land - Enhance income of farmers - Diversification of livelihood opportunity - Adoption of sustainable agricultural practices - Improved livelihoods and employment and income generation opportunities at the community level
SO9: Sustainable Alternative Energy	1. Reduce emission and pollution through the adoption of renewable energy 2. Provide clean alternative energy 3. Reduce pressure on the forest for fuelwood and charcoal	- Create an opportunity for employment through the establishment of fuel woodlots - Create income opportunity and Potential financial benefit from the carbon market through the use of fuel-efficient stoves - Enhance the availability of efficient fuel - Improvement in livelihoods and health of the community and other stakeholders
SO10: Livestock management	1. Enhance conservation of biodiversity 2. Reduce pressure on the forest as grazing land 3. Soil conservation using organic materials 4. where tree and fodder are involved, can increase carbon sequestration 5. pasture crops and grasses can reduce soil erosion 6. Provide organic manure for other uses 7. Create anopportunity for the use of organic materials for production of biogas (reduce pressure on forests for biomass energy)	- Reduce herdsmen vs. arable farmers' conflict - Increase productivity through effective management - Enhance income of herdsmen - Create an opportunity for employment through the productionn of fodders/feeds - Increase in dairy production and better livelihoods - Enhance health of livestock
SO11: Alternative Livelihood	1. Enhance conservation of biodiversity 2. Reduce pressure on forest 3. Reduce illegal logging 4. Enhance sustainable forest management	- Diversification of livelihood sources - Create alternative income generation source and New economic opportunities, and support for livelihoods - Reduce poverty

	5. Improve NTFP management	- Private sector investment increases employment opportunities - Women's access to and control over their source of livelihood leads to household poverty reduction
SO12: Equitable Benefit Sharing	1. Enhance conservation of biodiversity 2. Strengthens sustainable forest Management	- Engender a sense of belonging and responsibility among Stakeholders and willingness for participation - Strengthens gender equity in REDD+
SO13: Watershed protection	1. Provision of quality water and reduce drought 2. Management of watershed reduce ecological problems such as floods 3. Protection of aquatic resources 4. Increased ecosystem services (improved soil fertility, erosion control, water regulation) 5. Reduces deforestation & biodiversity loss	- Availability of aquatic resources - Employment opportunity - Improve human health and well-being - Enhancement of ecosystem services
SO14: Grievance Redress Mechanism	1. Enhance sustainable forest management	- Reduce conflict among resource users - Enhance participation and involvement in the REDD+ process - Increased understanding of GRM - Create awareness and knowledge on conservation
SO15: Protected Area System	1. Protection of biodiversity 2. Enhancement and protection of carbon stocks 3. Enhance ecological services 4. Protection of wildlife and habitat	- Enhance the opportunity for Ecotourism - Increase the opportunity for employment and income opportunity for local communities through ecotourism
SO16: Market and Value chain for Forest Products	1. Increase the sustainability of forest and biodiversity 2. Enhance SFM	- Increase productivity of NTFPs - Increase the income of communities - Enhance linkage to market and increase the market for community product - Create an employment opportunity - Enhance alternative livelihood
SO17: Sustainable Financial Mechanism	1. Enhance funding for forest conservation 2. Establishing Green fund and financing mechanism for Micro, small and medium agriculture and agro-processing, agribusiness, co-operatives, and other institutions 3. Implements the polluter pays principle to reduce pollution, safeguarding ecosystems, biodiversity integrity, and other natural resources	- Availability of multiple sources of funding - Procure funding from AFDB/CBN Youth in agriculture scheme & other sources to support green jobs in the agricultural and other sectors - Provision of incentives to local people through the provision of credit facilities - Create easy access to investors to access loans and other credits from Agricultural banks, Central banks, African development banks, and other financial institutions at local and international level.
SO18: Sustainable Mining	1. Reduce pressure destruction of forest and natural ecosystems 2. Enhance ecosystem services 3. Protect habitat for wildlife	- Availability of revenue to the community - Increase Employment opportunity - Design environmentally sensitive investments in the mining sector;

S019: Capacity Building	1. Enhance SFM 2. Improved management of natural resources as a result of capacity building 3. Capacity Building for improved low carbon practices such as CSA Irrigation, water harvesting, and drainage system 4. Public enlightenment on agricultural intensification through extension services 5. Capacity building for natural resource management to reduce wastage of resources	- Increase the opportunity for participation in the REDD+ process - Gender-based knowledge of resource use/management recognized by policymakers - Create an opportunity for building capacity of organizations for social inclusion and gender mainstreaming. - Increase the knowledge, skills, and capacity of Local institutions to guide SFM - Increased the capacity of institutions including MDAs on policy decisions, resources allocation, and investment priorities - Improve extension services - strengthening of cooperatives and organizations in resource use and productivity - Capacity for respect for human right and enhancing equity in access to resources

Potential Environmental and Social Risks of the Proposed REDD+ Strategic Options
Analyses of environmental and social risks of the proposed strategic options are highlighted in the charts below.

Environmental Risks of REDD+ Strategic Options

Strategic options	**RISKS**
SO1: Policy and legal reforms	• Restricted access may result in illegal activities which trigger deforestation • *The weak policy can enhance business as usual in investment policies causing adverse environmental impacts* • Corruption and outdated laws and policy can increase deforestation
SO2: Inter-Sectoral/Inter-agency Coordination	Divergence policy may take time to be harmonized which may create conflicting objectives in the implementation
SO3: Multi-Stakeholder Synergy and Participation	Dominance by a male counterpart may result in over-exploitation and abuse of resource utilization
SO4: Clarification of Forest and Land tenure system	• Change in land use which may enhance forest degradation • Elite and powerful group capture land • Change in the traditional system of land tenure
SO5: Land use zoning and planning	• Change in land use type in favor of agriculture may induce deforestation • Lack of consensus might result in conflicting decisions with negative impacts on forests, biodiversity and carbon stocks
SO6: Sustainable Forest Management	• May enhance deforestation due to overuse • Economic benefits may outweigh the conservation purpose that drives deforestation • Collection of NTFPs can lead to forest degradation • increased in carbon emissions directly from forest conversion to other land uses • Lack of capacity to monitor activities can lead to unsustainable practice, overharvesting of some NTFP species which can reduced ecosystem diversity

SO7: Enhancement of Forest Carbon Stocks	• Restricted access may lead to reversals • Priority on carbon stocks can lead to loss of biodiversity and other ecological services • Focusing on valuable species for carbon sequestration neglecting traditionally valued species can lead to biodiversity loss • Lack of consensus might result in conflicting decisions by deviant groups with negative impacts on forests, biodiversity and carbon stocks
SO8: Agricultural Intensification	• Increase pollution from the use of an inorganic substance such as fertilizer • The risk of erosion and other ecological problem due to land intensification • Introduction of invasive species • Weak agricultural extension services can result in wastage and unsustainable practices
SO9: Sustainable Alternative Energy	• The high cost of alternative may encourage continuous utilization of fuelwood and leakages • Lack of coordination among related MDAs in energy programme can affect the efficiency of the programme • Limited institutional capacity regarding testing standards to ensure minimum emissions • Monoculture in fuelwood lots particularly on fast-growing trees can lead to loss of ecosystem services • Fuel woodlot is capable of reducing land for agriculture and other uses • Intermittent nature of the energy sources; climate change and risk of disaster
SO10: Livestock management	• Land degradation from land intensification • Clearing of the forest to establish ranch and pasture land • Can lead to increased livestock population and thus increasing emissions of GHG such as methane • The concentration of livestock management activities in specific areas might accelerate forest & land degradation
SO11: Alternative Livelihood	• Lack of political will to enhance investment can enhance dependence on forest • The cultural attachment may limit adoption and continuous deforestation • increase the destruction of the forest – if the working mechanism is not well defined • Increased productivity of livelihood activities can potentially generate high profits which could incentivize over-exploitation of forests
SO12: Equitable Benefit Sharing	• Over-exploitation of the forest if proper benefit sharing mechanism is not put in place excluding some groups such as youth, women and other vulnerable groups • Marginalized groups can still practice unsustainable activities that can increase deforestation and biodiversity loss
SO13: Watershed protection	• Lack of funding to implement reforestation • Concessionaires unwillingness to change the attitude • Low capacity for enforcement • Introduction of invasive species through reforestation
SO14: Grievance Redress Mechanism	• Delay in GRM can result in conflict and destruction of resources
SO15: Protected Area System	• Low enforcement capacity may limit encroachment • Lack of consensus might result in conflicting decisions with negative impacts on forests, biodiversity and carbon stocks
SO16: Market and Value chain for Forest Products	• Economically driven forest management can enhance destruction of ecosystem services and biodiversity trade-off • Increased productivity might generate potential high profits which could incentivize clearing of forests for agriculture
SO17: Sustainable Financial Mechanism	• Lack of funding limit investment in SFM

SO18: Sustainable Mining	• May impose a significant adverse environmental impact on other sectors • Increase pollution by waste emanating from the site • Destruction of natural habitat through removal and clearance of forest to gain access to minerals leading to biodiversity loss • May have an environmental impact on other sectors if investments not subjected to EIAs and undertaken to implement sustainable land use plans • Solid mineral mining is in the federal legislative list, which makes difficult the monitoring of mining operations by state agencies for environmental compliance.
S019: Capacity Building	• Delay in building capacity limits monitoring of deforestation • Technology may displace indigenous knowledge, skills & practices

Social Risks of REDD+ Strategic Options

Strategic options	**RISKS**
SO1: Policy and legal reforms	• Conflicts may ensue from enforcement and sanctions • Reforms in the legal system may not change the cultural system of women vulnerability
SO2: Inter-Sectorial/Inter-agency Coordination	• The target of many agencies may be in deviance to objectives of REDD+ • Unwillingness on the part of the private sector to cooperate
SO3: Multi-Stakeholder Synergy and Participation	• Dominance by a male counterpart in decision making • Power and central may be used by the male folks • Lack of adequate resources to share information • Raising awareness often raise expectations and misunderstanding of the objective of REDD+ likely to result in social conflict and mistrust • Social exclusion of people with disabilities
SO4: Clarification of Forest and Land tenure system	• Social exclusion of landless and vulnerable groups such as non-indigenes • The loss in land ownership and control due to the change tenure system • Security of access, control & rights (to land & forest resources (including carbon rights) – including through safeguards implementation
SO5: Land use zoning and planning	• Eviction of smallholder farmer • Conflicts and divergent interests within the communities • The politicization of community decisions
SO6: Sustainable Forest Management	• Elite capture of economic opportunity • Depression of vulnerable groups due to unstructured access • Loggers unwillingness to adopt low destructive methods of harvesting • May encourage commercial forestry • Increased value of forest products might increase the demand for raw materials causing illegal logging, forest degradation and loss of carbon
SO7: Enhancement of Forest Carbon Stocks	• Unclear rights to carbon may result in conflicts • Inequality in benefits sharing from carbon which huge amount can accrue to large-scale forest/land landowners
SO8: Agricultural Intensification	• The scarcity of non-forest land for farming which may lead to food insecurity • Unwillingness by landholders to limit agricultural land • Attachment to cultural practices may hamper adoption of the practice such as improved seedlings

	• Dumping of food crops for cash crops
SO9: Sustainable Alternative Energy	• Low buy-in by stakeholders due to the high cost of energy • Low adoption due to the high cost of access/technology • Lack of capacity and insufficient funding can lead to project funding • Cultural attachment to fuelwood can hinder adoption of renewable energy • New technology may displace indigenous knowledge, skills & practices
SO10: Livestock management	• Low adoption of ranching due to the cost of inputs such as Increased labor requirements to manage feedstock production & livestock • Social exclusion of women and vulnerable groups in handling large herds/breeds • Displacement of local enterprises by larger-scale businesses leading to loss of livelihoods and conflicts
SO11: Alternative Livelihood	• Lack of political will to enhance investment • Low Market value for products • Low investment by government and private sector • Elite capture of the opportunity and exclusion of women and other vulnerable groups • The monopoly of the private sector in setting market prices of products increasing price and forcing scarcity • If not well managed can lead to the displacement of Local enterprises by larger-scale businesses
SO12: Equitable Benefit Sharing	• Delay in the implementation of the benefit sharing mechanism • Cultural practices likely to limit equitable benefit sharing mechanism putting women at disadvantage end • Dominance and benefits capture by elite groups • Inequality in benefits sharing from carbon and PES which colossal amount can accrue to large-scale forest/land landowners • Politicisation of benefit sharing mechanism
SO13: Watershed protection	• Conflicts and divergent interest in watershed resources and management
SO14: Grievance Redress Mechanism	• Delayed action by government in developing the GRM mechanism which could demotivate community participation in REDD+. • Misuse of the grievance mechanism to the disadvantage of vulnerable groups • Displacement of existing customary practices
SO15: Protected Area System	• Loss of traditional use of forest • Restricted access can result in conflict and nonconformity by communities • It can result in the conversion of agriculture land to timber plantations capable of reducing food production; employment and income of communities.
SO16: Market and Value chain for Forest Products	• Low investment due to the harsh investment environment • Economically driven forest management can enhance overexploitation and unsustainable practices • Increased value of forest products might increase the demand for raw materials, causing illegal logging, forest degradation and loss of carbon • The monopoly of the private sector in setting market prices
SO17: Sustainable Financial Mechanism	• Least attention to forestry and conservation in budgetary allocation • Complex process in the application process to international funds
SO18: Sustainable Mining	• Corruption which can influence EIAs to implement sustainable land use plans • Solid mineral mining is in the federal legislative list which enhances conflicts in the sector • Investment in the mining sector is often capital intensive which may limit the capacity of the private sector to invest
S019: Capacity Building	• Women may be excluded from – capacity building for REDD implementation

The possible mitigation interventions to minimize the envisaged risks have been equally suggested.

13.0 INTEGRATION OF SESA AND ESMF INTO NATIONAL REDD+ STRATEGY

The National REDD+ Strategy provides the framework for REDD+ activities thus alongside the R-PP, INDCs serves as the linkage between SESA, ESMF and REDD+ strategy. The REDD+ activities will result in potential benefits as well as risks through the implementation of the strategic activities, SESA therefore ensures that projects activities undertaken fall within the provisions of the National Strategy. The ESMF provides the framework for managing the environmental and social risks by providing safeguards

13.1 Sesa And REDD+ Strategy

The SESA is a tool that seeks to integrate social and environmental considerations into policymaking processes, leading to making REDD+ policies and programs more sustainable
SESA strategic dimension helps in refining the REDD+ strategy by assessing the responsiveness of the strategy options to Environmental and Social (E&S) priorities in the forestry sector and the opportunity cost of conserving forests through cost-benefit analysis instrument.
ESMF is prepared when REDD+ strategic option has been refined/enhanced including strategic interventions/activities, mitigation options to address the E&S risks. Therefore, in the implementation of REDD+ strategy, SESA/ESMF ensures that REDD+ maximizes social, cultural, economic and environmental good whilst avoiding or mitigating harm. The ESMF will provide the overall framework for addressing social and environmental risk management issues in REDD+ activities that are implemented beyond the readiness preparatory work

13.2 Expected Alignment Of SESA/ESMF And REDD+

The possible area of integration of SESA, ESMF and REDD+ strategy include

- Respects of rights to forest resources (including customary claims by forest dependent peoples) and also those of the vulnerable groups (Women and Landless)
- Compliance to relevant international environmental and social safeguards including the World Bank safeguard standards.
- Broader good governance objectives including transparency and accountability
- Land-use planning and E&S sustainability

Effective participation of all stakeholders in the REDD+ process to give an equal voice and take into account the priorities and concerns of all stakeholders

14.0 CONCLUSIONS AND RECOMMENDATIONS

14.1 Conclusions

REDD+ involves a mechanism that will provide opportunities for sustainable development and conservation of biodiversity focusing on reducing of deforestation, reducing forest degradation, conservation, and enhancement of carbon stocks and sustainable management of forests,
REDD+ is designed to promote sustainable management of the forestry sector through the promotion of concerted rural development in the country in the short term to be followed by embracing REDD+ objectives and practices in full. REDD+ is a beneficial programme. However, the analysis of strategic options shows there are likely to be both environmental and social implications (positive and negative impacts) with negative feedback if options are not implemented effectively, efficiently and equitably for susta
inability.

Therefore, SESA study revealed that addressing environmental and social issues such as governance, rights, is the bedrock for effective implementation of the REDD+ programme and the sustainable management of the forests. The REDD+ programme has been designed with the assumption that a sound governance system will be central to the success of its policies and financing.

14.2 Recommendations

From the environmental and social issues identified and the analysis of indicative strategic options, the following recommendations are made:

Environmental

- Strategic interventions should demarcate the forest boundary; control the expansion of economic activities into the forest area.
- Invasive species should be controlled not to displace the indigenous species.
- Reducing/control pollution arising from increase inputs and waste from agriculture, mining sites,and other activities.

Social

- Effective community-level institutions are required to oversee the development and implementation of agreed forest management actions and ensure that costs and benefits are shared equitably among local forest users.
- Equity in benefit sharing
- Promoting gender equality in natural resource management at all levels.
- Promoting access of women to land through a partnership with community-level institutions.
- Training and access to Biomass Cooking stoves to be carried out particularly for the women and other vulnerable groups likely to be affected by the proposed reduction of access to fuelwood.

Policy and Legal

- There is a need for a comprehensive review of policies, laws, and programmes on land use and secure rights to natural resources in Nigeria.
- REDD+ Programme also needs to support land reforms that strengthen the land rights of the poor, women, and marginal groups.
- Encouraging communities to make bylaws or strengthen any existing ones that specifically address and discourage the existing unsustainable open access regime of forest lands and resources and the practice.

Institutional

- It is essential to build the capacity of local authorities in addressing the drivers of deforestation, financial management, benefits sharing mechanis, and conflict mitigation and resolution
- The REDD+ programme improves interaction among government MDAs to avoid duplication of efforts.
- There is an apparent gap in cross-sectoral coordination in joint planning and implementation of projects and programs.

- Cluster" meetings should be encouraged between relevant ministries (i.e., Inter-ministerial) to increase awareness of activities in different ministries and promote a common understanding of forest management issues among different ministries.
- It is essential to address the capacity building needs of actors from government, civil society, local communities, and businesses.
- There is a need to build local capacity for addressing the drivers of deforestation, financial management, benefits sharing mechanism, and conflict mitigation and resolution.
- Recognizing existing community institutions and supporting their formalization as well as engaging effectively with existing community organizations that would facilitate the implementation of the REDD+ programme and efficient management of forest resources

STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT (SESA) FOR NIGERIA REDD+ READINES

1.0 INTRODUCTION

1.1 Background

The growing concerns about the impact of climate change on natural resource systems present uncertainties in the development of resource sectors as agriculture and forestry. Climatic conditions are increasingly fluctuating, and the intensity of their effects stronger the world over. Forests are often called "carbon sinks" because they capture carbon from the atmosphere through plant photosynthesis, thus diminishing the concentration of carbon dioxide in the atmosphere that contributes to climate change. These forests mainly contribute to balancing greenhouse gas concentration in the atmosphere.

To cushion the impacts, Reducing Emissions from Deforestation and Forest Degradation (REDD+) is one of the international policy instruments and mechanism currently being developed with the goal of combating climate change (Oyebo, Bisong and Morakinyo, 2010) by reducing the emissions of greenhouse gas caused by deforestation and degradation of the forests in developing countries (Jagger, Sills, Lawlor and Sunderlin, 2010). REDD+ goes beyond deforestation and degradation to include the relevance of conservation, sustainable management of forest, and enhancement of carbon stock. It is expected to tap into the considerably vast mitigation potential for conservation and better management of the world's forests through financial flows from developed to developing countries.

Nations worldwide have agreed that the REDD+ mechanism can protect, better manage, and wisely use their forest resources, while at the same time contributing to the global fight against climate change. REDD+ seeks to reduce GHG emissions in developing countries that have tropical forests and provides opportunities for sustainable development and conservation of biodiversity through the trade-off of carbon credits between countries. REDD is hinged on providing financial incentives for keeping trees standing rather than exploiting them.

Reducing Emissions from Deforestation and Forest Degradation (REDD+) is climate change mitigation programme, with a collaborative effort from the international community to create a financial value for the carbon stored in forests through offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. REDD+ ("plus") goes beyond deforestation and forest degradation and includes the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks (UNDP, 2016). REDD+ is geared towards climate change mitigation in which

communities' involvement and participation are crucial to its success. Equity, efficiency, and good governance are the guiding principles for its success.

REDD+ stakeholders have demonstrated a keen interest in minimizing risks and maximizing benefits for these communities. This is evidenced by the design of many forest carbon projects, including their widespread and voluntary adoption of the Climate, Community, and Biodiversity (CCB) Standards. The commitment of numerous nations and sub-national entities to adhere to the voluntary REDD+ Social and Environmental Standards (REDD+ SES). The Forest Carbon Partnership Facility (FCPF) and the United Nations REDD+(UN-REDD) Programme's attention to social safeguard policies; and the adoption of social safeguards by parties to the United Nations Framework Convention on Climate Change (UNFCCC) at the 16th Conference of the Parties in Cancun.

In the implementation of REDD+, the focus is aimed at minimizing risks and maximizing benefits for populations potentially affected by REDD+. It is generally accepted that REDD+ will not undermine human development goals. Efforts to reduce emissions from deforestation are increasingly being linked to countries' broader economic development and adaptation initiatives. There are synergies between avoiding negative impacts, achieving positive impacts for local populations, successfully halting forest loss, and reducing risks of reversal (i.e., ensuring "permanence" of forest carbon sequestration). Avoiding adverse impacts will undoubtedly be essential for maintaining broad-based political support for REDD+.

To minimize risks and maximize benefits for local populations, REDD+ program managers and donors work towards assessing and predicting impacts during the program design phase. This assessment can help programs compare various program design or policy options and chart a course that avoids harm, enhances benefits, and carries the support of local populations. To ensure that REDD+ programs are achieving their stated goals, it is also necessary to monitor social conditions during the program implementation phase and identify impacts.

Evaluating impacts during implementation is essential for verifying assumptions about how the program works and for making any necessary modifications to the program design by developing adaptive management.

The World Bank's Environmental and Social Framework not only proposes a significant dilution of risk but also proposes mitigation actions should such risk emanate. Responsible forest stewardship is crucial to enable sustainable management of forests, as well as to prevent illegal logging, encroachment, and conversion of forested land to other land uses, It also entails minimization of adverse impacts, monitoring, and maintenance of critical areas. It is typical for development projects, including natural resource harvesting and conserving industries to restrict access to essential resources to communities in its adjacent regions. These restrictions could result in a loss of livelihood opportunities for forest-dependent peoples, thereby endangering their livelihoods (Cernea, 2004; World Bank, 2014).

Safeguard Information System (SIS) is one of the four pillars of the Warsaw framework that will ensure minimizing the risk of REDD+. These Pillars are UNFCCC requirements for countries to implement REDD+. The REDD+ is a participatory programme. Hence, the design of SIS gathers and report relevant information through an inclusive, multi-stakeholder process that demonstrates compliance with Cancun's Safeguards. Moreover, Nigeria is a participant country

in the Forest Carbon Partnership Facility (FCPF) - a World Bank facility for countries aimed at promoting sustainable forest management (SFM), enhancement of forest carbon stocks, and conservation. Nigeria received funding and technical support for REDD+ readiness with Cross River State as a model state. The proposed FCPF support will further enhance the upscaling of REDD+ to two new states of Nasarawa and Ondo by (i) Strengthening National and State Level Readiness Management Arrangements; (ii) Developing REDD+ Strategies and Conduct SESA; (iii) Developing Reference Emissions Level; and (vi) Enhancing Stakeholder Engagement, Communication, Consultation, and Feedback for REDD+ Readiness Process.

The World Bank SESA will support the integration of social and environmental safeguards into the REDD+ policy development, mainly local communities. The overarching principle for this link is that the various REDD+ activities need to be produced to meet World Bank Safeguard standards. The SESA will assess the different REDD+ strategy options in an iterative and participatory way. This will be accomplished through a national and state policy dialogue that includes forest communities who represent the daily needs of subsistence land users at the local level. The SESA is an integral part of the FCPF's approach to the Readiness phase of REDD+, which covers the implementation of the R-PP and subsequent readiness preparation(World Bank, 2015).

The Link between REDD+ and World Bank safeguard is aimed at Support integration of environmental and social aspects of projects into the decision-making process. This Provides a mechanism for addressing environmental and social issues in program and project design, implementation and operation; Identify and manage impacts and risks; Provide a framework for consultations, participation, and disclosure; Support effectiveness and sustainability of the REDD+ Process. Aligning REDD+ process with the World Bank objective will create a system to better address environmental and social impacts and risks and promote environmentally and socially sustainable development. The above will ensure effectiveness and efficiency in the implementation of safeguard policies. The strength of this approach in REDD+ programme has been intersectoral collaboration among different MDAs at various levels, NGOs/CSOs, academia, private sector and communities supported in part by international partners, have strengthened intersectoral and community-based approaches to forest management.

1.2 Objectives and purpose of the SESA

The aim of the SESA will assess the potential environmental and social impacts of the REDD+ programme and prepare an Environmental and Social Management Plan. The study will be carried out to establish modalities of implementing the project in line with the World Bank safeguard policies and other global parameters. The SESA supports the design of the national REDD+ policy framework, including the National REDD+ Strategy.

The SESA is an essential component of the FCPF's approach to the Readiness phase of REDD+, which covers the implementation of the R-PP and subsequent readiness preparation(World Bank, 2015).

The SESA is a tool that seeks to integrate social and environmental considerations into policymaking processes, leading to making REDD+ policies and programs more sustainable. It supports the design of the National REDD+ policy framework, including the National REDD+ Strategy. SESA is therefore essential for avoiding the negative impacts and enhancing the positive REDD+ benefits, especially regarding socio-economic, cultural, and livelihood

development gains, governance enhancements, and broader environmental or biodiversity benefits. SESA has the strategic objective of integrating social and environmental concerns into the policy-making process of REDD+. SESA is complemented by an Environmental and Social Management Framework (ESMF), leading to making REDD+ policies and programs more sustainable (Figure 1). This report presents a situational analysis of the country in general and specifically for Ondo and Nasarawa States.

Specifically, SESA will assess the potential environmental and social impacts of the REDD+ programme and prepare an Environmental and Social Management Plan in line with the World Bank safeguard policies as stated in decision 1/CP.16, on results-based payments. This gives **t**he summary of information on how all of the safeguards referred to in decision 1/CP.16, appendix I, are being addressed and respected, as referred to in decisions 12/CP.19 and 12/CP.17, chapter I; a link to the national strategy or action plan as referred to in decision 1/CP.16, paragraph 71(a), as appropriate;

The specific objectives include:

i. Providing an understanding of the link between REDD+ and Forest sector vis-à-vis REDD+ process, activities, and the operation
ii. Identify key stakeholder that will be directly or indirectly affected by the REDD+ process, including vulnerable groups,
iii. Provide policy, legal and institutional framework at local, state, national and international level for the implementation of the REDD+ strategies in line with the world bank safeguard
iv. Identify potential environmental and social impact/risks of the REDD+ programme
v. Provide alternative/ options to mitigation adverse environmental and social impacts and enhance positive impacts
vi. Integrate the environmental and social concerns in decision making for Nigeria's REDD+ readiness
vii. Design a framework for stakeholders' involvement in the REDD+ process, including relevant MDAs, private sector, CSOs/NGOs, academia, communities, among others. Lso taking into consideration vulnerable groups such as women and the disabled.
viii. Provide guidelines n line with international standards and world bank safeguard for the implementation of the REDD+ interventions as stated in the strategies

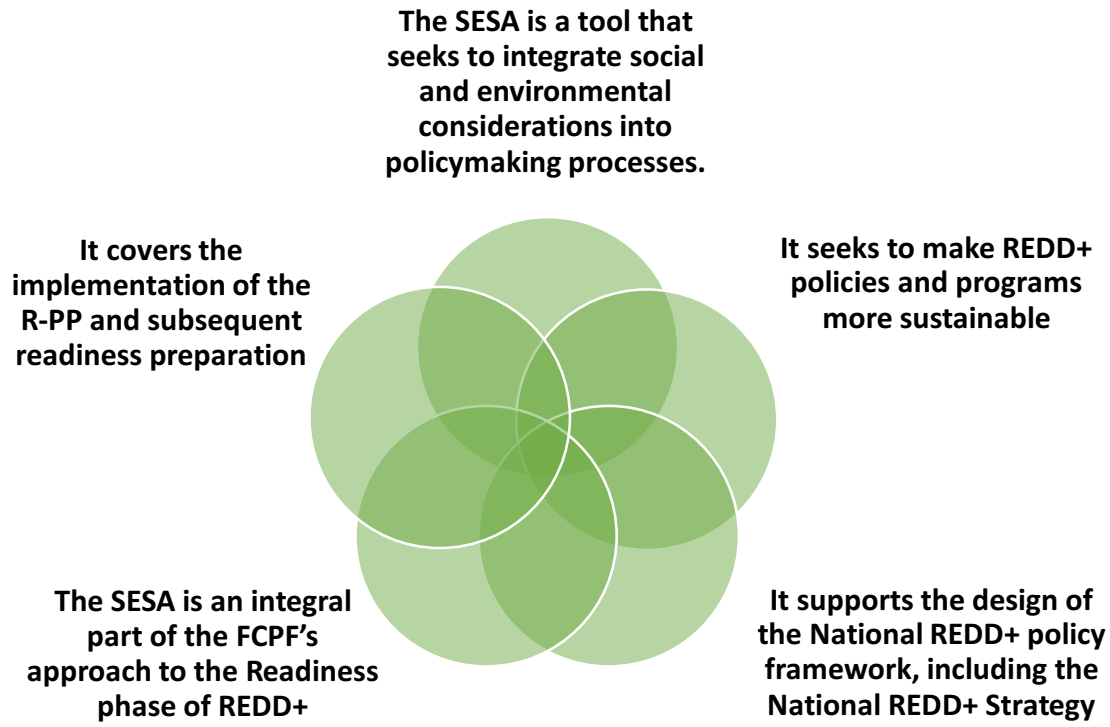
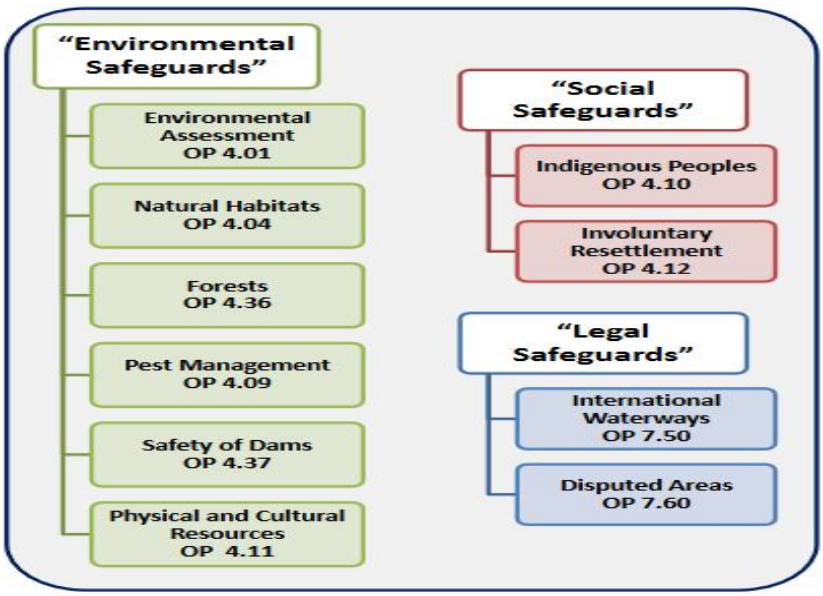


Figure 1.1: Objective of REDD+

1.3 Principles for SESA

SESA Objectives in line with World Bank Safeguards:

Aligning REDD+ process with the World Bank objective will create a system to better address environmental and social impacts and risks and promote environmentally and socially sustainable development. This will ensure effectiveness and efficiency in the implementation of safeguard policies



The Link between REDD+ and World Bank safeguard

i. Support integration of environmental and social aspects of projects into the decision-making process
ii. Provide a mechanism for addressing environmental and social issues in program and project design, implementation and operation
iii. Identify and manage impacts and risks
iv. Provide a framework for consultations, participation, and disclosure
v. Support effectiveness and sustainability of the REDD+ Process

OP/BP	Safeguard	Policy objectives
4.01	Environmental Assessment	Help ensure the environmental and social soundness and sustainability of investment projects. Support integration of environmental and social aspects of projects in the decision-making process.
4.04	Natural Habitats	Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions.
4.09	Pest Management	Minimize and manage the environmental and health risks associated with pesticide use and promote and support safe, effective, and environmentally sound pest management.
4.11	Physical Cultural Resources (PCR)	Assist in preserving PCR and in avoiding their destruction or damage. PCR includes resources of archeological, paleontological, historical, architectural, and religious (including graveyards and burial sites), aesthetic, or other cultural significance.
4.12	Involuntary Resettlement	Avoid or minimize involuntary resettlement and, where this is not feasible, assist displaced persons in improving or at least restoring their livelihoods and standards of living in real terms relative to pre-displacement levels or to levels prevailing before the beginning of project implementation, whichever is higher.
4.20	Indigenous Peoples	Design and implement projects in a way that fosters full respect for indigenous peoples' dignity, human rights, and cultural uniqueness and so that they (1) receive culturally compatible social and economic benefits, and (2) do not suffer adverse effects during the development process.
4.36	Forests*	Realize the potential of forests to reduce poverty sustainably, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests.
4.73	Safety of Dams	Ensure quality and safety in the design and construction of new dams and the rehabilitation of existing dams, and in carrying out activities that may be affected by an existing dam.
7.50	Project on international Waterways	Ensure that the international aspects of a project on an international waterway are dealt with at the earliest possible opportunity and that riparians are notified of the proposed project and its details
7.60	Project in disputed areas	Ensure that other claimants to the disputed area have no objection to the project, or that the particular circumstances of the case warrant the Bank's support of the project notwithstanding any objection or lack of approval by the other claimants

Source: The World Bank Safeguard Policies

1.4 Terms of reference

The work and deliverable required in this contract include a collection of linked activities:

(i) Development of the SESA (at the National Level with a particular emphasis on the new states under readiness, namely CRS, Nasarawa and Ondo);
(ii) A national-level Environmental and Social Management Framework (ESMF), this would include preparing a separate ESMF document for Cross River state to underpin a state-specific REDD+ Strategy;

(iii) Analysis of land and involuntary resettlement issues and the preparation of a Resettlement Policy Framework and Process Framework.

1.5 Scope of the consultancy

The scope of this assignment is divided into two parts, namely:

Part I: Strategic Environmental and Social Assessment (SESA)

Part II: Environmental and Social Management Framework (ESMF), Process Framework and Resettlement Policy Framework.

- Review of policies and initiatives relevant to forests and climate change.
- Conduct an Environmental and Social Assessment of the REDD+ implementation to identify and assess the potential environmental and social impacts.
- Appraise the programme activities and determine any potential negative and positive impacts on the environment
- Carry out consultations with relevant stakeholders, including local communities, relevant MDAs, Private sectors, CSOs/NGO's, etc, to obtain their views and suggestions regarding the environmental and social impacts of the programme which will be reflected in the SESA document
- Identify existing and expected environmental regulations (Local, State, Federal)
- Prepare an Environmental and Social Management Framework (ESMF) detailing mitigation measures as well as institutional roles and responsibilities in the operationalization of the ESMF

1.6 REDD+ organizational approach

REDD+ is a national programme, and the approach is based on the scale (geo-politico-administrative) of operation of REDD+ programme within a particular country. Three levels of REDD+ organization can be recognized as the basis for accounting and incentive mechanisms depending on the geopolitical scope. These levels include the national, sub-national and nested approaches. The national scale is country-driven at the center of the national government primarily based on national policies and regulations. This approach entails country level framework in which there is direct support to countries for emission reduction (Angelon, Streck, Peskett, Brown and Luttrell, 2008). At the sub-national approach is project specific and based on direct support to projects in sub-national territories. REDD+ activities in this context are implemented within particular geographical areas by individuals, communities, NGOs, private companies, local governments, or states. The third approach is the Nested approach, which is collaborative involving the national, state, and local level geo-political cum administrative territories. In this approach, REDD+ activities can start at National level and trickle down to the local level or at the local level with a scale-framework to the national level. Hence, there is the coexistence of both national and sub-national structures (PGA Draft report, 2014).

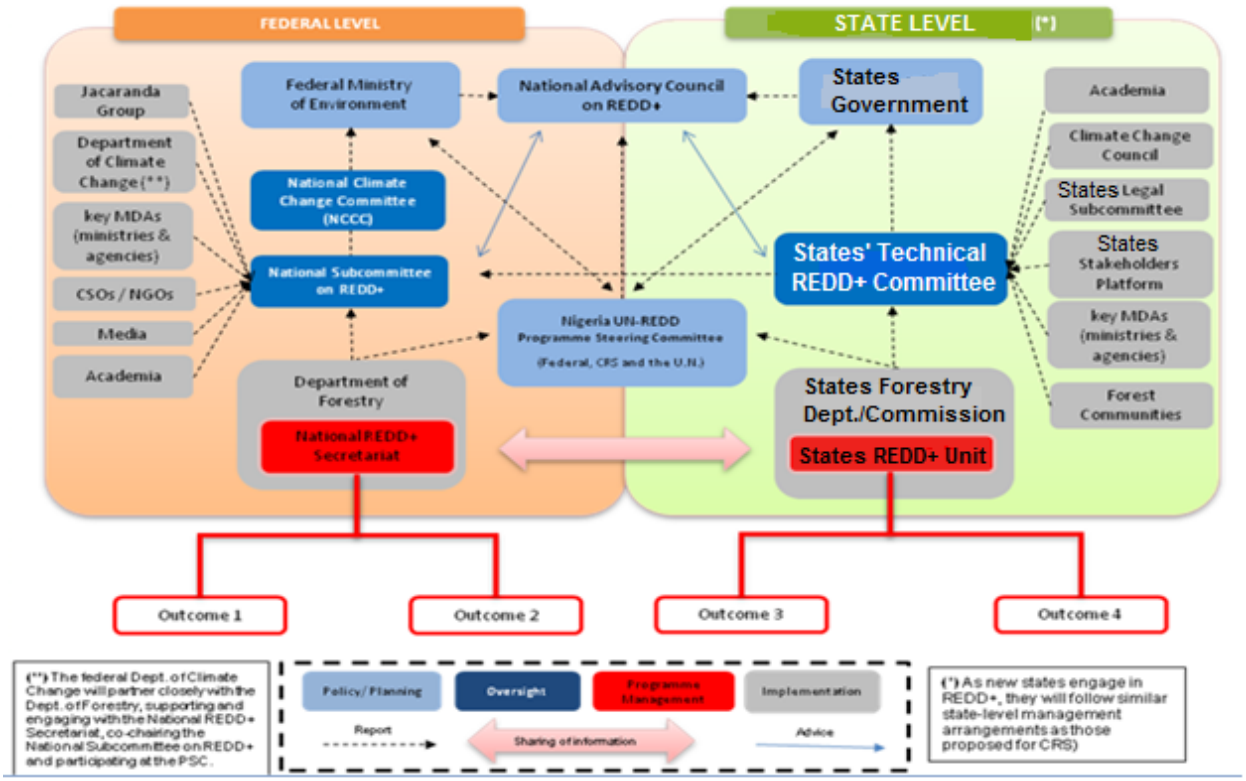


Figure 1.2: The Nigeria REDD+ Readiness Architecture

1.7 History of REDD+ under the UNFCCC negotiations

REDD+ is a financing mechanism in which Nigeria is firmly committed since 2009 with the mandate to reduce greenhouse gas (GHG) emissions. , reduce poverty sustainably manage its forest resources and taking into account the improvement of environmental services

REDD+, as one of the approaches to climate change mitigation and as first discussed at the 11th Conference of Parties (COP) in Montreal, Canada, in 2005. It has after that been discussed in various fora and working groups of the United Nations Framework Convention on Climate Change (UNFCCC), which has seen the scope of REDD broadened from Avoiding Deforestation (COP 11 Montreal, 2005) to REDD+ as a full Mitigation Option (COP 19 Warsaw, 2013

The UN-REDD Programme commenced in September 2008, and it is funded by the governments of Denmark, Japan, Luxembourg, Norway, Spain, and the European Union (UN-REDD 2013). Three UN agencies implement the UN-REDD, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and the Food and Agricultural Organization (FAO) of the United Nations referred to as ''the management group'' (FME 2011). The UN-REDD is administered through a secretariat in Geneva, Switzerland. The UNDP Nigeria Country Office (UNDPCO) coordinates the UN-REDD activities in Nigeria and monitors the Nigeria- REDD (FME 2011).

The UNDP is responsible for administration and governance in the Nigeria-REDD. The UNDP staff that contributed to the design of Nigeria-REDD included the UN-REDD Africa coordinator based in Nairobi, Kenya, UNDP governance experts from the West Africa Regional Office Dakar, Oslo Governance Center, Norway, and UNDP New York. Observing the role of the UNDP in the

UN-REDD, a Nigerian team member opined that *'the UN-REDD has been captured by the UNDP'* (Member Nigeria REDD team 2012). The UNEP working out of its Nairobi office provides technical support on forest conservation and management in the Nigeria-REDD, while the FAO through its country office in Nigeria brings in expertise on developing national accounting systems for greenhouse gas inventories (FME 2011).

Nigeria applied for membership of the UN-REDD in December 2009 (Oyebo et al. 2010), and had the approval for funding to undertake a REDD Readiness Plan in 2011 (FME 2011). Nigeria-REDD has a national program and a state level program with Cross River State setting the course. The Nigeria REDD+ Secretariat is housed at the national level in the Department of Climate Change at the federal ministry of environment. The ministry works in close collaboration with the national advisory council (NAC) on REDD and the national REDD technical committee. NAC is a policy-making body, while the technical committee is a working group comprising of UN-REDD and Nigeria-REDD (national and state level) personnel.

The REDD steering committee is another working group at the national level for effective coordination of the work of the Department of Climate Change and the Cross River State Forestry Commission (FME 2011). There is also a national civil society organizations' REDD forum, a platform for civil society to have a voice in Nigeria-REDD through the Department of Climate Change. The Nigeria-REDD was designed in a context where descriptive and symbolic representatives of local people were included in the participatory consultative process, but their substantive representatives in local government institutions were excluded. The design process did not meet up with the UN-REDD rhetoric of strengthening local democratic processes to stave off the elite capture of REDD benefits (UN-REDD 2008).

The stakeholder engagement aspect of the Nigeria REDD+ programme has taken concrete steps to mitigate this limitation with community-level consultations aimed to look to include local, marginalized people under the ''free prior and informed consent process and concerns for local people''.There is also the participatory governance assessment process to produce governance data which success depends on how civil society actors would use it to hold the government to account and how that could drive the policy towards engaging communities and the broad spectrum of stakeholders (UN-REDD Staff 2012). Interest in a governance platform to secure full consultation and participation for communities, resulted in the study on Participatory Governance Assessment (PGA) for REDD+ and Natural Resource Management in Nigeria in 2015, to guide the appropriate governance framework for REDD+ implementation.

1.8 Nigeria REDD+ (The Journey so far)

The UN-REDD Programme in Nigeria was formerly signed in August 2012 by the Federal Minister of Environment, the Cross River State Governor and the UN Resident Coordinator. Nigeria's REDD+ programme intends to activate the countries, green development. "The Federal Government considers REDD+ as a national development priority which forms an essential component transformation agenda of the government. The programme had an operational focus in Cross River State, which harbors 50 percent of the tropical high forest remaining in Nigeria. It was to ensure the preservation of the last remaining primary forest and mangrove forest in Nigeria largely found in CRS.

The signed programme, with a budget of US$4 million from the UN-REDD Programme and an implementation span of 2.5 ''years, will allow Nigeria to craft the REDD+ mechanism, which is

part of the set of policy and financial instruments of the UN climate change convention. Nigeria's REDD+ programme has an innovative, two-track approach consisting of actions at both federal and state levels''[3] This programme at the federal level will enhance technical capabilities, foster the development of a strategic policy framework for REDD, and enable the national environment and climate policies to be aligned to global climate change agreements and policy instruments. At sub-national levels (states), the programme the demonstration and concretization of REDD+ policies and programmes at the grassroots in addition to the benefits advanced at the national level.

In 2009, Nigeria and CRS requested the support of the UN-REDD Programme to develop and advance REDD+ in the country. The UN-REDD Programme provided intensive policy, technical and planning support from 2010-2012, which resulted in a national programme document (NPD) for REDD+ which drew from the *Nigeria REDD+ Readiness Preparation Proposal – R-PP*) and had the following outcomes;

- Enhanced technical and institutional capacity at the national level
- Framework for REDD+ expansion across Nigeria prepared
- Institutional & technical capacity for REDD+ in Cross River State strengthened
- REDD+ readiness demonstrated in Cross River State

After broad stakeholder consultations and technical analyses, the UN-REDD Policy Board approved it with a financial allocation of U$ 4 million for the 2012-2015 period, following extensive international reviews. (FRN, 2011 - National Programme Document). It was envisaged that the Nigeria REDD+ Readiness Programme would follow a two-track approach to achieve REDD+ readiness in Nigeria, based on:

(i) The development of institutional and technical capacities at the Federal level, and
(ii) Carrying out intense institutional, strategy-building and demonstration activities in Cross River State.

Being a vast country with a federal structure and complex challenges to address deforestation, Nigeria requested for membership of FCPF in 2009 to deepen the support for the REDD Programme, facilitate national level REDD+ readiness, and expand the application of REDD+ to other interested states drawing from the lessons learned from Cross River State (CRS) [4].

Over 50% of the remaining tropical high forests of Nigeria are located in a single state- Cross River State (CRS). In 2009, CRS declared a moratorium on timber extraction, while starting to explore new environmental finance mechanisms to protect the forests further, with a priority focus on enhancing the livelihoods of forest-dependent communities. With these, Cross River State has been retained as the pioneer state to serve as a demonstration model. Moreso, because of its political leadership and manifest engagement in forest conservation in exploring the REDD+ mechanism, as well as for its significant potential for emissions reduction from its forest sector given that it hosts so much of the country's high tropical forests.

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[3] http://www.environewsnigeria.com/gari-nigeria-engages-further-in-forest-conserva).
[4] https://www.forestcarbonpartnership.org/sites/fcp/files/2014/July/Nigeria%20REDD).

Cross River State is used as a demonstration model for Nigeria (Nigeria REDD+ Readiness Programme, 2011). The sub-national is focused on pilot projects that can be upscaled. Utilizing CRS as a model was to serve as a gauge to determine the workability of the REDD+ programme in the country. The National REDD+ unit is under the supervision of the Department of Climate Change and the Department of Forestry in the Ministry of Environment and at the sub-national level is the Cross River State forestry commission (Oyebo, Bisong, and Morakinyo, 2012). This model entails a two-prong approach whereby at the national level, institutional and technical capacities are developed while strategy building and demonstration activities go on in Cross River State (Nigeria's REDD+ Readiness Programme 2012-2015). Nigeria in the last four years has engaged in negotiations on REDD+ with stakeholders at Federal & State levels; Forest dependent Communities; Civil Society Organizations (CSOs); Academia; Private Sector and Media (National REDD secretariat, 2014). Apart from Consultative visits to the REDD+ pilot communities (Ekuri, Iko Esai, Afi & Mbe Mountain Forest Communities), the country has engaged stakeholders at the federal & Cross River State levels, including forest communities on institutional, capacity and technical readiness during the first UN-scoping mission in 2010 among others.

Reinforcing policy from the national level with strong political will and success in the REDD+ pilot state (Cross River) will provide the platform for expansion and implementation of REDD+ in other States of the country. The experiences from this pilot programme are critical in understanding the gaps for effective implementation of REDD+ activities in the country.

A significant advantage of the nested approach is its flexibility that allows countries to operate at both national and subnational levels. REDD+ may then be driven from subnational activities and gradually move to the national. However, the primary challenge is the harmonization between the two levels regarding policies and interest (Angelsen, Streck, Peskett, Brown and Luttrell, 2008). This then underscores the need for enhancement of Communication and information flow between the two levels.

Earlier on, National Council on Environment in September 2011, which called on all states in Nigeria to participate in REDD+ as means of saving the remaining forest estates, achieve forest conservation, and promote sustainable livelihoods. Clear interest has already been shown by Taraba, Ondo, Nasarawa, Kaduna, Katsina, Ogun, Enugu, Abia, and Ekiti states. TheUN-REDDProgram has agreed to support further scoping of other states to help assess the capability for REDD+ and their interest to be part of the National REDD+ Program.

Recently, the scope of REDD+ has been expanded to two additional states as part of the country's long-term strategic plan for climate change mitigation nationwide, having recognized that deforestation and forest degradation represent primary carbon emissions sources in the country. Thus, rolling out REDD+ Readiness in just one state out of the country's 36 will not contribute much regarding emission reductions; hence the Nigeria REDD+ was designed to be rolled out to new interested states as the country progresses in REDD+ Readiness (World Bank. 2015).

Funding from the FCPF will provide further support to National level REDD+ Readiness and state-level REDD+ Readiness in Nasarawa and Ondo states and complete REDD+ Readiness in the Cross River State. The requested FCPF support would complement the ongoing UN-REDD

support (hence the R-PP includes integrated planning and budgeting, component by component).

The Government of Nigeria completed the selection of the two new pilot states in January 2015. Key sets of criteria for selection of the two new states were: state commitment; technical capacities; community commitment; and legal and regulatory aspects. Ondo and Nasarawa States were selected as two new pilot states for REDD+ to be supported under the FCPF Grant.

1.9 REDD+ indicative strategic options for Nigeria

In the Readiness Preparatory Proposal Draft submitted for Nigeria in 2013, the underlying pressures causing forest conversion were clearly articulated. This includes poor governance, poverty, macroeconomic, and demographic factors. These resulted in the removal of forests to satisfy the need for agriculture and wood products, infrastructure, and mining as well as to provide local energy needs. However, any REDD+ Strategy needs to be able to respond and address these underlying pressures.

Based on an analysis of the orientations of the sectoral policies, the drivers of deforestation and forest degradation, and consultations with the stakeholders, six strategic options for implementing REDD+ were identified in the R-PP. They were:

i) government policy, legislative and institutional reform;
ii) forest and land use zoning and planning;
iii) forest tenure security for local communities;
iv) introducing alternative agriculture systems;
v) supporting forest protection, reforestation,and forest enrichment; and
vi) Reduced fuel-wood local energy options.

Other proposed strategic options may include;

A. Improve the quality of multi-stakeholder dialogue and decision –making
B. Clarify natural resource rights
C. Address unsustainable timber harvesting by supporting the sustainable supply of timber to meet export and domestic/regional timber demand
D. Address problem of local market supply
E. Mitigate effects of agricultural expansion
F. Strengthen decentralized local management of natural resources
G. Improve the quality of fire-affected forests and rangelands
H. Address local market demand
I. Improve returns to the small-scale enterprise
J. Improve regulation of mining activities to reduce forest degradation
K. Rehabilitation of degraded forest reserves
L. Implement actions to address acts of God (wind and natural fire events, floods, pests and diseases).

Indicative Strategic Options for Ondo and Nasarawa State REDD+
Based on the livelihood and natural resource use contexts of both Ondo and Nasarawa states, the understated are possible options for REDD+ interventions.

Indicative Strategic Options for Ondo State REDD+

1. Land use and land management practices

2. Climate-smart Agriculture
3. Sustainable agroforestry system
4. Agricultural intensification
5. Reforestation and Afforestation programme
6. Capacity strengthening for forest protection
7. Strengthening local institution for forest protection
8. Strengthening the legal and policy framework.
9. Investments in sustainable forest-based products
10. Strengthening participatory community-based forest management
11. Policy harmonization

Indicative Strategic Options for Nasarawa State REDD+

12. Sustainable Fuel Wood Lots
13. Efficient alternative energy
14. Land use and land management practices
15. Climate-smart Agriculture
16. Irrigation system
17. Land intensification
18. Afforestation programme
19. Watershed protection and management
20. Capacity strengthening for forest protection
21. Strengthening local institution for forest protection
22. Strengthening the legal and policy framework.
23. Investments in sustainable forest-based products
24. Policy harmonization
25. Cattle Ranching to curb farmers herdsmen crises

2.0 METHODOLOGY AND APPROACH

2.1 Design of methodology/approach to SESA

The information for this study was primarily derived from multiple sources comprising desk review of relevant literature and policy documents, consultations with principal officers of the National and State (Ondo, Nasarawa and Cross River) REDD+ Secretariats for confirmation of REDD+ policy thrust at both national and state levels, including CSOs and NGOs. Primary data collection through Focus Group Discussion (FGD) and Questionnaire Survey on REDD+ related issues and context across REDD+ pilot sites in Ondo and Nasarawa states, and forest-dependent communities in eight additional states across four other geopolitical zones of Nigeria for national coverage. The specific methodologies utilized for the SESA study include:

2.2 Stakeholders' profiling/mapping/Analysis

This is a collaborative process of research, debate, and discussion that draws from multiple perspectives to determine a key list of stakeholders across the entire stakeholder spectrum. This involves listing all stakeholders related to REDD+ activities such as community-level representatives, forest-dependent people, traditional leaders, community forestry associations, the private sector, charcoal producers and fuelwood collectors, women's organizations, government and non-governmental agencies working in the forestry and land use sectors. Also included are national and local civil society organizations (CSOs) focusing on environmental issues and natural resources as well as academia, research institutions, and development partners. Identification of key stakeholders relevant to REDD+ with their Inputs and efforts is key

to this study. The list of consulted stakeholders is provided in Appendix 1. The process undertook includes:

- **Gap Analysis:** Gap analysis was carried out to identify stakeholders related to REDD+ but not consulted during the R-PP. The REDD+ secretariat was engaged, including the Stakeholder engagement specialist (SES) and the national coordinator. Identification of the stakeholder not initially included in the R-PP document but relevant to REDD+ and will be affected by the REDD+. This also includes people with disabilities (PWDs) not included in the list. These stakeholders were engaged in workshops to draft the SESA.
- **Consultation:** Consultations were carried out in a series of workshops to ensure active participation of all relevant stakeholders at the national, state, and local levels with consideration for gender equity.
- Assessing Environmental and socio-economic conditions:

This involves consultations with stakeholders at the relevant MDAs and the local communities especially using FGD and Questionnaire Survey to identify issues of concern in the community local socio-economic activities, problems and challenges, socio-economic conditions, perceived risks and benefits of the REDD+ project among other to elicit the group's reaction on these vital issues.

- **Institutional assessments:** Agencies in-charge of REDD+ and climate-related actions in different states and Federal level were examined to determine institutional capacity and level of collaboration, conflicts and institutional mandates about REDD+ objectives and the identification of platforms for coordination of their activities.
- **Document review/analysis:** Document review and analysis provided basis for situational analysis and baseline information on the biophysical and socio-economic conditions on REDD+ related issues and climate change, natural resource management mainly forest, land use practices and economic/livelihood activities that are contingent on forests, including institutions, policies, laws and regulations in the states and national level.
- **Prioritizing Environmental and Social Priorities:** This will be carried out in collaboration with stakeholders and the national Safeguard Working Group (SWG) in a workshop to identify and select environmental and social priorities. The priorities were derived from the identified positive and negative impacts of proposed REDD+ interventions. Stakeholders will then select this based on the severity of their impacts in Nigeria.
- **Governance Assessment:** A Participatory approach for assessment of governance structure in resource use and management, land tenure rights, resource use rights governing local livelihoods driven by local customs, culture, and tradition was carried out with community stakeholders, MDAs and SWG.

2.2.1 Stakeholders' analysis, consultation, and stakeholder participation

Stakeholders' engagement and Participation in the REDD+ process is one critical area that is indispensable for building understanding among all parties and ensuring transparency crucial for galvanizing actions to promote the sustainability of strategies and policies in design and implementation of REDD+ programme and project. Besides, the process ensures wide-ranging acceptance and interest in REDD+ as well as build the trust of stakeholders and support their capacity to participate effectively in REDD+.

REDD+ requires extensive consultation among interested stakeholders in line with the resolution of the UNFCCC on the four stakeholder engagement pillars; which include full and active participation of relevant stakeholders in REDD+ actions including local communities; respect for the knowledge and rights of stakeholders; recognizing the importance of "transparent and effective" national forest governance structures; and enhancing social and environmental benefits. Consultation and engagement of stakeholders take place at all levels; from the national, state, local level including local communities and across all spectrum including MDAs, CSOs/NGOs/CBOs, academia, the private sector, and community groups.

2.2.2 Consultation and Participation Structure (C & P).

The R-PP provides an institutional structure for coordinating the development of the REDD+ Strategy, which already provides the framework within which the C & P was implemented.

Consultation and Participation will support the technical coordination of the implementation of the C & P plan; as well as the SESA, ensuring that consultation on and participation in Nigeria's Strategic Environmental and Social Assessment process, issues of gender and marginalized groups, are considered and integrated into the plan. The most vulnerable are women and people with disabilities that are socially excluded or deprived. Monitoring will, therefore, be an integral part of the implementation involving all stakeholders from the various levels.

2.2.3 The Consultation and Participation Framework

The consultation and participation activities for REDD+ in Nigeria started from Cross River State as a pilot state and has been extended to cover Ondo and Nasarawa States with due consideration of the broad nature of stakeholders involved. Stakeholder engagement meetings and workshops in the context of REDD+ was held at the national Cross River, Ondo and Nasarawa States and within local communities. Training at different levels involves civil societies, Forestry Commission and Local Governments, as well as community representatives selected from the pilot sites of the REDD+ programme in the respective states to build capacity for active participation.

2.2.4 Identifying relevant stakeholders for REDD+ in Nigeria

Under the REDD+ process, stakeholders are defined as groups that have a stake or interest or right in the forest and those that will be affected either negatively or positively by REDD+ activities. The stakeholder groups identified for participation in the national REDD+ programme include:

i. Relevant government agencies;
ii. Formal & informal forest users (women & men);
iii. Civil society groups
iv. Private sector;
v. Local peoples (women & men);
vi. Forest-dependent communities (women & men);
vii. Development partners.
viii. People with disabilities

In order to ensure that national SESA study to support REDD+ systems and programmes is inclusive and resilient, specific attention was paid to the specific roles, requirements, and contributions of women, men, youths and vulnerable groups at every stage of policy and programme development, from design through implementation and evaluation. In this respect, stakeholder engagement should not be merely a matter of integrating the views of the different

actors that are concerned by REDD+ but a stronger process, crafting partnerships, obtaining consensus and formulating inclusive and gender-sensitive policies that will make REDD+ transformational.

The UN-REDD program emphasizes the importance of full stakeholder engagement, giving three reasons why it is critical:

a. UNFCCC decisions have consistently called for parties to ensure the full and active participation of relevant stakeholders in the design and implementation of REDD+ NSs and APs;
b. demand for meaningful stakeholder engagement from donors, Local peoples civil society and REDD+ countries alike since the early days of conceptualizing REDD+;
c. recognition that the transformational reforms REDD+ often demands would not happen effectively without partnerships and buy-in across a broad swath of government, society, business, and institutions.

2.2.5 Stakeholders' Workshop for validation of Work plan, Data Collection Instruments, and Methodology for SESA/ESMF.

One of the criteria for the implementation of the work plan and task for the SESA as provided in the TOR is the validation of the work plan, data collection instruments, and methodology by stakeholders. The SESA team prepared a SESA work plan (including methodology and data collection instruments), which was then subjected to full stakeholder validation in a national workshop crucial for establishing the legitimacy of all subsequent stakeholder consultations and participation actions. The workshop was held at Sawalino Hotel & Suites, Keffi, Nasarawa State on Tuesday 23rd January 2018 by 9:00 am.Stakeholders across different sectors and levels participated in the workshop, among which includes, the National REDD+ secretariat, NEWMAP, State REDD+ Team from Cross River, Nasarawa and Ondo, Community representatives, Ministries, Departments and Agencies (MDAs) of Forestry and Natural Resource Sectors; the Academia, Civil Society Organizations (CSOs), etc.. The goal of the workshop was to involve representatives of relevant stakeholders and their participation in the validation of work plan and data collection instruments for SESA study. The workshop also provided an opportunity for stakeholder inputs into the situational analysis document to confirm the validity of the direction of field data collection.

The workshop, therefore, served to achieve the following objectives:

a) Enhanced participation of all stakeholders in the SESA process
b) Obtained inputs from stakeholders' representatives, including women into the work plan, data collection instrument, and methodology.
c) Validated the work plan, data collection instruments and methodology for the SESA study by representatives of the stakeholder groups
d) Provided feedback mechanism during the SESA process on issues relevant to REDD+
e) Made inputs to the situational analysis presented at the workshop

2.2.5.1 Validation of the instruments.

The Stakeholders unanimously accepted that the instruments were sound and capable of capturing the issues related to SESA and REDD+. It was recommended that the two days training workshop that immediately followed the SESA workshop should provide further opportunity to refine the instruments. In conclusion, Mr. Odigha Odigha (former Chairman of CRS Forestry Commission) moved the motion for the validation of the instruments for data collection for the

REDD+ process. The motion was seconded by Mrs. Alhassan of the NEWMAP National Secretariat.

2.3 Field data collection (reconnaissance & detailed investigation)

Both the reconnaissance survey and detailed field investigation were carried out to generate institutional and community level information. This utilized FGD and Questionnaire survey instruments.

2.3.1 Reconnaissance survey/preliminary field visits and community consultations.

A reconnaissance survey and preliminary visits to REDD+ sites were considered critical to a successful field data collection for SESA. A reconnaissance team of five persons comprising two key experts, two support staff to SESA team was therefore raised to undertake a four days reconnaissance survey to Ondo and Nasarawa states. The task was designed to be simultaneously carried out in both states necessitating a further division of the team to two persons each. Each team was guided in its task with a detailed reconnaissance survey template developed for the study (See Appendix).

The reconnaissance teams, therefore, conducted preliminary visits first to the State REDD+ Secretariats in Nasarawa and Ondo states and after that, carried out community consultations within the areas proposed for SESA the study. This was to create awareness on the full SESA study; in addition to generating preliminary information on existing conditions in the area and identifying appropriate approaches required to carry out the field data collection.

In Nasarawa State, the reconnaissance was held from 6th to 11th December 2017. The communities visited were Marhai, Masange, and Indoor in Marhai pilot site in Wamba LGA; Atabla and Obi in Obi pilot site of Obi LGA and Sere, Ugya Sambo, Zono, Dere in Zono pilot site of Toto LGA. For Ondo State, the reconnaissance was carried out from 17th to 22nd December 2017. The communities visited were Obada camp, Kolawole, Sopoto and Oladipo in Akure Forest Reserve and pilot site. Moreover, Idoani, Ipele and Ikaro Ifon of Osse River Park were visited in the second pilot sites. In the two states, the leaders of the communities including the Chiefs, secretary to the communities, youth leaders, women leaders and Elders of the communities among others were consulted.

Plate 2.1: Consultation at Palace of the Chief of Sere Community, Nasarawa State.

The chiefs and community leaders of the pilot sites in both Nasarawa and Ondo states were happy to receive the team and for choosing their different communities for the study. They expressed awareness of REDD+ programme and acknowledged being part of it. They equally gave their consent and pledged commitment to REDD+ activities and other climate change mitigation efforts that will be beneficial to them.

2.3.1.1 Methodology/approach adopted for the reconnaissance survey

The approaches for the reconnaissance included: Consultation at the State REDD+ Secretariat; Consultation with the Related Ministries Departments and Agencies (MDAs) aided by SP, the consultation with other related agencies such as Nasarawa Geographic Information System (NAGIS). In Ondo state, the state REDD+ Coordinator also assisted in eliciting vital information form the related MDAs; Community consultations assisted by the SPC in both states and staff of the state REDD+ team carried out community consultation meetings within the areas proposed for SESA study.

Plate 2.2: Joint consultation at the Nasarawa Geographic Information System (NAGIS) and Nasarawa REDD+ State Office

2.4 Detailed Field Data Collection

2.4.1 Field Data Collection in Ondo

The field data collection in Ondo state also commenced in29thJanuary 2018, which was the day to travel from Nasarawa state to Akure in Ondo state. The team had a brief meeting for re-grouping of the team from three to two groups by the number of pilot sites in Ondo (Table 3). In the same way, data collection took place simultaneously at the two pilot sites of Akure and Osse river reserves. The first aspect involved focus group discussion with the various community groups. The meeting for Akure reserve was held in Obada community, while that for Osse River Park was held in Idoani community. The second activity involved training of two community representatives from each of the nine communities within the pilot sites for the administration and retrieval of the questionnaire. The Fieldwork ended on Thursday, 1st February 2018.

Plate 2.3: Meeting with the community members of Obada in Ondo State

Table 2.1: Sampled Communities in Ondo State for Questionnaire Survey

Community issues/ traditional practice	**Site 1**	**Site 2**
Names of REDD+ site	Akure Reserve	Osse River Reserve
Communities to participate in Questionnaire Survey	Obada camp Kolawale Oke Sopoto	Idoani Ipele Agbanimu Olabare Omialafa Elegbeka

2.4.2 Field data collection in Nasarawa state.

The field data collection in Nasarawa state commenced on 26th to 28th January 2018. The team immediately moved to the field after the in-house training for data collection. The data collection took place simultaneously at the three pilot sites of Marhai, Obi, and Zono (Refer to table 2.2). In Marhai, the FGD took place in Marhai with Masange and Andohor communities represented. In Obi, the FGD took place in Atabla community with Obi and Abaagu communities represented. While in Zono, Sere community was used for the FGD with other communities represented (Table 4). The first day marked the general meeting and community entry as well as training of two community representatives from each of the ten communities within the pilot sites sampled for the administration of questionnaire (Table 2.2).

Plate 2.4: Focus Group Discussion at Zono Forest Reserve, Nasarawa State.

Table 2.2: Sampled Communities in Nasarawa State for Questionnaire Survey

Community issues/ traditional practice	**Site 1**	**Site 2**	**Site 3**
Names of REDD+ site	Marhai	Obi	Zono
Communities to participate In Questionnaire Survey	1. Marhai 2. Masange 3. Andohor	1. Atabla 2. Obi 3. Abaagu	1. Sere 2. Gbadugu 3. Dere 4. Ugya- Sambo

2.5 Sampling Framework

2.5.1 REDD+ Pilot Site Communities in Ondo & Nasarawa States

Suites of sampling techniques were deployed in choosing the communities. Stratified random sampling was used in selecting communities for the study. The three pilot sites form the strata for the sampling of communities. The sample for the household survey consisted of 10 Pilot communities within each of the REDD+ state (Nasarawa and Ondo). In each of the three pilot sites in Nasarawa and the two in Ondo, the team further selected one central community in each pilot site - from the preselected ten communities - for focus group discussions.

The communities were selected for the Focus Group Discussion and questionnaire survey based on the following criteria:

1) Geographical location – to include communities close to the forest reserves and the pilot sites.
2) Political alignment – to include communities from the main political blocks as recognized in the region.
3) Status as “core community” – to include communities considered as having a more significant stake in the forest regarding traditional ownership rights claimed and recognized by other communities, as well as the level of actual involvement in conservation efforts at the site.

2.5.2 Additional Data Collection in For National Coverage

Additional data were collected in eight (8) states covering the geopolitical zones of the North-Central (Kano, Katsina & Kaduna), North-East (Taraba), South-East (Enugu and Anambra) and South-South (Akwa-Ibom and Rivers) The communities were selected based on the closeness to the forest reserves in the area. Table 6 provides details of communities sampled for the SESA study.

Table 2.3: Characteristics of Settlements Selected for the Study

S/N	State	Community	Estimated Population (2018)	No. of Households	Sample Size	Questionnaire Returned
1	Nasarawa	Marhai	1540	220	22	19
2		Masange	1256	179	18	16
3		Andohor	1261	180	18	15
4		Atabla	1400	200	20	19
5		Obi	2243	320	32	29
6		Abagu	1751	250	25	20
7		Sere	833	119	12	10
8		Gbadugu	840	120	12	10
9		Dere	700	100	10	10
10		Ugya-Sambo	910	130	13	10
11	Ondo	Obada camp	2104	301	30	29
12		Kolawale Oke	2450	350	35	31
13		Sopoto	1540	220	22	20
14		Idoani	4900	700	70	65
15		Sekere	1260	180	18	15
16		Gbogburu	1680	240	24	22
17		Omialafa	2122	303	30	28
18		Elegbeka	3151	450	45	40
19	Rivers	Orashi	4764	681	68	64
20	Akwa Ibom	Akpayak/ Obot Ndom	1404	201	20	18
21	Taraba	Aforobe	628	90	9	6
22	Anambra	Burma/ Buru	560	80	8	7
23		Achalla	1390	199	20	18
24		Odawa/ Umuagu	700	100	10	6
25	Enugu	Enugu Ngwo	840	120	12	11
26		Ozzu	840	120	12	9
27	Kaduna	Agban Kagoro/Buru	1050	150	15	12

		ku/Fada Kagoro				
28	Kano	Kagadama/ Mekiya	1189	170	17	15
29	Katsina	Daddara/ Hayin Mai Tsani	910	130	13	11
30		Kadobe	1257	180	18	16
31		Maye	1609	230	23	21
32		Rafin Gora/ Tandama	837	120	12	10

2.6 Cost Benefits Analysis (Opportunity and Risk Analysis)

The study identified the different land use patterns and various activities based on their effects on carbon emission. From here, all the activities that are practiced based on the different land use types are analyzed. The current levels of their uses are referred to as Business as Usual Strategies. This Business as Usual activities is used tothe develop the cost of the different activities on a per ha basis. Equally, potential benefits from the business as a usual basis are obtained and analyzed on aper ha basis. The differences between total revenue and total cost per ha were used to ascertain the cost benefit. With 18% discount rate projections, the net present values (NPV) are obtained. The results of NPV become the risk of non-implementation of the REDD+ activities.

2.6.1 GIS Analysis and mapping of Hotspot

2.6.1.1 Processing and analysis

Basically, for a task of this magnitude, the primary dataset would be multispectral satellite images with proper interval multi-temporal characteristics. Appropriate satellite data collection paths and rows were identified, and relevant images downloaded for processing and analysis.
Some satellite image scenes (Each scene is about 115 miles long and 115 miles wide (or 100 nautical miles long and 100 nautical miles wide, or 185 kilometers long and 185 kilometers wide), are required to cover a particular study area. Within each image or picture, the smallest picture element, or pixel, covers a square 28.5 meters on a side.
Specifically, this task is with a predilection to Ondo and Nasarawa State, respectively. Zooming in closely, downloaded satellite scene (a scene may be between 256megabyte to 1.6 Gigabyte).

2.6.1.2 Initial challenges

Most of the acquired and downloaded satellite images had some defects that make them unusable. For quality assurance and quality control to ensure adequate output according to best practices in geospatial science, those unusable satellites scenes were replaced with new downloads. Hence the need for a process change request, because of more person-hours, more resources and money had to be expended to get a quality and acceptable output. This is in line with professional integrity and expert work ethics. The challenges are intrinsic to satellite sensor error or atmospheric (upper air) induced errors. These include scan line corrector off and cloud cover overcast in coastal areas and over the forest.

2.6.1.3 Scan Line Corrector Off (Slc Off)

All Landsat Images from 2003 till date have ‘Scan Line Corrector OFF’ error. This is a satellite sensor error that introduces scan lines into satellite i,mage data, thereby obscuring the picture

elements (pixels) affected by the scan lines. Figure 7 below typifies a scenario with scan line corrector off error over the entire Awe Local Government Area of Nasarawa state.

2.6.1.4 Cloud Cover Cast.

Most satellite images acquired in the optical band of the electromagnetic spectrum are affected by cloud cover, which obscures the view of features on earth by blocking the picture elements (pixels) that reveal the detailed digital number (DN) values of the features. Thus the process of feature extraction and supervised digital image classification is adversely affected. Figure 8 below shows cloud cover cast over Ondo west and Ondo east Local Government areas in Ondo state. Notice that cloud cover is usually formed over the forest and around coastal areas.

2.6.1.5 Overcoming the challenges

Where possible, the satellite image data providers commissioned to assist in correcting the error due to satellite sensor or atmospheric issues, the orders have been placed, procea ssed and a new download link sent back tthe o enable the fresh download of replacement satellite data. In other cases, painstaking and diligent sthe earch on the preview of alternative and relevant satellite data was done.

Figure 2.1: Political map of Nigeria.

2.6.1.7 Analysis of land cover and hotspots

Images of three epochs 1990-1999; 200-2009 and 2010-2018 were used. Supervised image classification technique using samples from the ground-based control to classify pixels of unknown identity was used. Moreover, ERDAS IMAGINE 2016 was used for layer stacking, the creation of Area of Interest (AOI), classify the image using supervised classification and carry out accuracy assessment. IDRISI 17.0, the Selva edition was used to analyze the change transition matrix and the contribution of each land cover category. Accuracy assessment was done to evaluate the classified images, comparing the reference points to the classified points. In the end, error matrix report was generated to compare the reference class values with the assigned class values; Accuracy totals report was also generated calculating the statistics of the

percentages of accuracy, based upon the results of the error matrix. Also generated was Kappa Statistics report.

3.0 SITUATIONAL ANALYSIS & BASELINE INFORMATION

3.1 The biophysical environment

3.1.1 Location/geographical characteristics

Nigeria is the most populous nation in Africa, with a population of about 198 million (NPC, 2018). Nigeria is situated in West Africa lying between latitudes 4°00 N and 14°00N and longitudes 3° W and 15°E, bordered to its south by the Gulf of Guinea for about 850km, by the Republic of Benin to the West for 773km, Republic of Niger to its North for 1497km, Chad at its North Eastern Boundary (water boundary) for 87km and Cameroon to its East for 1,690km). Nigeria has a total area of 923,768 sq. Km of which the total land area is 913,768 sq. Km and 10,000 sq. Km is water. Nigeria's land area represents about 14% of the land area in West Africa

3.1.2 Climate

Nigeria's climate varies across the different ecological zones in the country, from the arid in the north, tropical in the central region and equatorial in the south. The climate is controlled mainly by prevailing winds and nearness to the Atlantic Ocean. The two dominant air masses are the dry wind from the Sahara and the wet wind from the Atlantic Ocean. Due to landform characteristics, marginal alterations have been recorded due to the configuration of surrounding shoreline and the generally flat topography of the country.

3.1.3 Rainfall

Rainfall is the most critical element for defining the climatic seasons in the tropics. Hence, Nigeria has two dominant seasons; the wet and the dry seasons. Rainfall throughout Nigeria depends on the interaction of the tropical maritime air mass and the tropical continental mass which meet along the inter-tropical convergence zone (ITCZ). The annual average rainfall around the country is between 2000mm and 3000mm.

3.1.4 Temperature

Nigeria's climate is characterized by relatively high temperatures throughout the year. The average annual maximum varies from 35°C in the north to 31°C in the south; the average annual minimum from 23°C in the south to 18°C in the north. On the Jos plateau and the eastern highlands, altitude makes for relatively lower temperatures, with the maximum no more than 28°C and the minimum sometimes as low as 14°C.The temperature regime implies the enormous potential for generation of solar energy in the country.

Energy Commission of Nigeria (2014), assert that Nigeria potentials for solar energy production, with equitablydistributed solar radiation averaging 19.8 MJm2/day and average sunshine hours of 6h/day. The assumed potential for concentrated solar power and photovoltaic generation is around 427,000 MW. [5]

3.1.5 Wind

Two prevailing wind currents affect Nigeria. The south-westerly dominate the rainy season of the year while north-easterlies dominate the dry season. Depending on the shifts in the pressure belts in the Gulf of Guinea, these winds are interspersed respectively by south-easterlies and

[5] https://www.africa-eu-renewables.org/market-information/nigeria/renewable-energy)

north-westerly in different parts of the year. The wetter winds prevail for more than 70% due to the strong influence of the breeze from the Atlantic Ocean. Mean annual wind speed varies between 2 to 6 m/s. Speeds in the dry season (November - March) are lower. In the wet season (April–October), daily average speed could rise to 15 m/s. Values of up to 25 m/s are sometimes experienced due to inducement by convective rainfall activities and relative diffusion.[6]

3.1.6 Geology

Nigeria lies on the southern portion of the West African Craton. The geological setting comprises broadly crystalline basement complex rocks and sedimentary formations. They occur in equal proportions around the country[6]. The former is highly mineralized and give rise to soils of high nutrient status, although variable from place to place. The latter is found in the south-east, northeast, and north-west of the country, and give rise to sandy and fewer variable soils that are deficient in plant nutrient.

3.1.7 Topography

Nigeria has varying landforms, and much of the country is dominated by plains, generally less than 610m above sea level. The eastern border with the Republic of Cameroun is lined by an almost continuous range of mountains which rise to about 2,419m at Chappal Waddi, the highest known point in Nigeria.

In the North, the Jos Plateau rises abruptly from a general level of about 609.5m in the Hausa Plains to an average level of some 1,219m but reaches 1,781.6m in Shere Hills. The area west of the River Niger is dominated by the plain, which rises gently from the coast northwards 'to the area of crystalline rocks where inselbergs rise abruptly above the surrounding plains. The Idanre Hills, the highest point of these inselbergs, rises to about 981m above sea level [6].
In general, the land surface of the country could be classified into three broad physical units or significant relief, features, namely: the plains; the highlands; the troughs and the river valleys. The southern region of Nigeria is a low-lying plain with 800 km coastline, which is easily prone f to erosion and flooding.

[6] http://documents.worldbank.org/curated/en/764801468290439737/E19640EA0Box321l0Fi

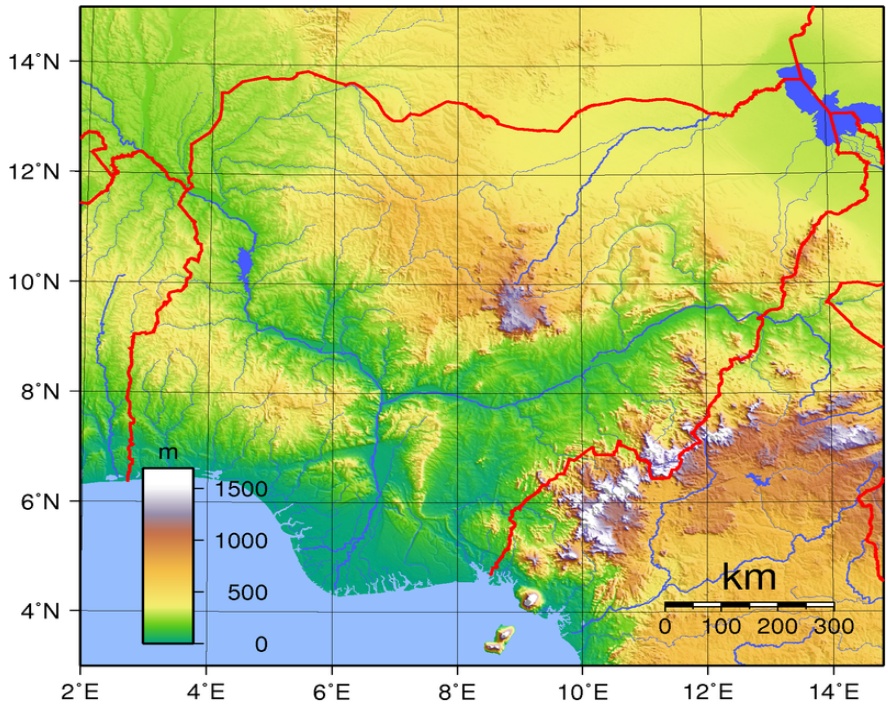


Figure 3.1: Topograhic map of Nigeria

3.1.8 Soils characteristics

The broad pattern of soil distribution in the country reflects both the climatic conditions and the geological structure; heavily leached, reddish-brown, sandy soils are found in the south, and light or moderately leached, yellowish-brown, sandy soils in the north. The difference in color relates to the extent of leaching the soil has undergone.

Nigeria soils are highly weathered and are characterized by light texture, low pH, low organic matter, low potassium levels, variable phosphorous levels with clay contents ranging between 7 %-43%. [6]

3.1.9 Surface and ground water hydrology

Nigeria has two major rivers, the Niger and the Benue, which traverse the northwest and northeast portion of the country, then merge at Lokoja before draining down to the Atlantic. There are several other rivers and quite some minor streams and rivulets that crisscross the entire Nigerian land mass. These include the Ogun, Oshun, Imo, Cross, Osse, Nun and the Anambra rivers in the south and the Kaduna, the Gongola, and the Hadeija in the North.

Generally, the water quality in the rivers in Nigeria is very good. The average electrical conductivity in the main rivers ranges between 48-65 Umhos/cm^{2,} and the total dissolved solids (TDS) concentration is about 100mg/l. The pH is less than 6.5, although higher values were reported in swamps and floodplains with levels of 100-150 Umhos/cm^2. These rivers are also low in nutrients, with an average nitrogen content of 0.32mg/l and a total phosphorus content of 0.1 mg/l [6]. The data indicate water of high quality according to FMEnv limits.

With the current climate change scenario, the hydrological modeling by Onofeghara, (1990) shows that a 0.2 m rise in sea level will inundate 3,400km2 of Nigerian coast-land; a 1.0 m rise will cover18,400 km2 and submerge the Delta's entire oil and gas infrastructure. The entire region

of the Niger Delta is under 6,000 km2 and contains the oil and gas producing region, and several important cities, ports, and other infrastructure. With these abundant surface and groundwater resources, Nigeria has enormous potential for hydropower generation.

Hydropower has been a cornerstone of grid-powered generation in Nigeria for decades. 15% of current power generation sources in the country are hydro-based[5]
The report from the ministry of power and energy commission of Nigeria (2014) shows that the wind energy potential in Nigeria is very modest, with annual average speeds of about 2.0 m/s at the coastal region and 4.0 m/s at heights of 30m in the far northern region of the country. Based on wind energy resource mapping carried out by the ministry of science and technology, wind speed of up to 5m/s was recorded in the most suitable locations, which reveals only a moderate and local potential for wind energy. The highest wind speeds can be expected in the Sokoto region, the Jos plateau, Gembu and Kano / Funtua. From the study, Maiduguri, Lagos, and Enugu alsoindicated moderate wind speeds, sufficient for energy generation by wind farms [5]. Apart from these sites, other promising regions with good wind potential are located on the Nigeria western shoreline (Lagos region) and partly on the Mambila plateau. A 10mw wind farm projects are currently being built in Katsina and expected to be completed in 2017.

3.1.10 Biological environment

Nigeria environment is diverse with different ecological systems. The country has a vast expanse of forest land, the swamp forests in the extreme Southern part of the country, the tropical rainforest in the Southwestern axis and the wooded savannah in the middle belt. Nigeria ranks among the countries of the world with abundant forest resources. The biomass resources of Nigeria are mainly crops, forage grasses, shrubs, animal wastes and waste arising from forestry, agriculture and municipal and industrial activities [5]. There are two primary vegetation zone in Nigeria namely the forest zone and the savanna zone

The forest vegetation is found in the southern part of the country and comprises of Mangrove forest found around swamps of the coastal creeks, e stuaries, and lagoons of southern Nigeria. The trees found there are red and white mangroves (*Rhizophoraracemosa and Avicennia africana),* palm and lianas (climbing and twining plant)[7]. Animals found are fish, crocodiles , snakes,and birds.

The lowland rainforest is area characterized with rainfall of about 1500mm-2000mm within 8-9 months of rainfall- Found around Ogun, Oyo, Ondo, Delta, Anambra, Akwa Ibom. Trees found in this area are oil palm, iroko, mahogany, rubber, walnut, Obeche. Animals found in this area are, monkeys, antelopes, wart-hogs, snails, grass cutters e.t.c
Savanna Zones covers as much as 80% of the country from the northern edge of the rainforest to the southern edge of the Sahara desert. The savanna zone is subdivided into the Derived, Guinea, Sudan, and the Sahel.

Derived savanna zone, is influenced by farming activities which have combined to degrade the original forest vegetation, leaving behind some fire-tolerant savanna species and a few forest trees. Animals found in the derived savanna include antelopes, giant rats , monkey, etc.

[7] https://vdocuments.mx/documents/nigeria-vegetation-nigeria-is-a-large-country-wi

Guinea savanna is the most extensive vegetation belt in Nigeria which covers the sparsely populated areas of the middle belts. This region is characterized by natural grassland, sparse woodland or trees. This region is dominated by tubers and grain crops. Animals found here include large animals like buffaloes, elephants and lions, kept in a game reserve, while smaller animals like giant rats, rabbits, and wild cats, etc. move about freely.[7]

Sudan Savanna is characterized by sparsely distributed small trees, with short and seasonal grass cover. Rainfall last only 2-3 months and relative humidity are low. Extended and more severe dry season or period than the guinea savanna Feathery grasses and give a continuous land cover Common plant found is baobab and shea butter Animals found are similar to those of the guinea savanna but fewer in number due to lack of food(pasture).
Sahel Savanna is the extreme northern vegetation zone, found in the Eastern corners of Kano and Borno states. It is characterized with: Barely 500mm of rainfall annually with about 9-10 months of the dry season. Very sparse vegetation, with sparse thorny trees plants, found varying from low growing shrubs in some part,trees varieties include raphia palm acacia, and the principal crops are millet and sorghum, while vegetables and sugar cane are grown along the river bedNote: irrigation is widely practiced in this area due to the inadequate water supply.

3.1.11 Fauna

Animals found in both forest and savannas include leopards, golden cats, monkeys, gorillas, and wild pigs. Today these animals can be found only in protected areas like the Yankari Park, Gashaka Gumti Park, and Cross River Park [6]. Rodents such as the squirrel, porcupine, and cane rat constitute the largest family of mammals. The northern savannah abounds in guinea fowl. Other common birds include quail, vultures, kites, bustards, and gray parrots. The rivers contain crocodiles, hippopotamuses, and a great variety of marine life.

In the rainforest, few large animals, notably gorillas, chimpanzees, baboons, and monkeys are present. Crocodiles, lizards, and snakes of many species are also present. Hippopotamuses, elephants, giraffes, leopards, and lions now remain only in scattered localities and in diminishing number. Wildcats, however, are more common and widely distributed. Wildlife in the savanna includes antelope, lions, leopards, gazelles, and desert hyenas. Nigeria also abounds in bird life with a high number of species being represented[6].

3.1.12 Flora

Vegetation varies dramatically about climate, soil, elevation, and human impact on the environment. In the low-lying coastal region, mangroves line the brackish lagoons and creeks, while swamp forest grows where the water is fresh. Farther inland, this vegetation gives way to the tropical forest, with its many species of tropical hardwoods, including mahogany, iroko, and obeche.

North of the forest is the Guinea Savannah, a region of tall grasses and trees. The southern margin of the Guinea Savannah has been so altered by humans that it is also called the derived savannah. Beyond the Guinea savannah lies the Sudan Savannah, a region of shorter grasses and more scattered, drought-resistant trees such as the baobab, tamarind, and acacia. In the northeastern corner of Nigeria, the arid semi-desert Sahel Savannah persists.[6]

3.2 The Social Environment

3.2.1 The demographics

Currently, Nigeria remains the most populous country in Africa and the seventh in the world, with an estimated population of over 198 million (National Population Commission, 2018). With thisthe figure, the urban population growing at an average annual growth rate of about 6.5 percenthe t, while the rural growth rate is 3.5 %? Nigeria's population had grown substantially from 17.3 in 1967 to 49.4 percent in 2017. The recent World Population Prospects predicts that by 2050, Nigeria will become the third most populated country in the world.

When it comes to the average of a Nigerian citizen, the country is relatively young. For both males and females, the median age of the country is 17.9 years of age (World Population Prospects (2017 Revision). Nigeria population is equivalent to 2.57% of the total world population. The population density in Nigeria is 215 per Km^2 (557 people per mi^2). Also, 51.0 % of the population is urban (99,967,871 people in 2018). By 2050, most of the population – 70percent – will be residing in cities. Other characteristics show that under-employment and unemployment at an average of 18.4 percent (National Bureau of Statistics 2017 report).

3.2.2 Poverty

According to the World Bank, Country at a Glance report, 2001, the gross national income (GNI) per capita of Nigeria is US$290, which is significantly lower than the average of US$470 for sub-Saharan Africa (SSA). It is estimated that 60% of the total population of Nigeria live below the poverty line. The average percentage of the urban poor (i.e., % of population below national poverty line) is a staggering 45% compared with the SSA average of 32%. The SESA field study reveals that more than 50% of the Nigeria population earns below US$2.7 monthly [6], (N30, 000.00)

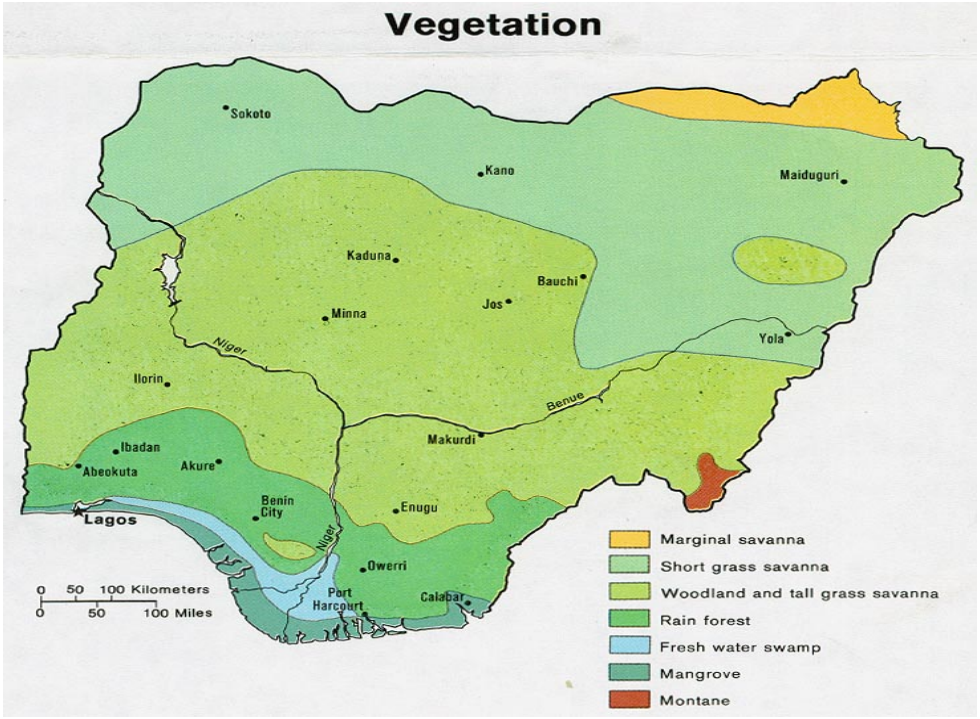


Figure 3.2: Vegetation map of Nigeria.

3.2.3 Regional inequality

Regional inequality is high in Nigeria and this translates to higher rates of poverty in the north-western States of the country. For instance, Sokoto State has 81% of its population at poor level of standard of living, while in Niger State; poverty incidence is much lower at 34%. However, poverty and inequality in Nigeria are not due to lack of resources, but to its misuse, misallocation and misappropriation. Regional inequalities are evident across Nigeria. The overall view of the country clearly reveals a northern region that is poorer than the rest of the country and most of its rural areas are under-developed. Southern region are resource –rich with higher literacy rates and better health indicators but with higher prevalence of HIV (USAID/Nigeria, 2015).

3.2.4 Health issues

Nigeria's population comprises of about 42 million women of child-bearing age. The country has high maternal mortality rate of 58,000 in 2015 (NDHS, 2017). World Health Organization (WHO) estimated that about 40,000 Nigerian women die annually from pregnancy complications out of a total of 529,000 global maternal deaths. According to USAID/Nigeria (2015), only about 38% of deliveries are attended by skilled birth attendants.

Also, out of about 30 million children under the age of five years, approximately 2,300 of them die daily due to malaria, pneumonia, and diarrheal diseases (UNICEF, 2014). Low or no education, especially in women, contributes to these high maternal and child mortality rates in the country. For example, education is an important indicator of women making use of antenatal care and family planning.

Others health issues in the country are high number of people living with HIV/AIDS and tuberculosis (TB). By USAIDS' (2013) estimation, Nigeria has up to 3.2 million of its population living with HIV/AIDS of those, about of half are women, and 400,000 are children under the age of 15 years. 3.2.5 Unemployment.

Nigeria's economy is robustly dependent on oil exports. However, the country recent economic growth has been led by manufacturing, services and agriculture. Unfortunately, job creation in these relatively labor-intensive sectors has not kept pace with the country's high population with more than half of its people are under 30 years of age (USAID/Nigeria,2015).Youth unemployment rate in Nigeria has increased to 33.10% in the third quarter of 2017 from 29.50%[8]). This has contributed to high rate of crime and drug addictions in the country. It is also one of the indirect drivers of deforestation in Nigeria.

3.2.5 Transportation

Nigeria has the largest road network in West Africa and the second largest south of the Sahara, with roughly 108,000 km of surfaced roads in early 90s. Each State in the country is responsible for the construction and maintenance of roads within the State while federal government is concerns with high ways linking the States together. Regrettably, roads in Nigeria are poorly managed and maintained, and these are often cited as the cause of the country's high rate of road fatalities. Meanwhile, the Nigerian government is making an effort to improve the status of Nigeria's road by constructing new ones and dualizing some existing high ways. local people

[8] (www.tradingeconomics.com>nigeria

Nigeria has 8,600 km of inland waterways. The longest are in river Niger and its tributary, the Benue River. The rivers most most used for transportation, especially by larger powered boats and for commerce are in the Niger-Delta and all along Lagos lagoon to Cross River.
Nigeria's principal air ports are Muritala Muhammad International Airport in Lagos and Nnamdi Azikiwe International Airport in Abuja. In general, whether international or local airports, Nigeria airport has over the years suffer from poor operational efficiency and safety.

3.2.6. Political and economic situation

Nigeria is Africa's most populous country and the seventh most populous county in the world with Lagos as its largest city with a population of over 17 million (RECP, 2017). The current Federal Republic of Nigeria consists of 36 states and one territory (Federal Capital).

Classified as a lower middle-income country by the World Bank (WB), Nigeria has the second largest African economy (the 1st and 2nd places are contested between South Africa and Nigeria, depending on statistical options) (RECP, 2017). Nigeria, however, still ranks significantly low on the Human Development Index (152 out of 187) and based on 2010 estimates, 46% of the population lived below the poverty line. Oil has been a dominant source of government revenue since 1970.The oil and gas sector accounted for 35% of the country's Gross Domestic Product (GDP) and 90% of the total exports revenue. Nigeria has an estimated 5.28 Bn m^3 of proven natural gas reserves; the country has one of the top ten natural gas resources in the world and the largest endowment in Africa. Nigeria has proven oil reserves of 37 Bn barrels. Despite the abundant resources it is important to note that Nigeria closed 2016 with its worst GDP growth rate in 25 years as low oil prices, tight monetary liquidity and militant attacks on oil infrastructure tilted the economy towards negative growth indices [6].

The Nigerian economy rests on two pillars: oil/gas and agriculture. Both sectors contribute 65% - 70% of GDP, while the secondary sector (manufacturing contributes about 7%, and the tertiary sector (transport, trade, housing,etc) contributes about 25%. Nigeria's primary industries are located in Lagos, Sango Otta, Port Harcourt, Ibadan, Aba, Onitsha, Calabar, Kano, Jos, and Kaduna[6].

The livelihoods of poor rural households are diverse and derived, to varying degrees, from smallholder farming – including livestock production and artisanal fisheries – agricultural wage labor, wage or self-employment in the rural non-farm economy and migration. Agriculture plays a vital role in most countries – over 80 percent of rural households farm to some extent, and typically, it is the poorest households that rely most on farming and agricultural labor.
Most of the people in the communities of Ondo and Nasarawa belong to the low-income group, which most of them earning less than N25, 000 a month (FGRM study, 2017). An average of 60 percent of the community members has no fixed income; their monthly income is less than $1.90[9] per day. More than 50% of the Nigeria population earns below US$2.7 monthly (N30, 000.00) (SESA study, 2018).

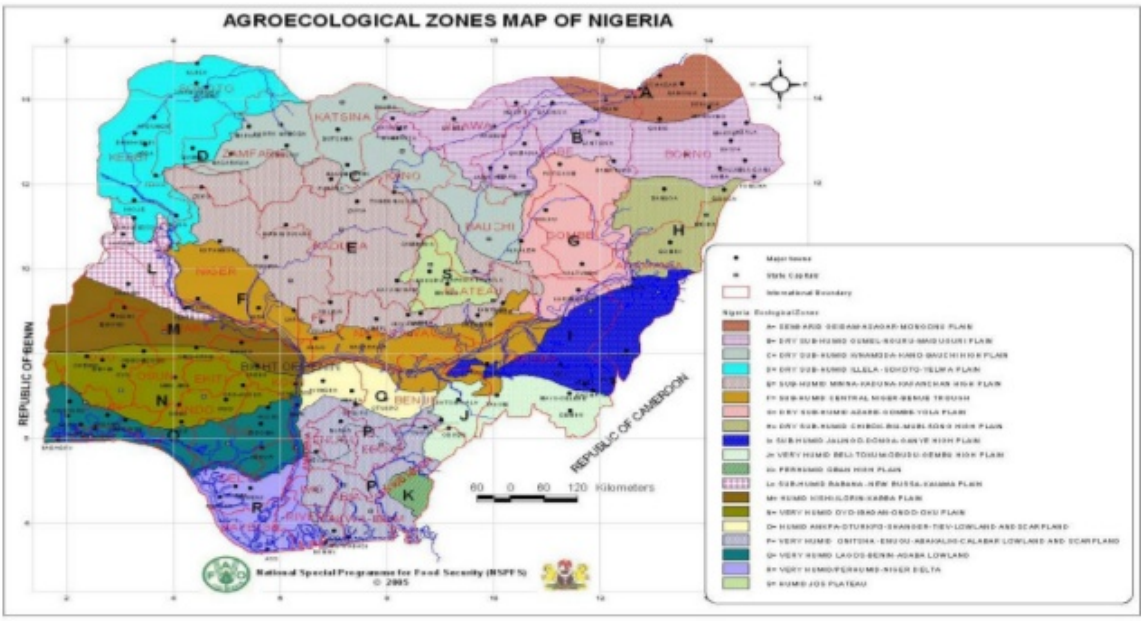


Figure 3.3: Agroecological zones map of Nigeria.

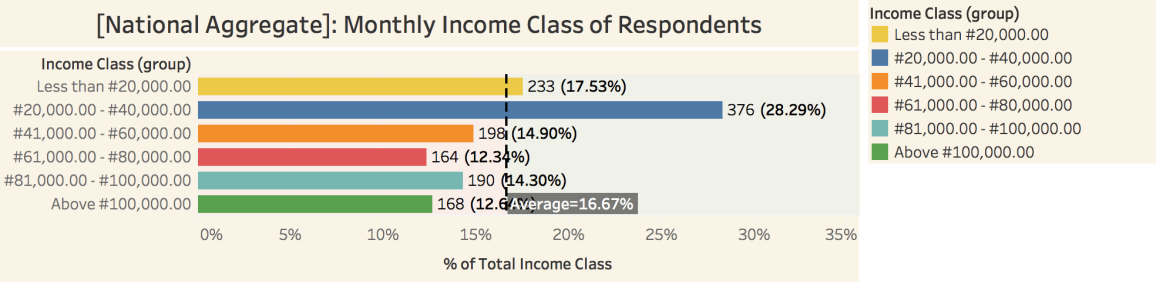


Figure 3.4: National monthly income class of respondents.

3.2.7 Facilities

Electricity is supplied through the national grid. The power supply is erratic, and the government is promoting the development of independent power supply to augment the current inadequate supply.

About educational facilities, Nigeria is reasonably served with about 43 federal universities, 48 state-owned and 79 privately owned (CAMPUSBIZ JOURNAL, 2019).The country is littered with High Schools in virtually states of the federation, in some most states however, they are insufficient and dilapidated. .

Presently the Federal Government is refurbishing all existing tertiary health institutions nationwide. There is at least one primary health care institution in each of the 744 local government areas.

3.3 Alternative Energy Potential

3.3.1 Solar Potential

Nigeria has enormous solar energy potential, with equitably distributed solar radiation averaging 19.8 MJm2/day and average sunshine hours of 6h/day. The assumed potential for concentrated solar power and photovoltaic generation is around 427,000 MW. According to estimates, the designation of only 5% of suitable land in central and northern Nigeria for solar thermal would provide a theoretical generation capacity of 42,700 MW. In July 2016, 14 Greenfield Independent photovoltaic (PV) power projects with a capacity of 1,125MW had their PPAs signed by the Federal Government owned NBET (RECP, 2017).

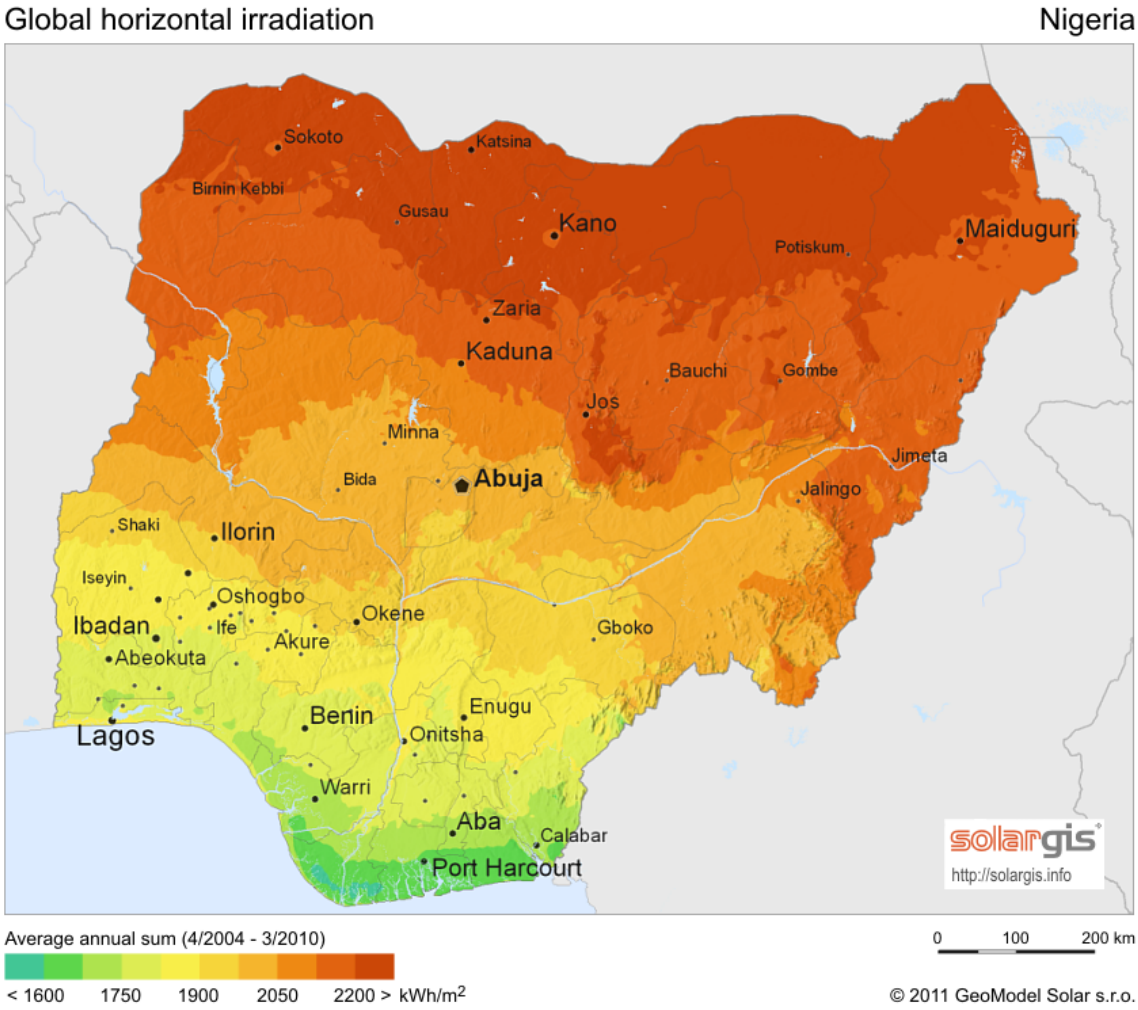


Figure 3.5: Nigeria's global horizontal irradiation.
Source: [5]

3.3.2 Hydro Potential

Nigeria has depended on Hydropower for electricity generation for over a decade now. Up to 15% of current power generation sources in the country are hydro based (Federal Ministry of Power (2014)). The Federal Ministry of Power asserts that the country is endowed with large rivers and some few natural falls. In all parts of Nigeria, potential sites for unexploited small hydropower exist, with an estimated total capacity of 3,500 MW. A multitude of river systems,

providing a total of 70 micro-dams, 126 mini dams and 86 small sites, supply a technically exploitable substantial hydropower potential estimated to be about 11,2500 MW. Only 17% of the resources enumerated is being tapped. Potential substantial investments in some significant hydropower sources and even some plans, such as the dam for the Mambilla plateau in northern Nigeria, have been struggling due to significant investments cost required and lead times needed. The potential for small hydro power is about 3,500 MW, with just about 64.2 MW being exploited. By 2020, the Nigerian government aims to have increased the hydroelectricity generation capacity to 5,690 MW. This projection shall be met through an upgrade of old hydroelectricity plants and the installation of new hydropower plants(RECP, 2017).

Hydro Power development by the Federal Ministry of Power, 2014)

Power Station	**Capacity (MW)**	**Status**
Zungeru project	700	financing secured
Mambilla Project	3050	under development
Gurara II Project	360	under development
Gurara I Project	30	under development
Itisi Project	40	under development
Kashimbilla Project	40	under development

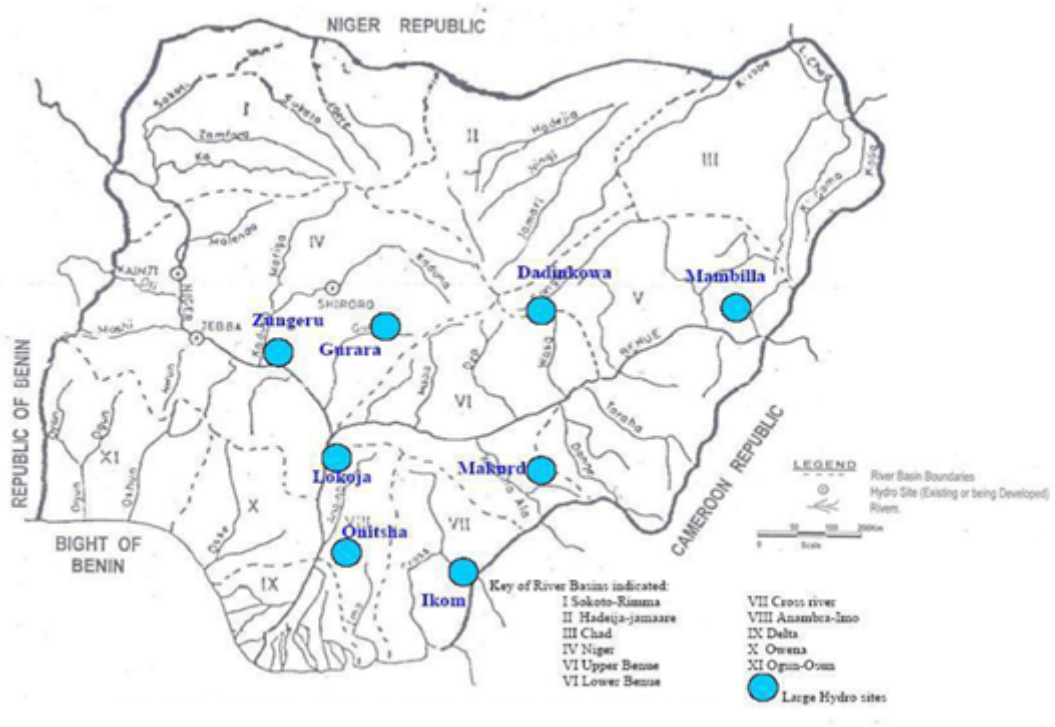


Figure 3.6: Nigeria's River Basins with large and small scale hydropower potentials
Source: Federal Ministry of Power (2014)

3.3.3 Wind Potential

The Wind energy potential in Nigeria is very modest, with annual average speeds of about 2.0 m/s at the coastal region and 4.0 m/s at heights of 30m in the far northern region of the country. Based on wind energy resource mapping carried out by the Ministry of Science and Technology.

Wind speed of up to 5m/s were recorded in the most suitable locations, which reveals only a moderate and local potential for wind energy. The highest wind speeds can be expected in the Sokoto region, the Jos Plateau, Gembu and Kano / Funtua. From the study, Maiduguri, Lagos, and Enugu also indicated good wind speeds, sufficient for energy generation by wind farms. Apart from these sites, other promising regions with good wind potential are located on the Nigeria western shoreline (Lagos Region) and partly on the Mambila Plateau.

A 10MW wind farm projects are currently being built in Katsina and expected to be completed in 2017 (RECP, 2017).

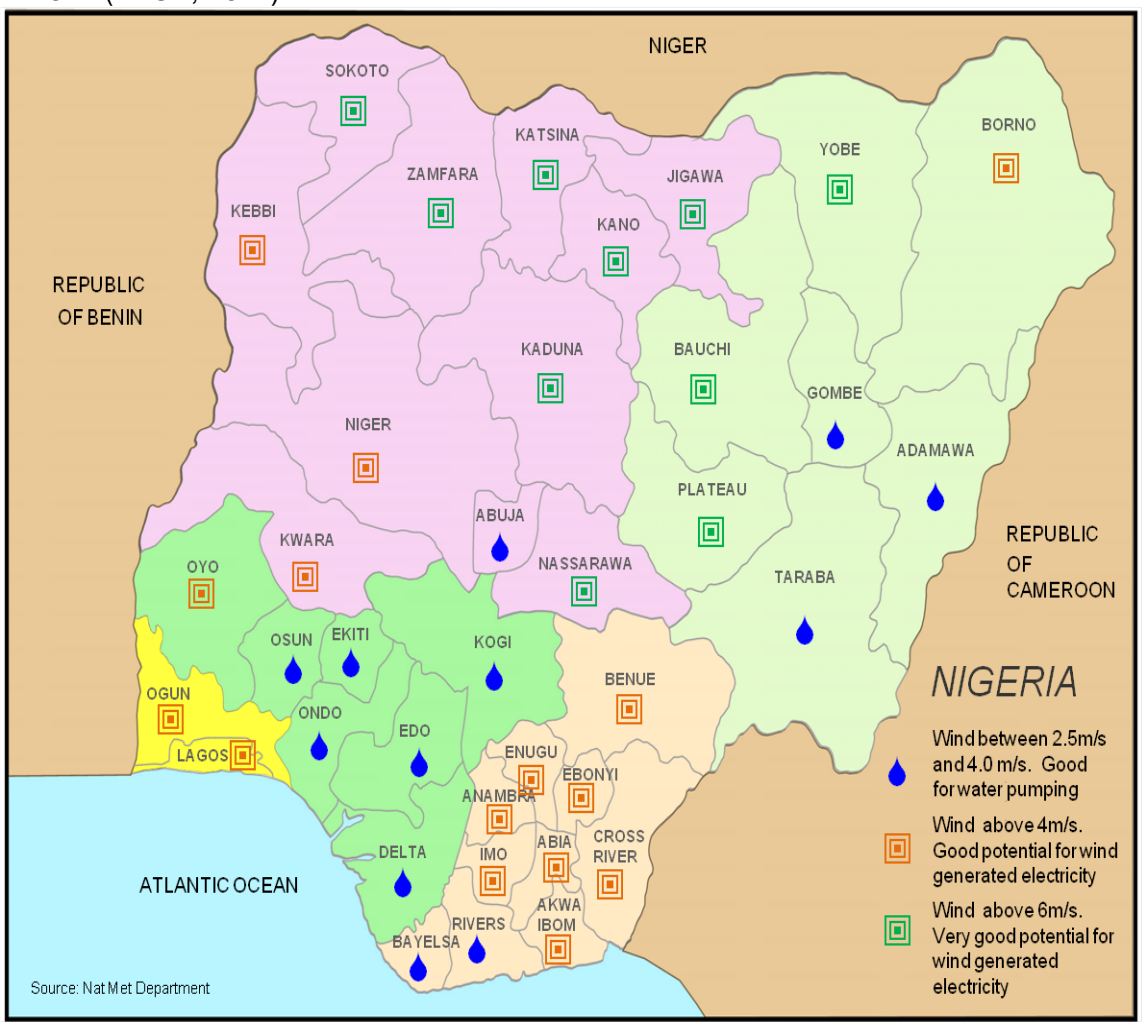


Figure 3.7: Wind resource potential in Nigeria
Source: National Meteorological Department

3.3.4 Biomass Potential

The biomass resources of Nigeria are mainly crops, forage grasses, shrubs, animal wastes and waste arising from forestry, agriculture and municipal and industrial activities. Crops such as sweet sorghum, maize, and sugarcane are the most promising feedstock for biofuel production. According to estimates, the daily production of animal waste in Nigeria is about 227,500 tons, which could lead to about 6.8 million m^3 of biogas. Though the technology itself is not yet

established in the country, a variety of research covering different aspects of biogas production in Nigeria, such as technical feasibility or policy recommendations, are ongoing (RECP, 2017).

Table 2.4:Summary of Renewable Energy Potentials in Nigeria

Resource	Potential	Comments
Large Hydropower	11,250MW	1,900MW exploited
Small Hydropower	3,500MW	64.2MW exploited
Solar	4.0kWh/m^2/day – 6.5kWh/m^2/day	Significant potentials for solar infrastructure; both for on-grid and on-grid use
Wind	Average of 2-4m/s @ 10m hub height	Moderate wind potentials in the country.
Biomass	Municipal waste	18.5 million tonnes produced in 2005 and now estimated at 0.5kg/capita/day
	Fuelwood	43.4 million tonnes/yr of fuelwood consumption
	Agricultural residues	91.4 million tonnes/yr. produced
	Energy crops	28.2 million hectares of arable land; 8.5% cultivated

Source: ECN (2014), Energy Implications of Vision 20: 2020 and Beyond, Report no.: ECN/EPA/2014/01

3.4 Forest Resources - Status, Types, and Bio-Climate In REDD+ Sites

Nigeria contains a rich series of climatic and vegetation zones across landscapes, leading to a diverse range of habitats. These range from desert zones in the northeast to tropical rain and swamp forests along the south coast. Nigeria's forests and woodlands currently cover about 9.6 million ha. Nigeria's biodiversity is very rich with some 4,600 plant, 839 bird, and 274 mammal species. The *Gulf of Guinea's* forests stretch into southern Nigeria: these forests are recognized as a global biodiversity hotspot. There are 22 primate species, including threatened and endangered species such as the Cross River Gorilla, Drill and Preuss's Guenon monkey.

The country's forest area is shrinking, due to exploitation for agricultural development (both subsistence and commercial), unsustainable harvesting for fuelwood and timber; infrastructure development; exploitation of oil, gas and solid minerals; urbanization and population growth, amongst other factors (Nigeria REDD+ Programme 2016). Nigeria has lost more than 50% of its forest cover since 1990 and had one of the highest deforestation rates in the world (FME 2013). Nigeria's most recent National Communication to UNFCCC notes that land-use change and the forestry sector are a high net source of GHG emissions in Nigeria, accounting for 40% of the country's total GHG emissions in the year 2000, mainly due to losses of forest and woody biomass stocks, indicating a high rate of deforestation (FME 2014). There are 52 hardwood species in 27 families with the most abundant species being *Ricinodendron heudelotii* with 172 stems/ha, followed by *Celtis zenkeri* with 148stems/ha. However, in the past, the forest estates had a preponderance of notable economic tree species such as *Melicia excelsa* (Iroko), *Entandrophragma spp* (Ijebo), *Khaya spp* (*Oganwo*), *Triphochitonscleroxylon* (Obeche).

Though the forest resources in Nasarawa state is said t o be dwindling, as,at 2009, the natural forest reserve in the State covered an area of 145,228.12 ha (Nasarawa state REDD+ Programme, 2016). The common species in these reserves are *Daniellia Olivera, Parkia biglobosa, Butruspernus paradosa, Khaya senegalensis, Sterculia setigera, and plantation of Gmelina spp, Eucalyptus,and Tectonagrandis*.
The state has also created 5,537 hectares of forest plantations. This brings the total land areas of Nasarawa State under forest cover to 150,765.26 ha, which is about 5.6% of the total land area of the State(World Bank, 2015). The State has gazette some forest reserves for protection, with adequate protection mechanisms in place.

Table 3.1: Summary of the Forest types and other Land uses in Ondo State

Types of Forest	Area (km2)	%
Mangrove /Coastal Swamp Forest	705.00	4.75
Freshwater Swamp Forest	1,410.00	9.53
Lowland Rain Forest	2,555.43	17.27
Derived Savannah	194.76	1.32
Teak Plantations	88.35*+	0.59
Gmelina Plantations	190.09*	1.28
Other Forests (Indigenous/Pine Plantation)	3.68 *	0.02
Other land uses (in the forest area, Inclusive of High Forest and savanna)	9,651.69	65.22
TOTAL	14,799.00	100

Note: * Plantation within Forest Reserve
+ Plantation in Free Forest Area (2.87km2)
++ Savanna portion of Forest Reserve
Source: Facts and Figures about Ondo State, 2006 Edition, Ministry of Finance and Planning, Department of Research and Planning, Akure, and Plantation Establishment,
MAFFR, Dept of Forestry Wildlife Services, Akure, Ondo State.
Adapted from MAFFR, 2007

3.5 Forest resource utilization

Forest and forestry had played vital roles in the social, political and economic development of the country. The rural populace depends on the forest for their livelihood. In Ondo state, the significant contribution has been primarily derived from timber and timber industry. Between 1996 and 2006, over 203,000 logs were exploited from Forest Reserves while 470,000 came from the Free Areas indicating a very high level of income generated from permits, concessions and Out-Turn Volumes paid to the State (Ondo State Government, 2014).

The primary industry in Ondo state is sawmilling which are up to 300 sawmills operating in the state, between 1999 and 2006 was estimated which generates over ₦150m (one hundred and fifty million naira) to the coffers of the Government (FAC, 2007). In nasarawa state, charcoal production is the dominant industry utilizing the forest followed by subsistence utilixzation of the NTFPs

Forest lands have provided food for the people through Tungya system of plantation development. Agroforestry, a combination of horticulture and forestry, has been shown to be a farming system of the future that can revive the derelict lands in the state.

3.6 Non-timber forest products in Ondo

In addition to timber, but no less critical to the sustenance of daily livelihood of a large segment of the population, are many other resources which are Non Timber Forest Products (NTFP) that are extracted from the forest estate. They are marketed for cash and consumes as food, or used to meet various requisite needs of almost all households in the State. These NTFP materials have social, cultural and religious significance. They include plants used for various purposes including food, forage, fuel, medicine, and fiber.

They also include animals, fish, reptiles, and insects used for food and traditional religious purposes. NTFP provide income and, with value-added processing and packaging, could become a significant foreign exchange earner. They also employ the rural people and can serve as materials for cottage industries. The availability, distribution and local uses of NTFP in Ondo State are as summarized in Table 3.

In Nasarawa State, the common species, particularly in the forest reserves, include Danielliaolivera, Parkia biglobosa, Butruspernus paradosa, Khaya senegalensis, Sterculia setigera, and plantation of Gmelina spp, Eucalyptus and Tectoniagrandis. The tree species provide timber, building materials and raw materials for construction. For e.g. Bamboo is extracted and used as building materials. The forest provides source of food where Parkia biglobosa (locally known as dawadawa) is extracted. Other resources utilized in the forest include cashew nuts and mango fruits. Also, medicinal plants are extracted from the forest; games are hunted for food. Charcoal also constitute one of the significant sources of income; itis produced from hardwood including Locust beans, Parkia biglobosa,etc. women are involved mainly in the charcoal business. Besides farming, grazing is another primary user of forest which has resulted in conflicts. Forest, therefore, constitute the source of food, energy, fodder, medicines, raw materials etc.

3.7 Land use and land tenure

3.7.1 Land use pattern

The estimated land area of Nigeria is 924,000 km2. Land use varies based on location and the needs of the community. However, the differentuses of land revolves around agriculture, industry, and social needs such as the provision of infrastructure. Recent data shows that about 60% of the land area of Nigeria is under various forms of food (crop and animal) production and forest plantation. In Nasarawa and Ondo states, the prominent land uses include Agriculture, secondary forest, and grassland, among others.

3.7.2 Land tenure and land rights

The Land Use Decree of 1978 vests all land in the state through the office of the governor. The land is to be held in trust and administered for the use and universal benefit of all Nigerians according to the provisions of the Act. By this legal instrument, the state replaced the traditional institutions of Obaship/Emirship and chiefs in their roles as custodians of the communal land [6].

In the West, the chiefs and family heads remained the recognized institutions to administer and adjudicate between community members. Ondo state was part of Western Region until it was carved out as a state and later separated from Ekiti on the 3rd of February, 1976. The capital city is at Akure. It has a total land mass of 15500sq km to be administered subdivided into 18 Local

Government Councils. The dominant tribe is Yoruba which makes land tenure system easier compared to Nasarawa state in Northern Nigeria

In Northern Nigeria, where Nasarawa is located, the situation was not the same. In that case, the natives were administering their land and forestry resources through local Chiefs until the Jihad of Otman Dan Fodio of 1800 AD. The Jihadist overran many communities and scattered the original owners and appointed war Lords called Emirs, Alkalis. They were then holding land in trust for the original owners that were scattered and relocated.

3.8 Drivers of Deforestation

Studies show that from 2000 to 2015, forest area in Nigeria has decreased from 13.1 million ha to less than 7.0 million ha which is equivalent to an annual average forest cover loss of 409,600 ha/ an (FAO, 2015). The rapid and severe rate of deforestation results from a range of cumulative effects fundamentally driven by the immediate availability of woody biomass in the form of timber,fuelwood and construction timber; and the opportunity to acquire land for significantly higher agricultural returns. Together, these drivers comprise a considerable economic incentive for deforestation.

3.8.1 Drivers of deforestation and forest degradation in Nigeria

Deforestation in Nigeria has been mainly attributed to the burgeoning human population and expanding socio-economic needs for food shelter and necessities. This has impinged negatively on forest cover in Nigeria. The country is ranked third globally among countries with the highest annual deforestation rate (3.7%) and net annual area change of 410,000 Ha (FAO, 2010). The forest estates have consistently experienced accelerated deforestation and degradation with long-term negative consequences on sustainable rural livelihoods and ecosystems. Recent countrywide estimates for land use change in Nigeria are provided by several researchers and organizations. The trends by Conservation International (CI, 2011) shows that Forest area in Nigeria by 2010 was 10% of the total land area. However, between 1990 and 2000, forest loss was at the rate of -2.68 %y-1; between 2000 and 2005; the trend increased to -3.33 %y-1 which eventually increased to -4.00 %y-1 between 2005 and 2010.

Land Use Change and forest Pattern between 2002/2003 and 2013/2013 by ECODEV Konsult (2013) and Bisong and Odum (2013) indicate a drastic rate of deforestation in favor of other land uses. Table 3.3 presents this scenario where 20, 866,193.18 ha of the forest area in 2003 reduced to 13, 135, 770.32ha in 2013, translating into -37.05% of the total forest loss within the period. This translate into -3.705% loss on an annual basis. Figure 3.11 shows the percentage coverage of the different land uses within the period, and Figure 3.12 shows the deforestation hotspots in Nigeria.

Table 3.2: Land use and forest cover change in Nigeria 2002/2003 to 2012/2013

Land use type	2003 area/ha	2013 area/ha	Area change	2003 (%)	2013 (%)	% change	Annual Rate (%)
Water	8,133,835.43	7,822,659.41	-311,176.02	8.805	8.468	-3.826	-0.3826
Wetland	7,867,997.90	7,763,464.18	-104,533.72	8.517	8.404	-1.329	-0.1329
Forest	20866193.18	13,135,770.32	-7,730,422.86	22.59	14.22	-37.05	-3.705
Cropland	7,791,216.14	9,209,004.39	1,417,788.25	8.434	9.969	18.197	1.8197
Settlement	16,104,196.00	24,841,832.44	8,737,636.44	17.43	26.89	54.257	5.4257
Grassland	13,662,645.07	12,452,111.91	-1,210,533.16	14.79	13.48	-8.86	-0.886
Otherland	17,950,716.26	17,151,957.35	-798,758.91	19.43	18.57	-4.45	-0.445

Source: Ecodev Konsult, 2013; Bisong, F. E. & Odum, P. 2013

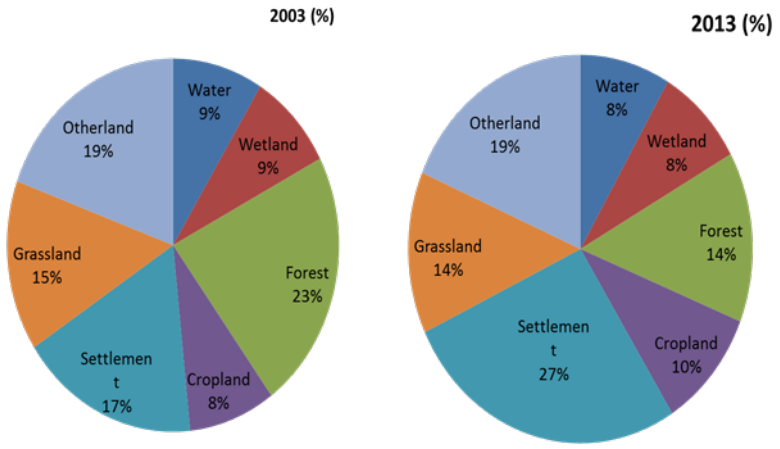


Figure 3.8: Land Use and Forest Change Pattern in Nigeria
Source: Ecodev Konsult, 2013; Bisong, F. E. & Odum, P. (2013)

Deforestation Hotspots in Nigeria

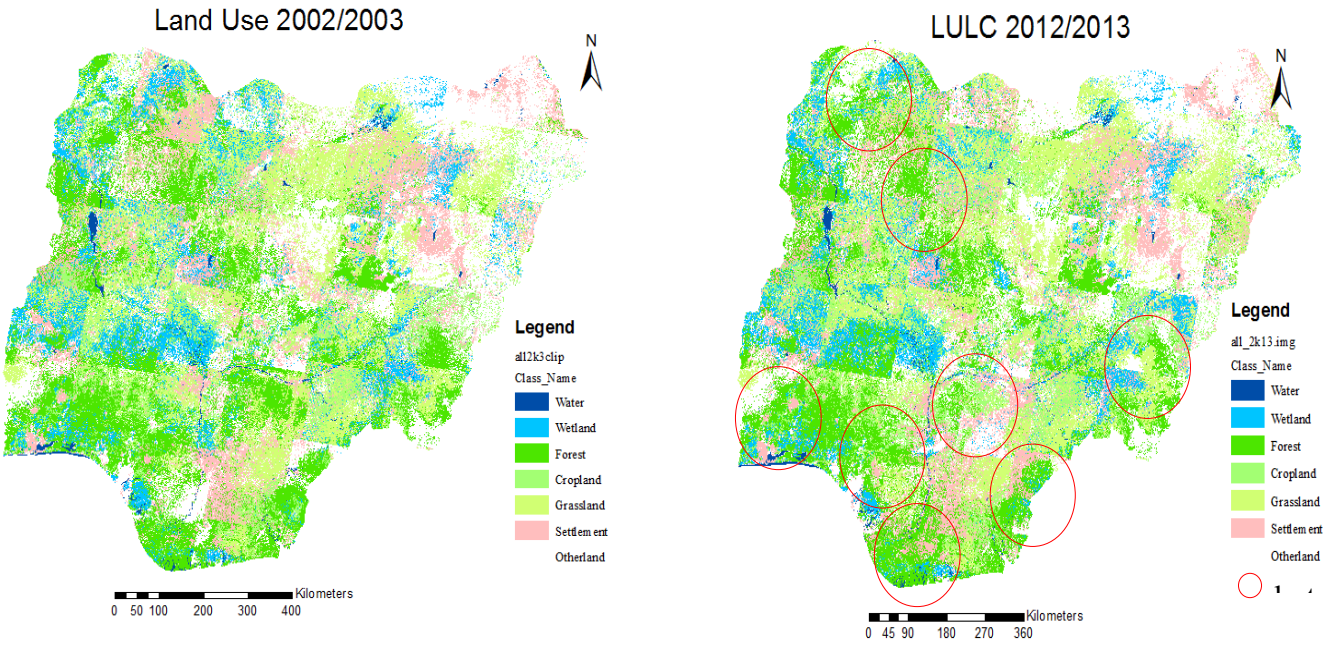


Figure 3.9: Deforestation hotspots in Nigeria
Source: Ecodev Konsult, 2013; Bisong, F. E. & Odum, P. (2013)

The rate of deforestation in the country has been attributed to various factors. The direct drivers as revealed by several studies include agricultural activities including slash and burn system (Nathaniel et al., 2012; Bisong, 2007; 2004; Bisong 2003; Bisong and Arokoyu, 2003; Ite and Adams, 1998; Ite, 1997); Logging, fuelwood, charcoal production harvesting and other extractive activities on forest degradation: (Audu, 2013; Akintoye et.al, 2013; Faleyimu and Agbeja, 2012; Oduntan et.al, 2012; Mfon and Bisong, 2011; Babanyara and Saleh, 2010; Bisong and Mfon, 2008; Omofonmaran and Osa-Edoh, 2008; Bisong and Mfon, 2006); Economic, demographic, and land tenure drivers of deforestation:Oni et.al, 2012; Babanyara and Saleh, 2010, Bisong and Andrew-Essien, 2010; Bisong et.al 2009; Andrew-Essien and Bisong, 2009; Bisong et.al, 2008; Bisong, 2003). Other direct drivers include mining, infrastructure Development such as roads, urban expansion, and livestock grazing, among others.

The indirect drivers involve complex interactions of fundamental social, economic, political, cultural, and technological processes that are often distant from their area of impact. They include International markets due to the export of primary commodities, Commodity prices such as woods(Drivers of deforestation and forest degradation, n.d), resins, tusk, hides, and skin, etc. Drivers include domestic markets due to Increase demand forest products such as firewood, bush meat, wood, and Population growth. For instance, Nigeria's population growth rate has reached 3.2% annually. Other indirect drivers include national policies such as Agricultural

Transformation Agenda (ATA) and an increase in the price of domestic fuel. Local circumstances (i.e., change in household behavior, increase in illegal activities, poverty, and weak forest sector governance and institutions) also contribute to driving deforestation.

Major Economic Activities in Nasarawa and Ondo State (Underlying causes for deforestation):
The economic activities in these settlements are quite similar, and this will form the basis for FGD groups:
In Nasarawa State, the economic activities include:

i. Farming (Cassava, Guinea-corn, Benni-seed, and Melon).
ii. Lumbering and sales of timber.
iii. Charcoal production and sales.
iv. Fuelwood extraction
v. Clay block production.

For the Ondo state, the economic activities also include:

i. Farming (Cassava, plantain, Cocoa,and Oil Palm).
ii. Lumbering and sales of timber
iii. Hunting
iv. Trading
v. Fishing (Low scale)

3.9 Forest and Natural Resources Management Regimes in Nigeria

In Nigeria, forest resources conservation has been through the creation of protected areas or landscapes such as national parks, or wildlife sanctuaries or the extractive type, which allows limited harvesting of natural resources such as national forests (parks), forest reserves, hunting and fishing zones, and protected landscapes.

The dominant strategy for the protection of the country's tropical forests which accounts for why the forests not wholly lost has been the establishment of Forest Reserves in different parts of the country. Currently, there are about 1,160 forest reserves in Nigeria (Oyebo, 2006). In the south-west of the country including Ondo State, The first forest reserves were established in 1899 and south-eastern Nigeria and 1916 in the northern parts of the country after the amalgamation of the Northern and Southern protectorates in 1914 (Aminu-Kano and Marguba, 2002).
The prominent management regimes of forest reserves include Government, community, and traditional rulers. The government manages more forest than the communities.
However, forest reserve is managed mainly by governments; in Cross River, community forest management is widely practiced.

Table 3.3 Forest Management Regimes in Nigeria and their Management Effectiveness

Management Regime	**Description of Management**	**Conservation Status and Management Effectiveness**
Forest Reserves (FRs)	About 445 gazetted reserves (~29% of forest cover). Established for the supply of timber. Collection of NTFPs is permitted as well as hunting.	Variable, the majority are heavily degraded with no management plans and ineffective protection.
National Parks (NPs)	There are 7 of these (~28% of forest cover). Established for the protection of	Relatively well managed compared to forest reserves.

	biodiversity and tourism. No hunting or collection of NTFPs allowed.	
Game Reserves (GRs) and Wildlife Sanctuaries (WSs)	There are 23 of these. Established for the sustainable management of wildlife with controlled hunting. No timber extraction permitted.	It is mostly degraded with no management plans and ineffective protection.
Strict Nature Reserves (SNRs)	There are 8 of these. Strict protection with no use of any type allowed other than scientific research.	Most are small (between 19 and 460 ha) and degraded with ineffective protection.
Plantations	Often within FRs. Planted forests, mostly exotics, e.g., teak, *Gmelina*, rubber, etc.	Variable, most are without management plans.
Community Forests (CF)/ Open Areas	Depends upon community bye-laws. Most allow all uses including timber extraction and clearing for farmland, but some have controlled the use of some forest products.	Variable mostly degraded except in the more inaccessible parts of the country.

Source: FRN. 2011. National Programme Document: Nigeria's REDD+ Readiness Programme 2012-2015.UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

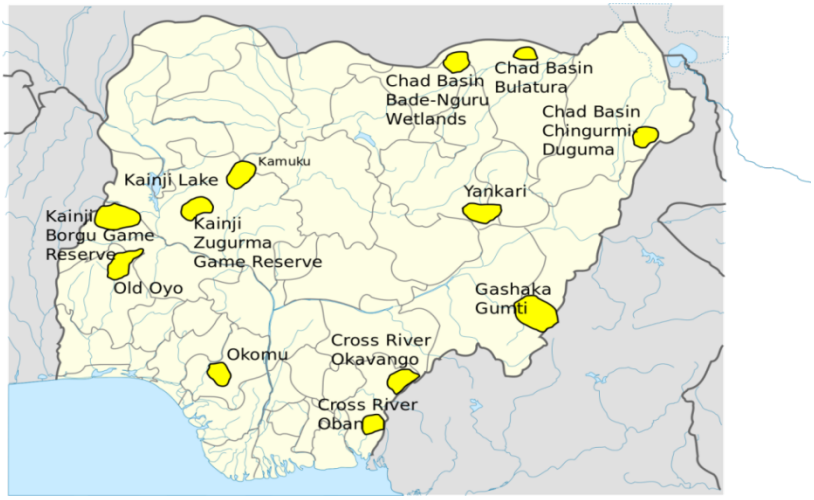


Figure 3.10: National Parks and Game Reserves of Nigeria

3.9.1 Forest and natural resources management regimes in Nasarawa state

In Nasarawa state, protected area system (Pas) of forest reserves is used in the management of the forest. There are forty-one (41) forest reserves in the State, out of these 37 are gazette, while four are ungazetted. However, three of the reserves have been used for the REDD+ programme. These include Marhai forest reserve in Wamba LGA which cover a total area of 6337.6ha and officially Gazette NRLN 67 of 23rd June 1960. Also, the reserve contains grassland, savannah, and shrubs all taking small equal proportions of the entire forest reserve. Obi forest reserve in Obi LGA has a total Area of 20.4ha with official Gazette Number: NNLN 105 24th Dec. 1964. The area is filled with shrubs, grasslands, forests, agriculture, and savannah. Zono forest in Toto LGA also managed under protected area has a total area of 1,088ha (Gazette Number 145 of 1961)

3.9.2 Forest and natural resource management in Ondo State

In Ondo State forest management regimes also include the protected area system with the use of reserves. The reserves include Akure Forest Reserve, covering 66 km^2 (25 sq miles) and Osse River park reserve. In Ondo state, two pilot site exists. Two forest reserves selected for the REDD+ programme include One River Park, formerly known as Iron Forest Reserve is in Ondo state, South Western Nigeria. The Reserve was established for the protection of Wild Game. It covers a land area of about 282.35km^2. It is a remnant of the previously contiguous forest block in the defunct Western Region of Nigeria.

3.10 Forest management interventions

3.10.1 Forest Management Interventions In Nasarawa

Features of forest management interventions in Nasarawa include:

- Tree Nurseries in selected locations including Lafia, Shabu, Akwanga, Keffi,andNasarawa, upgraded to produce about 250,000 assorted seedlings each for planting annually.
- Enrichment tree planting of 153ha in Marhai Forest Reserve in 2007, 40ha Gmelina/Teak planted at Akaleku, (Akwanga Forest Reserve) and Keffi (Sabon Gari Forest Reserve) in 2008 and 2ha Gmelina planted and fenced in 2009. Courtesy British America Tobacco Company Nigeria.
- The stated has also created 5,537 hectares of forest plantations. This brings the total land areas of Nasarawa State under forest cover to 150,765.26 ha, which is about 5.6% of the total land area of the State. The State has gazette some forest reserves for protection, with adequate protection mechanisms in place. There are forty-one (41) forest reserves in the State, out of these 37 are gazette, while four are not gazetted.
- Private Schools and community woodlots establishment all over the State.
- Reduction in firewood and charcoal production through the closure of the forest-estate by the Governor of Nasarawa State.
- In addition to gazetting its forest reserves, the Government has undertaken critical initiatives for data collection and adequate mapping, using GIS and other informatics, as well as appropriate methodology and processes to determine the status of the forest cover.
- The development of useful monitoring indicators that can be used to determine the changes in the status of the forests in the State. These methodological approaches have been used to identify pilot sites for REDD+ implementation.

3.10.2 Forest management interventions in Ondo.

The interventions in Ondo include:

(i) Regeneration and establishment of indigenous and exotic species of trees across Ondo forest Reserves by Ondo State Government.
(ii) Maintenance of established plots
(iii) Private Public Partnership with WeWood to establish 10,000ha of selected species of trees
(iv) Private Public Partnership with WA Forest Plantation to establish 22,000ha of Gmelina and other indigenous species of trees

At the farmer level: government encourages Tgaunya farming system where Ondo State government provides the seedlings
Also, Rehabilitation of Natural Habitat in Ondo state area annual activity from 2009 shows this:

2009 - 165Ha
2010- 255 Ha
2011- 375Ha
2012- 300Ha
2013 Maintenance Operation
2014- 40Ha

However, the pre-occupation of the designated agency include upgrading of the reserves, which among other things include:

i. Re-assessing all Forest Reserve boundaries and cleaning
ii. Sustainable management practices using and capacity building for regeneration options.
iii. Undertaking periodic surveys and mapping of established plantations for the development of management plans, and inventory to generate reliable data for forest planning and development.
iv. Carrying out post-logging surveys.
v. Helping communities to control the harvesting operation of the various users (Timber and NTFP).
vi. Strengthening and enforcing Forestry Laws and regulations.

3.10.3 Community-based forest management institutions:

The Relevant community-based management organizations identified were:

i. The Council of Chiefs and Elders, headed by the Village Head, was recognized in all communities in the pilot sites as the highest traditional authority. It is the key decision-making and implementing body supported by other groups. The Council of Chiefs has executive, legislative and judiciary powers. Supported by a Town Council in most cases, the Council of Chiefs and Elders was reported to be involved in the day to day management of natural resources, including granting access to resources and enforcement of sanctions in cases of violation of rules access and use of natural resources;
ii. TheAge grade, an association of persons born within a period (usually 3-5 years) which often provides labor for community development work;
iii. Women's Associations which contribute to the management of community natural resources particularly concerning non-timber forest products and water resources that the women folk depend on the most for their livelihood;
iv. Youth Council which plays an investigative, monitoring and law enforcement role;
v. Forest products and agricultural produce associations, which manage the registration of forest products collectors and traders and in some communities also monitor farm encroachment and bush burning and facilitate the adoption of improved and sustainable agricultural practices.
vi. Forest management committees (FMCs) set up by Forestry Department and community to facilitate sustainable community forest management, with their central roles including creating conservation awareness, and monitoring of forest activities, especially logging and deforestation. FMCs were widely regarded as essential for sustainable community-based forest management;
vii. Transport union recognized for its role in the transport of people and forest and farm products to markets given the inaccessibility of most forest communities.

3.10.4 Source of Funds

The UN-REDD+ Programme provided support for REDD+ Readiness at the National Level and in the Cross River State as the pilot. Funding from the FCPF will compliment and further provide further support to National level REDD+ Readiness and state-level REDD+ Readiness in Nasarawa and Ondo states and complete REDD+ Readiness in the Cross River State (Nigeria R-PP document, 2015. However, the World Bank's ten safeguard policies are designed to safeguard programs proposal for financing are environmentally and socially sustainable, and thus improve decision-making. The Bank's Operational Policies (OP) are meant to ensure that the Bank does not finance projects that will have irreversible significant adverse impacts or cause significant harm to the people (World Bank, 2017).

Given the ongoing global climate change dialogue as well as the uncertainty of the availability of donor financing for results-based payments (including from the Carbon Fund of the FCFP) Nigeria also require self-funding in a sustainable way. Such an approach will deepen the Government's ownership and also boost an international community's confidence in Nigeria's commitment to REDD+. In this regard, the FCPF support will build the capacity of the Government at Federal and State level to adequately cost REDD+ Strategy options and lobby for financing for REDD+ to be included in the national budget (Nigeria's REDD+ Readiness Programme, 2015).

At the national and State level, mobilization of financial resources from internal and external sources, to have an additional pool of resources to upscale interventions for visible impacts require financial resources, beyond the national annual budget allocations. Nigeria requires an integrated financial resources mobilization strategy that will enhance sustainable financial resources for active forest management.

Table 3.4: Funding sources/ administration

Source/Financial Instrument	**Administered By**	**Area of Focus**	**Fund Size**
Multilateral Adaptation Fund			
Adaptation Fund	AFB[◦]	Adaptation	$115.96 million
Pilot Program for Climate Resilience	World Bank	Adaptation	$1.2 billion
Adaptation for Smallholder Agriculture Program	IFAD	Adaptation	£147.5 million
Multilateral Mitigation Fund			
Source/Financial Instrument	Administered By	Area of Focus	Fund Size
Clean Technology Fund	World Bank	Mitigation	$5.6 billion
Forest Carbon Partnership Facility	World Bank	Mitigation, REDD+	$ 300 million
Forest Investment Program	World Bank	Mitigation, REDD+	$ 775 million
Bio-carbon Fund	World Bank	Mitigation, REDD+	$ 180 million
UN-REDD+ Programme	UNDP	REDD+	
Global Energy Efficiency and Renewable Energy Fund	EC	Mitigation,	Euro 222 million

GEF Trust Fund- Climate Change Focal Area	GEF	Adaptation, Mitigation, REDD+	
Global Climate Change Alliance	EC	Adaptation, Mitigation, REDD+	
Green Climate Fund	World Bank	Adaptation, Mitigation, REDD+	
Special Climate Change Fund	GEF	Adaptation, Mitigation, REDD+	
Strategic Climate Fund	World Bank	Adaptation	
Bilateral Source			
Source/Financial Instrument	Administered By	Area of Focus	Fund Size
Australia's International Carbon Initiative	Government of Australia	REDD+	$ 512.95 million
Germany's International Climate Initiative	Government of Germany	Adaptation, Mitigation, REDD+	~ $ 2 billion
Japan's Fast Start Finance- Private Source	Government of Japan	Adaptation, Mitigation, REDD+	$ 15 billion
Norway's International Climate and Forest Initiative	Government of Norway	REDD+	$ 517 million
United Kingdom's International Climate Fund	UK Government	Adaptation, Mitigation, REDD+	$ 495 million

Source: CRS REDD+ Strategy, 2017

Possible source of fund for the implementation of sustainable forest management and REDD+ includes the following:
African Regional Funds
Fund available at continental level includes:

- **Africa Climate Change Fund-2014 (**Bilateral thematic trust fund - EUR 4.7 million from Germany and €4.7 million from Italy)
- **Sustainable Energy Fund for Africa (**A multi-donor trust fund initial fund USD 60 million by the Governments of Denmark and the United States)
- **AfDB Fund** (borrowings on international markets and loan repayments)
- **The African Development Fund (ADF)** (periodic replenishments and special contributions by the Fund's state participants, usually on a 3-year basis)

Expected Internal Sources will include:

- The Three Tiers of Government
- Budgetary allocation from state and federal government
- National Ecological Fund Office
- Natural Resources Development Fund
- Taxes

Others include:

- Non-Governmental Organisation (NGOs)
- Private Sector Organisation

3.10.5 Capacity building

Training and capacity building for staff, including institutional strengthening in critical areas of REDD+ and climate change response, are required.

3.11 Key Environmental issues in the forestry sector

3.11.1 Energy Crisis and Forest Loss

The demand for fuelwood in Nigeria is very high because more than 70% of rural households use fuelwood in meeting their energy needs for cooking and heating. The unsustainable and constant use of fuel-wood by Nigerian households, institutions (schools, prisons, hospitals, IDPs camps) and cottage industries (e.g., fish smoking, cassava processing, and palm oil processing, bakeries) are one of the leading causes of deforestation and land degradation in Nigeria. More than half of the 9.6 million hectares of rainforest belt in the southern part of Nigeria has been used to meet the demand for fuelwood in rural and urban areas. Fuelwood use has grown from 50 million m^3/year in 1990 to 70 million m^3/year and accounts for a significantly higher share of forest product use than, for example, commercial logging; the latter amounts to only 11 million m^3/year in 2010 and did not register any significant changes in the last decades (FAO, 2015).

This rapid rate of deforestation is a significant concern with over half of the country's primary forests cut down in the last ten years, exacerbated by rapid population growth of 2.5%. Over-extraction of trees for firewood without re-planting new trees is threatening people's ability to afford fuelwood. In Nigeria, where woodfuels are the primary source of fuel, sustainable management, and use of the forest are imperative. The Second National Communication (SNC, 2014) estimates that about 4.5 million hectares of fuelwood plantations have to be established to tackle the primary cause of deforestation and help address the looming shortfall of fuelwood resources. The over-dependence on fuelwood in the country has been attributed to its availability and affordability compared to other sources of energy. Earlier research found that fuelwood consumption in the north and southwestern parts (the Ibadan area in Oyo state) of Nigeria far exceeds sustainable production, and the deficit is only made up from areas of surplus (pockets of localized vegetation in other parts of the country), which adds to the cost of the wood. The table below shows the distribution of the source of energy in REDD+ states and Nigeria.

Firewood is mostly consumed in rural areas while charcoal is predominantly consumed in peri-urban and urban areas as the primary fuel for cooking at roadside food outlets, informal restaurants, and at the household level. The utilization rate of fuelwood is shown in table 3.5.

Table 3.5 .Fuelwood utilization among communities in Nigeria

Source of domestic energy utilization	
Source	Percentage
Fuelwood	50%
Kerosine	19%
Gas	15.5%
Electricity	5%
Charcoal	10.5%
Factors influencing fuelwood consumption as a domestic energy source	
Relative cheapness	30%

Cooks faster	49.5%
Readily available	12%
High prices of other forms of fuel	8.5%
Source of fuelwood utilized by household	
Fuelwood sellers	51%
Surrounding bushes	15%
Farmland	25%
Free area	8.5%
Household daily fuelwood utilization	
₦50-100	10%
₦101-200	30%
>₦200	60%

Source: Izekor and Amiandamhen (2017)

Table 3.6 Primary Source of Energy for Cooking

States		Source of cooking energy						
		Electricity	Gas	Coal	Sawdust	Firewood	Kerosene	Total
		Percent	Percent	Percent	Percent	Percent	Percent	Percent
REDD+ STATE	Cross River	-	7.52	-	0.75	81.2	10.53	100
	Nasarawa	-		-	-	99.33	0.67	100
	Ondo	1.36	2.72	-	-	86.39	9.52	100
Nigeria		1.83	3.09	1.49	0.11	87.19	6.29	100

Source: Field Survey June-July 2017

3.11.2 Deforestation and forest degradation

Deforestation is the most significant source of GHG emissions in Nigeria from landuse: it is responsible for 40% of national CO_2 emissions (SNC, 2014). According to the Second National Communication to the UNFCCC, baseline scenario emissions from deforestation will increase from 9.5 $MtCO_{2e}$/year in 1990 to 26.5 $MtCO_{2e}$/year in 2030 (based on a conservative deforestation rate of only 2.6%). The National Forest Conservation Council of Nigeria (NFCCN) estimates that a large portion of the forests in Nigeria will be cleared within a few decades if current rates of deforestation are not reduced. The lack of reforestation activity means clearing is not being offset by new plantings. With forests almost gone in the north of the country already, the loss of tree cover is also thought to be helping accelerate the spread of deserts and reducing farmland. A report by the NFCCN in 2008 estimated that 35% of the arable land had been lost to desertification in the north over the last 50 years[11].

3.11.3 Desertification in the Northern States.

Desertification is the most daunting challenge in northern Nigeria. The threat of the advancing desert necessitated the promotion of tree planting programme in Nigeria, which is an annual exercise, where trees are planted at a particular time of the year (mostly peak of rainy season). Areas that are most threatened by the surging desert are frontline states. Desertification is one of the fundamental environmental problems that are responsible for the current trend in global warming, drought, a decrease in crop yield, forced migration and loss of biodiversity among others.

Table 3.7: Forest land degradation areas.

S/n	Name of forest	Size (sq km)	Current estimated degraded areas
1	Akure-Ofosu	401.45	146.72 sq km (146,720 ha)
2	Akure-Ofosu (Ext)	20.89	20.89 sq km (20,890 ha)
3	Akure (Aponmu)	70.19	26.98 sq km (26,980ha)
4	Ala	199.43	112.64 sq km (112,640 ha)
5	Idanre	540.45	246.62 sq km (246,620 ha)
6	Ifon	285.79	176.26 sq km (176,260 ha)
7	Ipele-Idoani	48.68	42.52 sq km (42,520 ha)
8	Irele	35.35	35.35 sq km (35,350 ha)
9	Okeluse	110.55	76.82 sqkm (76,820ha)
10	Oluwa	878.16	492.59 sq km (492,590 ha)
11	Onisere	95.78	92.69 sq km (92,690 ha)
12	Out	84.90	81.56 sq km (81,560ha)
13	Owo	282.16	168.49 sq km (168,470 ha)
14	Oyinmo	23.39	10.92 sq km (10,920 ha)

3.11.4 Land degradation and erosion.

Deforestation is one of the serious environmental problems owing to its contribution to climate change, biodiversity loss, erosion, flooding, siltation, landslides, and soil degradation. This can have a variety of negative effects on humans (Millennium Ecosystem Assessment, 2005). The increase in demand for forest products and socio-economic activities are a function of the growing human population and activities prompted mainly by such factors as poverty, demography, systems, inadequate conservation status, development policies and economic incentives (Gandiwa et al., 2011). Unrestrained land clearance within many forested areas for large-scale agriculture has resulted in severe land damage without useful mitigative options against land degradation.

Agriculture and forestry are the primary occupations of rural people in Nigeria; agriculture employs explicitly approximately 80% of the labor force. Although agriculture activities in Nigeria is mostly on a subsistence level (small scale) yet and contributing to the economy by providing food, fuel, and fiber to the teeming population. This shows that small-scale farmers make a very important contribution to the economy of Nigeria, as they create employment and ensure food security for the family.

However, climate change is increasing the risks of drought, floods, desertification, storms, coastal erosion, and salinity are increasing with an increase in emission from anthropogenic

activities. Capacity to cope in these harsh climatic conditions by adopting measures that ensure the sustainability of forest while enabling more productive natural resource use systems and enhanced livelihoods opportunities is lacking. Climate changed adversely undermine natural resource systems, including agricultural land and forests and their capacity to provide essential ecosystem services.

Studies have shown that the highest ranked climate change impacts in Africa include drought, flood, crop failure, and bush fire. The most significant socio-economic vulnerabilities are hunger/food insecurity and poverty, while the most significant biophysical vulnerabilities include deforestation, land degradation, and loss of biodiversity, among others. While the most vulnerable of the resource user groups are farmers, livestock grazers/pastoralists, and NTFP collectors; the social group most affected are women.

Several social and resource user groups are reportedly vulnerable to climate change. The most vulnerable among the resource user groups are farmers and livestock grazers/pastoralists, while women top the chart among the social groups. Reference to rural communities deserves to be mentioned in the groups identified as vulnerable to climate change in sharp contrast to the non-identification of urban communities. Nigeria's vulnerability to climate change, potentially resulting in reduced crop yields, declining productivity of livestock, and variability in water availability. Climate-related challenges will be compounded by increasing population pressure on land and water resources and rapid urbanization.

3.11.5 Social and gender issues

The incorporation of gender considerations into the REDD and REDD-plus frameworks brings about increased efficiency and sustainability as it contributes to women's involvement and commitment who are crucial players of local forest management. A gender perspective in REDD-plus initiatives also ensures the integration of the wealth of unique knowledge, skills, and experience of women, which is vital to successful REDD-related initiatives.

If women cannot access forests for fuelwood, and alternative sources of energy are not provided, women's responsibilities may force them to illegally harvest fuelwood or other forest products to provide for their families (Upadhyaya, 2005).

Women relied on forests for carrying out subsistence activities, access to forests could be hampered by poor government policies, lack of representation on local forest management committees, or through economic barriers. Women in the communities often could not afford the fees required to engage in charcoal or timber activities. Another barrier to women's forest access involves property rights. The change from traditional community-based ownership and access to a system of land purchasing and titling excludes women who are unable to buy land or legally secure forest resources based on historical access rights.

Women are engaged mainly in the production of charcoal, fuelwood, and honey. Timber, are mostly male-dominated and are traded in more lucrative markets while women collect non-wood products (except honey) for subsistence or sale in less lucrative markets.

Agarwal (2009) found that "the higher the percentage of women on the executive committee, the lower the percentage of degraded forest area

3.11.6 Livelihoods and poverty

One of the demographic characteristics of the developing world is its rural nature of the population (World Poverty Report, 2011), some 3.1 billion people or 55% of the population in developing countries live in rural areas. It, however, predicts that between 2020 and 2025, the total rural population will peak and then start to decline and the developing countries urban

population world overtake its rural population. The basic fact is that most of these people in rural areas live in poverty, finding it difficult to enjoy the necessities of life. According to the World Poverty Report (2011), at least 70% of the world's impoverished people are rural. Agriculture plays a vital role in most countries – over 80 percent of rural household's farm to some extent, and typically it is the poorest households that rely most on farming and agricultural labor. In most countries, the smallholder farmers produce higher proportions of staples and mostly at the peasant levels. This increased pressure on land use and impact on the forest.

3.11.7 Demographic pressure

Nigeria population is about 180 million people. Natural resources play a pivotal role in the lives of most people in Nigeria, with 75% of the population living in rural areas and over 70% employed by the agriculture and forestry sector. Increasing economic development and demographic pressure are changing agricultural and forestry systems in Nigeria and creating ever-increasing pressure on the natural resource base mainly forest. The global paradigm shift towards low-emission and climate-resilient development pathways, to achieve economic efficiency indirectly securing emission reductions at cost, and to support equity in the distribution of resources which seeks to relieve pressure on land and forest.

3.11.8 Migration

Internal migration to urban areas and migration to fertile land and forest zone, including poor enforcement of legislation and widespread poverty are some of the main contributing factors to fuel poverty and degraded natural resources. These trends are rapidly affecting resources such as a forest. Coupled with this humanitarian issue, the deforestation and forest degradation that occur as a symptom of people's reliance on wood fuel (+70% of the population) is threatening the sustainability of the natural environment and its ability to perform ecological services in fragile areas.

3.11.9 Weak institutions and insufficient policies at state and national level.

Poor enforcement of forest and land laws, policies, and regulations, as well as the absence of any policies and regulations to specifically address environmental degradation, exacerbate deforestation drivers. Monitoring deforestation and degradation and its drivers are concerned. Although sustainable fuelwood demand and supply are embodied in national policies, their implementation remains a significant challenge at the state level; hence, the supply and demand value chain remains fragmented.

4.0 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK IN FOREST AND NATURAL RESOURCE MANAGEMENT

There are many enabling policies for forest conservation and natural resource management in Nigeria. These laws and policies are capable of enabling the implementation of REDD+. This section describes the legislative, regulatory, and policy framework for forest resources management, land use, and livelihoods system and resource use rights, among others. Besides the international conventions relevant to REDD+, various laws, acts, regulations, and policies in different MDAsat national and state levels have been reviewed regarding forest resource use. Recommendations for policy reform/development are made based on the analysis. The review of the policy and legal framework is to identify laws and policies at the national, state and local level relevant to REDD+ objectives, and also identify consistency with the safeguard standard of the World Bank and the Safeguard policies likely to be triggered.

4.1 International Convention

Nigeria is a signatory to many international conventions that are related to REDD+ and natural resource management. One of the focus of REDD+ is the implementation of REDD+ in any developing country should be consistent with the objectives of the relevant conventions and agreements to which that country is a signatory to. However, an international treaty to which Nigeria is a signatory is not enforceable, except enacted into the law of the country by the National Assembly and the State Assemblies as the case may be. Below is a description of several treaties and conventions to which Nigeria is a signatory to:

The UNFCCC and the Kyoto Protocol - Most of climate change activities in the country are driven through this arrangement, and Nigeria is implementing the UNFCCC and fulfilling her reporting obligations. The Second National Communication was prepared in 2014. There is, however, no Climate Change Act to enforce compliance with the provisions of the Climate Change Policy.

United Nations Convention on Biological Diversity (CBD) - The country's National Biodiversity Strategy and Action Plan was revised in 2015 and is implementing CBD through the Federal Department of Forestry in FMEnv. This Fourth National Report was submitted in 2010 and provided information on the status of biodiversity and the overall compliance with the Convention on Biological Diversity (CBD). The National Biodiversity Strategy and Action Plan (NBSAP)is part of the country's efforts in meeting obligations in the joint endeavour to conserve Biological Diversity and its utilization in a sustainable manner.

United Nations Convention to Combat Desertification - Nigeria is implementing the obligations of the convention. It is undertaking programmes to address land degradation, deforestation, desertification, etc., and embarking on the process of reversing desertification through its various afforestation and reforestation activities, such as the Great Green Wall Project (GGWP). The significant gap in the scale and level of funding is low, except the GGWP which reasonably funded.

The Ramsar Convention - The Convention is being implemented. Nigeria submitted her National Report at the COP12 in Uruguay in 2015. National Wetland Policy (in draft form since 2008). The country has 8 (eight) RAMSAR sites, but not all have adequate management plans. Management plans are being implemented in 5 (five) sites.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - Nigeria has domesticated the CITES through the Endangered Species (Control of International Trade and Traffic) Act Cap. 108 L.F.N. 1990 Act Cap. E9 L.F.N., 2004. It supports and promotes conservation and protection of species biodiversity regulating international trade and traffic in endangered species.

International Human Rights Instruments - Nigeria is also a signatory to United Nations Human Rights Instruments, human, indigenous and women's rights treaties that may inform the social aspects of REDD+ activities, including the **International Covenant on Civil and Political Rights (ICCPR).**

The Indigenous and Tribal Peoples Convention (ILO Convention No. 169) - The Convention requires ratification by a State to bind itself to apply the provisions of this Convention. Nigeria is

abstained from the ratification of the ILO Convention 169 and more recently from the United Nations Declaration on the Rights of Indigenous Peoples in 2007, because of certain provisions were against the national interest and sovereignty.

The UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) - CEDAW has been ratified and provides against all forms of discrimination based on gender.

The African Charter on Human and Peoples Rights (and the Protocol to the African Charter on Human and Peoples Rights on the Rights of Women) - The African Charter on Human and Peoples Rights (ACHPR) has been domesticated by virtue of the provisions of "the African Charter on Human and Peoples Rights (Ratification and Enforcement) Act Cap A9, LFN 2004". It contains provisions for safeguard of indigenous people/community rights as distinct from individual rights.

The Convention on the Rights of Persons with Disabilities and disability and development
This was considered on December 19, 2001, during the he UN General Assembly, with resolution 56/168, with a proposals for a comprehensive and integral international convention to promote and protect the rights and dignity of persons with disabilities, based on the holistic approach in the work done in the fields of social development, human rights and non-discrimination and taking into account the recommendations of the Commission on Human Rights and the Commission for Social Development." The convention was adopted at UN General Assembly on December 13, 2006. Moreover, it entered into force on May 3, 2008 (World Bank, 2010).. The convention embraces a human rights-based, social model of disability. The human rights approach recognizes persons with disabilities as active agents and holders of rights and stipulates that all people with all types of disabilities must enjoy all human rights and fundamental freedoms, irrespective of their social or economic status. At the same time, recognizes that "disability is an evolving concept and that disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others Moreover, the convention has an explicit social development dimension. It recognizes that people with disabilities often face the risk of poverty and that many of them experience multiple forms of discrimination based on economic or other status It underscores "the critical need to address the negative impact of poverty on persons with disabilities." The convention recognizes that international cooperation supports national efforts to effectively implement States Parties' obligations (World bank, 2010).

Millennium Development Goals & disability December 2008, the UN General Assembly adopted a resolution, *Realizing the Millennium Development Goals for Persons with Disabilities through the Implementation of the World Programme of Action Concerning Disabled Persons. According to World \bank (2010),* The report focuses on the situation of persons with disabilities concerning the realization of the MDGs and lessons learned and synergies and complementarities achieved, based on the implementation of the World Programme of Action, the Standard Rules, and the CRPD.

4.2 National laws, Policies, Strategies and plans in forest and natural resource management

The following national policies and legal framework are relevant to objective of the REDD+ programme:

4.2.1 The Constitution of the Federal Republic of Nigeria

The constitution is the supreme legal instrument that provides the basis of the entire legal order in the country. The constitution lays down the fundamental rights of citizens; regulates the rights and duties of government at different levels, clarifies roles, and responsibilities in natural resource management. Though the Constitution does specify the role of the Federal or State Government in forestry matters, by convention and practice….forestry matters, as well as ownership and control and management of forest areas within the state remain the mandate of the respective state governments.

Areas which are related to forestry are partly included in the Exclusive Legislative List. This is the case for mines and minerals *(Item 39 of the List)* or National Parks *(Item 40 of the List).* It is also the case for trade and commerce *(Item 62 of the List),* including both international trade and trade between the States of Nigeria. Trade is something that must also be taken into account when rules on export of forest products are considered

- The role of the Federal Government comes to play in its implementation of treaties and other international instruments entered into by it…. concerning forest products and resources.
- In the case of local governments, the Constitution provides that one of their functions is to participate in the development of agriculture and natural resources other than the exploitation of minerals.
- Section 15 prohibits discrimination on the grounds of place of origin, religion, sex, status and ethnic affiliation. This is a safety net in the Constitution to respect the rights of indigenous communities and people.
- An overarching provision in support of REDD+ implementation is s. 20 which stipulates that "the State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria".
- s. 36 of the 1999 Constitution, as amended, which is contained in Chapter IV guarantees access to justice to seek redress and the right to a fair hearing. This is a broad framework to promote and support REDD+ implementation.
- Some sub-national jurisdictions, have introduced Alternative Dispute Resolution (ADR) mechanisms…..to reduce the technicality and period for dispute resolution in civil matters. Although less cumbersome…it is also not an appropriate grievance mechanism for the speedy resolution of disputes in the implementation of REDD+ activities at the local level amongst the local communities. Hence, the need for a community grown and owned a grievance mechanism framework to be introduced into the REDD+ implementation process.

4.2.2 Draft Bill for a National Forest Act, 2003

The bill sets out to provide for the establishment, conservation, sustainable management of the nation's forest resources and its rich biodiversity in conformity with local, national and international processes and initiatives on global forests and environment. The bill is significantly responsive to the REDD+ five activities. It hinges on the principles of sustainable forest management (SFM) of forest resources in and outside forest reserves. It recognizes the rights of local communities to fair and equitable sharing of benefits derived from genetic resources and prescribed the requirement of prior informed consent of communities for access to biological resources outside forest reserves. It further provides for the recognition and protection of local communities' traditional knowledge, cultural heritage, and intellectual property outside forest

reserves. The Bill provides for private sector participation in forestry development programmes and the establishment of a National Forestry Trust Fund at the Federal Level. The fund is to facilitate the promotion and financing of forestry development projects and programmesas a sustainable source of funding.
The Bill also seeks to promote the participation of women and youths in sustainable forest resources management and utilization. It is, however, silent on equity and fairness in mainstreaming gender issues into SFM which should be adequately reflected in the draft bill before enactment into law.

4.2.3 National Forest Policy, 2006

The National Forest Policy is the overarching framework on forestry development in Nigeria. The overall objective of the policy is to achieve sustainable forest management that would ensure increases in the economic, social and environmental benefits from forests and trees for the present and future generations including the weak and vulnerable groups. The policy promotes and supports the decentralization of roles and functions amongst stakeholders (public, private, NGOs, including, Community Based Organizations (CBOs) and civil society), towards the attainment of sustainable management of forests.
It also recognizes the environmental functions of forests in carbon capture and carbon sequestration and the need to employ the international financial mechanisms to enhance the carbon stocks. It promotes helping citizens, especially the rural communities and forest-dependent persons, to better adapt to climatic change, and to benefit from emerging carbon markets. The policy instrument contains strategies for carbon trading, benefit sharing, tree ownership, and accessing carbon credit within the framework of the Clean Development Mechanism of the Kyoto Protocol. The policy, in general, is supportive of REDD+ implementation.

4.2.4 National Park Service Act, Cap N65 LFN, 2004

The Act established the National Park Service (NPS), with a mandate for the preservation, enhancement, and protection of wild animals, plants and other types of vegetation in the National Parks (and for matters connected in addition to that). Cross River National Park is one of the seven NPs managed under the Act. Protected areas for biodiversity management could overlap with potential REDD+ activities insofar as habitat for flora and fauna can be preserved while also reducing the emission of greenhouse gases. The Cancun Safeguards provide that REDD+ activities take into account the multiple functions of forests and other ecosystems and be consistent with the conservation of natural forests and biological diversity. The objectives of the Act support the implementation of REDD+ in Nigeria. The Act is REDD+ smart.

4.2.5 Land Use Act Cap 202 LFN 1990 Cap L5 LFN 2004

The Land Use Act (LUA) is the principal law in Nigeria, regulating the use and access to all lands in the country. Section 1 of the LUA provides that “subject to the provisions of this Act, all land comprised in the territory of each state in the Federation are at this moment vested in the Governor of that state. Such land shall be held in trust and administered for the use and common benefit of all Nigerians in accordance with the provisions of the Act”. Therefore, all lands in Nigeria are under the control of the respective State Governors. The Federal Government does not play a significant role in land administration other than about federal land acquired before the enactment of LUA and such other lands as may be acquired under the Act or any other enabling legislation. National Parks (NPs) are under the jurisdiction of the Federal Government. Other Acts relating to land acquisition for federal projects within the context of LUA include the

Minerals and Mining Act, 2007; (ii) Oil Pipelines Act, Cap 07 LFN 2004; and (iii) Electric Power Sector Reform Act, No. 6 of 2005. The Federal government has overriding jurisdiction over land acquired under these acts.
Local Governments are not vested with the power of administration of land in the urban areas. They are responsible for the control and management of land in non-urban areas, i.e., LGAs, over which they have the power to grant customary rights of occupancy. The power is exercised subject to the type of use and a limitation on the size of land, above which there is a reversion to the Governor of the State. The Governor retains dominant powers over all lands in the state except for those under federal jurisdiction.

4.2.6 Minerals and Mining Act, 2007
The Minerals and Mining Act LFN 2007 is the principal law on the mining sector in Nigeria. Mining and minerals are in the Exclusive Legislative List of the 1999 Constitution. Hence only the Federal Government has the authority to grant mining permits or licenses. The Act gives superior rights to use the land for mining purposes over the statutory right of occupancy or customary ownership of such land. It provides that the use of land for mining operations shall have priority over other uses of land, as it constitutes an overriding public interest within the meaning of the Land Use Act.

Mining activities, if conducted in an eco-unfriendly manner, lead to the clearing of vegetation and could significantly compromise the implementation of REDD+ activities in an area where a mining license/permit has been granted. According to the provisions of the Mining Act, a mining cycle, based on the term of license/permit, is a minimum of twenty-five years in the first instance before renewal, while that of quarrying is five years. Therefore, it is desirable that mining activities should incorporate offset planting of trees as part of the mitigation measures at the commencement of activities, which is not presently the case. That will be in addition to the requirement for reclamation at closure.

Some provisions of the Act promote and support REDD+ activities and the Cancun safeguards. Such responsive provisions include:

a) Exclusion of lands constituting National Parks from minerals exploration and exploitation (s.3);
b) Prohibition of mineral exploration in sacred areas or injury or damage to sacred/venerated trees (s.98);
c) Restoration and reclamation of mined lands (sections 114 & 115);
d) The requirement for Environmental Impact Assessment (EIA) before the grant of license or permit (s.119); and
e) Establishment of Environmental Protection and Rehabilitation Fund (s.121).

However, the Act is silent on the exploration and exploitation of minerals and mining within forest reserves and other ecologically sensitive areas or critical ecosystems which are under the control and management of the state government. Overall, the Minerals and Mining Act is moderately responsive to REDD+ implementation.

4.2.7 Petroleum Act Cap 10, LFN, 2004
There are also several federal statutes regulating oil exploration, prospecting, and mining in Nigeria. The Petroleum Act 1969 is the principal law on the industry with subsidiary legislation enacted under it. Some of the permits/ licenses granted under the regulatory framework in the

petroleum industry include Oil Pipeline Survey Permit, Oil Pipeline License, Oil Prospecting License, and Oil Mining Lease. These permits/ licenses have implications for the ecosystem. The Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) elaborate on environmental standards and safeguards applicable in the petroleum industry in the country. These are in addition to the provisions in the Environmental Impact Assessment Act for projects in the oil and gas industry. The identified gaps concerning considerations for ecosystem health and integrity in relevant instruments are:

(i) Inadequate framework for biodiversity considerations in the petroleum industry activities;
(ii) Lack of definite provision for offset planting to adequately mitigate the impact of deforestation and forest degradation; and
(iii) Inadequate safeguard considerations and conservation values at the very early stages of activities.

The REDD+ implementation provides the opportunity to address these gaps. Notwithstanding, the guidelines and standards are reasonably REDD+ smart.

4.2.8 Environmental Impact Assessment Act, Cap E12, LFN 2014

The Act sets out the general principles, procedures, and methods to enable the prior consideration of environmental impact assessment on specific public or private projects. It further provides that before a decision is taken to undertake or authorize the undertaking of any activity, those matters that may likely or to a significant extent affect the environment or have an environmental effect on those activities shall first be taken into account. There are nineteen thematic areas of mandatory study activities. The drivers of deforestation and forest degradation for which mandatory study is required include agriculture, infrastructure, logging and conversion of forest to other land use, mining, and housing. Environmental sensitivity and the area coverage of a project are some of the criteria for an EIA.

The Act supports REDD+ implementation in the country and valuable in promoting the adherence to REDD+ principles and safeguards in projects touching on the forests, including measures to mitigate impacts of drivers of deforestation and forest degradation in land use sectors. The EIA process provides for public display of draft EIA report as well as public review. This process strengthens stakeholder participation and public access to information by concerned people and other stakeholders. It also provides for the establishment of a public registry for all EIAs to enhance transparency and accountability.

The main gaps identified in the EIA process, include:

1. No clear sectoral guidelines on criteria and indicators or elaborated parameters for assessing ecosystem values in EIAs for mining/quarrying rights and other land use sectors activities that impact on forests;
2. Lack of public access to EIA documents, measures to ensure that mitigation measures have been put in place, etc. approved EIAs and Environmental Impact Statement;
3. No stakeholder participation in compliance monitoring of the environmental management plan; and
4. Need to address processes to ensure transparency, independence and information sharing

The EIA Act is under-going review. In the draft revision document, provisions have been made for the conduct of a strategic environmental assessment of development policies and

programmes. Also, more stringent measures have been imposed on proponents. For example, the area of forest likely to be impacted requires a mandatory study demonstrating how the impacts would be substantially reduced and addressed. The Act is REDD+ smart to a very significant extent.

4.2.9 National Policy on Environment, 1999

In response to the various environmental issues, Nigeria developed several sectoral policies on the environment with strategies and framework of actions. The National Policy on Environment defines the framework for environmental governance in the country. The policy identifies key sectors requiring the integration of environmental concerns and sustainability with development. The goal of the policy is to achieve sustainable development and seeks in particular to:

1. Enhance the quality of the environment;
2. Promote the sustainable use of natural resources;
3. Restore and maintain the ecosystem and ecological processes and preserve biodiversity;
4. Raise public awareness and promote understanding of linkages between environment and development; and
5. Cooperate with government bodies and other countries and international organizations on environmental matters.

The policy elaborates on issues of cross-sectoral coordination and strategies. The full content of the Warsaw Framework and some other aspects of the Cancun Safeguards which were not an issue in 1999 should be addressed when the opportunity for a review comes up. The policy supports and promotes the implementation of REDD+, and it is highly REDD+ smart.

4.2.10 National Policy on Climate Change, 2012

The strategic goal of the Climate Change policy is to foster low-carbon, high growth economic development, and build a resilient climate-society through the attainment of the following objectives:

a) Implement mitigation measures that will promote low carbon as well as sustainable and high economic growth;
b) Enhance national capacity to adapt to climate change;
c) Raise climate change-related science, technology, research, and development to a new level that enables the country to better participate in international scientific and technological cooperation on climate change;
d) Significantly increase public awareness and involve private sector participation in addressing the challenges of climate change; and
e) Strengthen national institutions and mechanisms (policy, legislative, and economic) to establish a suitable and functional framework for climate change governance.

The policy elaborates on adaptation and mitigation programmes and actions in key sectors including energy, agriculture, water, transport, and human settlement. On the forestry and land use sector, the policy direction is the promotion of sustainable forestry and land use that can respond to the challenges of climate change. The policy elaborates the need for a strategy to develop and implement a Forestry Development Programme within the context of an Integrated Land Use Planning framework for sustainability including the promotion of ecosystems integrity and environmental goods and services as well as carbon capture. The policy advocates the development and implementation of forestry development in the following activity areas:

(i) Increase forest cover through afforestation, reforestation, and prevention of deforestation.
(ii) Ensure the enforcement of forestry laws and regulations;
(iii) Enhance carbon density of plot and landscape levels through rehabilitation of degraded areas and increased tree planting activities, and promotion of agroforestry;
(iv) Encourage sustainable forest management for integrated vulnerability reduction;
(v) Adopt fiscal and regulatory measures towards reducing wood utilization particularly in construction and charcoal production;
(vi) Improve governance in forestry resource;
(vii) Ensure the sustainable use of forest resources to contribute to the livelihood of the rural communities as they adapt to climate change; and
(viii) Promote sustainable forestry that will enable Nigeria to benefit maximally from the potential of REDD+ and at the same time adequately protect individuals and communities whose traditional forest-based incomes would be impacted, through:

A. The use of fiscal and regulatory tools to achieve greater protection of forests; and initiating a change in current human activities towards the reforestation of land to increase the terrestrial carbon sink regime.
B. Maintaining a dynamic international relationship that helps to promote REDD+ activities;
C. Forestry programmes that are sensitive to the needs of the local communities and particularly to their land rights. In particular, ensure "voice and choice" in REDD+ design and implementation for local communities;
D. Collect and integrate information and fill data gaps for national REDD+ opportunities and scoping;
E. Engaging effectively those who depend on forests or deforestation and forest degradation;
F. Protecting existing forests and promoting the use of non-forested land for agriculture; and
G. The promotion of low-impact logging and sustainable forest management.

In the elaboration of the policy, there was no specific reference to REDD+ safeguards and Warsaw Framework as these two instruments were not developed at the time that the Climate Change Policy was approved. However, within the context of REDD+ implementation, the policy strategies/activities contain the essential REDD+ elements across the various relevant sectors. Overall, the Climate change policy is REDD+ smart.

4.2.11 the Green Alternative Agricultural Promotion Policy, 2016-2020

Agriculture is a significant driver of deforestation and forest degradation in Nigeria, both at the level of small-holder farmers and large-scale production. Agricultural initiatives and programmes straditionally result in a significant incursion into the forestry frontiers in meeting the demand for land. The Green Alternative Agricultural Promotion Policy (APP) aims at solving the core issues at the heart of limited food production and delivery of quality standards for the country's food production value chain as well as increasing export earnings through the involvement of and partnership building among all key stakeholders. It builds on the successes of the Agriculture Transformation Agenda (2011–2015). The policy thrust of APP includes focusing policy instruments on the sustainability of the use of natural resources (land and soil, water and ecosystems) with the future generation in mind while increasing agricultural production, marketing, and other human activities in the agricultural sector. The policy is also based on

inclusiveness and participation of all Key stakeholders. The policy thrust promotes climate smart agriculture through the following strategies:

a) Increasing public awareness of climate smart agriculture;
b) Improving the management of land, water, soil, and other natural resources;
c) Strengthening of Institutional linkages and partnerships for ensuring climate-smart agricultural governance, policies, legislation, and financial mechanisms;
d) Conducting Environmental impact assessment on major agricultural projects;
e) Promoting the use of renewable energy with the involvement of the private sector;
f) Government facilitating the production and use of soil map to improve land use and management practices; and
g) Government is promoting the increased adoption of global best practices in handling climate change, including the aspects of adaptation, mitigation, and carbon credit.

4.2.12 National Biodiversity Strategy and Action Plan, 2016-2020

The Cancun Safeguards seek that REDD+ activities take into account the multiple functions of forests and other ecosystems and that they are consistent with the conservation of natural forests and biological diversity. Nigeria has developed the NBSAP 2016–2020, to guide the conservation and sustainable utilization of biodiversity, access to genetic resources, and the fair and equitable sharing of the benefits arising from their utilization. NBSAP provides information on biodiversity and their threats and analyses institutional and legal frameworks that govern biodiversity issues in Nigeria. It makes direct references to deforestation, forest degradation, and conservation of biodiversity. As such, it covers the same land areas considered in the REDD+ Strategy – National Parks, Forest Reserves, Community Forests, Open Areas, Agricultural lands (for agro-biodiversity), Wetlands and other aquatic ecosystems.

NBSAP provides sectoral actions for mainstreaming biodiversity into national development, poverty reduction, and climate change activities. It also elaborates on programme and actions for the conservation of Nigeria's biological diversity and its sustainable use by integrating biodiversity considerations into national planning, policy, and decision-making processes. NBSAP provides frameworks for addressing –

1. Biodiversity conservation;
2. Sustainable use of biological resources;
3. Equitable sharing of benefits arising from the utilization of biological resources;
4. Conservation of agrobiodiversity;
5. Biosafety; and
6. Biodiversity-industry interface.

These are aimed at improving the quality of the natural ecosystems and the positive role in the carbon cycle and global climate change phenomena. NBSAP is REDD+ smart.

4.2.13 National Renewable Energy and Energy Efficiency Policy (NREEEP), 2015

The National Renewable Energy and Energy Efficiency Policy (NREEEP) was approved by the Federal Executive Council for the Electricity Sector on 20th April 2015. The policy is aimed at driving the development of electricity generation from biomass through the implementation of the following national strategies which are REDD+ smart:

- Effectively harness biomass resources and integrate them with other energy resources for electricity generation;
- Promote the use of efficient biomass conversion technologies;
- Encourage the use of waste wood as a source of electricity in the nation's energy mix; and
- Intensification of efforts to increase the percentage of land mass covered by forests in the country.

The government also has a deliberate policy of promoting the use of clean stoves that are fuelwood efficient. Although the NREEEP encourages the use of biomass as biofuel, the policy implementation strategies if sustainably managed, monitored, reported, and verified may also increase the carbon stock and could be eligible as REDD+ interventions.

4.2.14 National Biodiversity Strategy and Action Plan (NBSAP)

The Cancun Safeguards seek that REDD+ activities take into account the multiple functions of forests and other ecosystems and that they are consistent with the conservation of natural forests and biological diversity. Nigeria has developed the NBSAP, 2016 – 2020 to guide the conservation and sustainable utilization of biodiversity, access to genetic resources, and the fair and equitable sharing of the benefits arising from their utilization. It provides information on biodiversity and their threats and analyses institutional and legal frameworks that govern biodiversity issues in Nigeria.

NBSAP provides sectoral actions for mainstreaming biodiversity into national development, poverty reduction, and climate change plans.

The threat to biodiversity in Nigeria has prompted the adoption of cross-sectoral strategies to conserve biodiversity - from ecosystem to genetic level and covering all ecological zones including protected areas, forests, rangelands, agrobiodiversity, wetlands, and mountain biodiversity.

The strategy is meant to: “Integrate biodiversity conservation in a truly national programme of sustainable development aimed at substantially reducing poverty and designing a secure future and facilitate the growth of the Nigerian biodiversity industry as natural capital for socio-economic development of Nigeria. This is for the benefit of Nigerians and the economy in line with the principles of ecological sustainability and Social Equity.”

The strategic objective of monitoring and evaluation of activities under the NBSAP is to measure the extent to which the three principles of the CBD are being achieved, which include:

- The conservation of biodiversity;
- Sustainable use of its components; and
- Fair and equitable sharing of benefits (NBSAP, 2006)
- It provides frameworks for addressing

(i) Biodiversity conservation; (ii) sustainable use of biological resource; (iii) equitable sharing of benefits arising from the utilization of biological resources; (iv) conservation of agrobiodiversity (v) biosafety; and (vi) biodiversity-industry interface. These are aimed at improving the quality of the natural ecosystems and the positive role in the carbon cycle and global climate change phenomena.

The current NBSAP 2016 -2020 provides a strategic framework and programme instrument for the conservation of Nigeria's biological diversity and its sustainable use by integrating biodiversity considerations into national planning, policy and decision-making processes

4.2.15 Discrimination against persons with disabilities

The military administration enacted Nigerians with disability decree 1993,. The purpose of this decree is to provide a clear and comprehensive legal protection and security for Nigerians with disability as well as establish a standard for enforcement of the rights and privileges guaranteed under this decrees and other laws applicable to the disabled in the federal republic of Nigeria.
Moreover, The Senate on Wednesday, 13th July 2016 passed the *Discrimination against Persons with Disabilities (Prohibition) Bill, 2016*. The Bill seeks to provide social protection to persons with disabilities and provide safeguards against any discrimination that they may suffer from. It also establishes a National Commission that will ensure that their right to education, healthcare and other social and economic rights contained in the **1999 Constitution (as amended)** are attained. The bill awaits presidential assent.

Table 4.1: Alignment Of Policies To REDD+ Objectives And World Bank Safeguards Standards

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
Federal level			
The Constitution of the Federal Republic of Nigeria	- Specify The role of the Federal Government comes to play in its implementation of treaties and other international instruments entered into by it concerning forest products and resources. - Section 15 prohibits discrimination on the grounds of place of origin, religion, sex, status and ethnic affiliation. This is a safety net in the Constitution to respect the rights of indigenous communities and people. Section. 20 stipulates that "the State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria." - Section. 36 of the 1999 Constitution, as amended, which is contained in Chapter IV guarantees access to justice to seek redress and the right to a fair hearing. This is a broad framework to promote and support REDD+ implementation. In the case of local governments, the Constitution provides that one of their functions is to participate in the development of agriculture and natural resources other than the exploitation of minerals.	**OP. 4.04 on Natural Habitat:** Particularly section 20, Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions.	- The Constitution does not make any particular reference to the role of the Federal or State Government in forestry matters, - Rights to forest and carbon not clearly defined; Ownership and control and management of forest areas within the state remain the mandate of the respective state governments.
Draft Bill for a National Forest Act, 2003	- The bill made detailed provisions for access to genetic materials and community rights and the necessity for the free prior informed consent of communities/ indigenous people. It was not far-reaching on principles for REDD+ implementation as this was not within the international arena at that time.		- The draft bill is out-dated,and most of the provisions need to be reviewed and updated in line with the current national and global imperatives and to support REDD+ implementation in Nigeria. - Not passed or presented to Assembly - It not far-reaching on principles for REDD+ implementation as this was not within the international arena at that time.
Land Use Act, 1978	- By the provisions of s.1 of the LUA, all lands in Nigeria are under the control of the respective State Governors - The Federal Government does not play a major role in land administration other than about federal land acquired before the enactment of the LUA and retains such lands free of the requirements of the LUA. Other Acts relating to land		No record of any community forest land that has been registered under the LUA. s.28was invoked in the conversion of some forests for oil palm

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
	acquisition for federal projects: the Minerals and Mining Act, 2007; (ii) Oil Pipelines Act, Cap 07 LFN 2004; and (iii) Electric Power Sector Reform Act, No. 6 of 2005 - The local governments are not vested with any title in the land. By s. 2(1)(b) of the LUA, a Local Government's only responsibilities is in the control and management of land in non-urban areas for which it is entitled to grant customary rights of occupancy in such areas. - s.28 which gives the Governor of a State an inherent power of revocation of land for the public interest. This power is extensive, broad, uncertain, magisterial, and virtually judicially uncontrollable (Umezulike, 2011). The exercise of this power has implications for the security of land tenure, and permanence - s.34 confer proprietary rights on possessor or owner of existing titles/rights to developed lands in urban areas. In non-urban land, the holder or owner under customary law or otherwise are deemed grantee of a customary right of occupancy by the provisions of s.36 by the appropriate Local Government in Nigeria. However, these rights could be abridged by the statutory powers of the Governor to alienate land for the public interest. - Although LUA transferred all land-management to the state, traditional institutions and various community-based groups continue to hold important social, custodian, and political functions in land matters (Schoneveld, 2014). Most forest lands, outside institutional holdings, are held under communal ownership. - The management of community lands was through community Bye-laws and regulations, with provision for sanctions enforceable by the community members in case of any erring member of the community. - The requirement of obtaining the consent of the governor for a statutory right of occupancy, or from the local government for customary rights of occupancy holders, before the transaction in the land, can be effected cumbersome and expensive. - The process of obtaining title to land is expensive and tedious No record of any community forest land that has been registered under the LUA in CRS.		development which culminated in some of the investors encroaching into the Cross River National Park along the MCC Road and some other state-owned forest reserves (Schoneveld, 2014).

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
The Minerals and Mining Act LFN 2007	- The act promotes and supports REDD+ activities through: - Exclusion of lands constituting National Parks from minerals exploration and exploitation (s.3); - Prohibition of mineral exploration in sacred areas or injury or damage to sacred/venerated trees (s.98); to maintain sacred values of the forest for local people - Restoration and reclamation of mined lands (sections 114 & 115); - The requirement for Environmental Impact Assessment (EIA) before the grant of license or permit (s.119); and - The establishment of the Environmental Protection and Rehabilitation Fund (s.121). - - S.22 gives a superior right to use the land for mining purposes over the statutory right of occupancy or customary ownership of such land. It provides that the use of land for mining operations shall have priority over other uses of land, as it constitutes an overriding public interest, within the meaning of the Land Use Act - This issue of minerals and mining is one of such cases where the right is exercisable by the Federal Government and not the Governor of a State. - Some provisions of the Act promote and support REDD+ activities and the Cancun safeguards. The exclusion of lands constituting National Parks from minerals exploration and exploitation (s.3); prohibition of mineral exploration in sacred areas or injury or damage to sacred/venerated trees (s.98); restoration and reclamation of mined lands (ss.114 & 115); requirement for Environmental Impact Assessment (EIA) before the grant of license or permit (s.119); and establishment of Environmental Protection and Rehabilitation Fund (s.121). - The Act is, however, silent on the exploration and exploitation of minerals and mining within forest reserves and ecologically sensitive areas or critical ecosystems. This Act is very relevant to REDD+ implementation because subsurface rights take precedence over land and forest management and can, therefore, cause reversal and displacements and compromise results-based payments regimes.	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable. **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development, OP 4.11: Physical Cultural Resources: mitigation measures when there are adverse impacts on physical, cultural resources or avoid if possible	The Act is silent on the exploration and exploitation of minerals and mining within forest reserves and other ecologically sensitive areas or critical ecosystems which are under the control and management of the state government.

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
Environmental Impact Assessment Act Cap E12 LFN 2014	- There are nineteen thematic areas of mandatory study activities. The drivers of deforestation for which mandatory study is required include agriculture, infrastructure, logging and conversion of forest to other land use, mining, and housing. E.g., need EIA if Conversion of hill forest land to other land use covering an area of 50 hectares or more; conversion of mangrove swamps for industrial, housing or agricultural use covering an area of 50 hectares or more; and others (see p. 15 of study). - The EIA process provides for the public display of the draft EIA report as well as public review. This strengthens stakeholder participation and public access to information and participation by affected people and other stakeholders. -	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop an appropriate pest management plan to address risks	- However, the law is silent on access to the final approved EIA report of a project which is recommended for stakeholders monitoring and reporting on the level of compliance. - The main gaps identified in the EIA process, include no clear procedural guidelines on criteria/indicators or application of precautionary principles or defined parameters for assessment of the ecosystem values in consideration of EIAs for mining rights. - Also question re enforceability of EIA requirements in the case of government-sponsored projects funded sorely from budgetary allocations.
Freedom of Information Act, 2011, LFN	- To make public records and information more freely available, provide for public access to public records and information, protect public records and information to the extent consistent with the public interest and the protection of personal privacy - …protect serving public officers from adverse consequences of disclosing certain kinds of official information without authorization and establish procedures for the achievement of those purposes and; for related matters. - This law is intended to promote good governance in the conduct of government business and therefore supports the REDD+ implementation		Implementation bottleneck
Endangered Species Act (Control of International Trade and Traffic in Endangered	- This Act provides for the conservation and management of Nigeria's wildlife and the protection of some of her endangered species in the face of extinction as a result of over-exploitation, as required under certain international treaties to which Nigeria is a signatory, e.g., CITES and CBD. - [Little relevance to safeguards? May support protection of the habitat of endangered species? Alternatively, limiting logging/trade of certain timber species?]	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions	- *Lack of]* regular updating and inadequacy of scientific knowledge on species. - Low public participation inadequate enforcement capacity.

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
Species), Cap E9 LFN 2004		**OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Park Service Act Cap N65 LFN, 2004	- Established the National Park Service (NPS) responsible for the preservation, enhancement, and protection of wild animals and plants and other vegetation in the National Parks (NPs) - Protected areas for biodiversity management could overlap with potential REDD+ activities insofar as habitat for flora and fauna can be preserved while also reducing the emission of greenhouse gases. - The Cancun Agreements Safeguards provide that REDD+ activities take into account the multiple functions of forests and other ecosystems and be consistent with the conservation of natural forests and biological diversity.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	- Cross River National Park is one of the seven NPs managed under the Act. - Management of the enclave host communities and their livelihood needs is a challenge
Regulations of the National Environmental Standards and Regulations Enforcement Agency (NESREA)	Relevant ones may incl: a) **National Environmental** (**Soil Erosion and Flood Control) Regulations, S.I. No. 12 of 2011** - to regulate all earth-disturbing activities, practices or developments for non-agricultural, commercial, industrial and residential purposes b) **National Environmental (Access to Genetic Resources and Benefit Sharing) Regulations, S. I. No. 30 of 2009** - The overall purpose of this Regulation is to regulate the access to and use of genetic resources and ensure fair and equitable sharing of the benefits from their utilization. c) **National Environmental(Watershed, Mountainous, Hilly and Catchments Areas) Regulations, S. I. No. 27 of 2009** - This Regulation seeks to protect water catchment areas and ensure the minimization of significant risks and damage to ecological and landscape aspects.	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop an appropriate pest management plan to address risks	Lack of institutional manpower for conservation compliance monitoring and enforcement
National Policy on Environment, 1999	- The goal of the policy is to achieve sustainable development and, in particular to (i) enhance the quality of the environment; (ii) promote the sustainable use of natural resources; (iii) restore and maintain the ecosystem and ecological processes and preserve biodiversity. Furthermore, it will (iv)	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance,	Contains broad guidelines that could be supportive of REDD+ implementation and interpretation of some provisions on the safeguards could be conjecture. No specific

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
	raise public awareness and promote understanding of linkages between environment and development; and (v) cooperate with government bodies and other countries and international organizations on environmental matters.	and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development access as well as right to seek redress	mention of REDD+, which was not a global agenda in 1999
National Forest Policy, 2006	- The overall objective of the National Forest Policy is to achieve sustainable forest management that would ensure sustainable increases in the economic, social and environmental benefits from forests and trees for the present and future generations including the poor and the vulnerable groups. - Promotes and support the decentralization of roles and functions amongst stakeholders (public, private, NGOs, Community Based Organizations (CBO), and civil society) towards the attainment of sustainable management of the forest. - It promotes helping citizens, especially the rural communities and forest-dependent persons, to better adapt to climatic change, and to benefit from emerging carbon markets. -	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions OP 4.10: Indigenous Peoples: Recognize indigenous people and their rights to access as well as right to seek redress **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	- Strategies for effective cross-sectoral coordination inadequate. - There is a need to cover the cost of REDD+ implementation and opportunity cost and appropriate benefit sharing formula - Adequate measures or mechanisms are not in place to respond to local community grievances. - Indigenous peoples and forest-dependent local communities not sufficiently involved in decision-making about REDD+ project design, planning, and implementation. - Not clear on the definition of carbon ownership. Many policy issues with regards to Cancun Safeguards and the Warsaw Framework Agreement are not contained in the policy documents. This policy predates the REDD+ process…. - No existing procedure on how to implement Free Prior Informed Consent (FPIC) on all activities about the livelihoods of indigenous people and host communities.

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
			-
National Policy on Climate Change, 2012	- Objectives include: o Strengthen national institutions and mechanisms (policy, legislative and economic) to establish a suitable and functional framework for climate change governance o Significantly increase public awareness and involve private sector participation in addressing the challenges of climate change o It advocates the development and implementation of forestry development, including: o Improve governance in forestry resource. o Ensure the sustainable use of forest resources to contribute to the livelihoods of the rural communities as they adapt to climate change. o Promote sustainable forestry that will enable Nigeria to benefit maximally from the potential of REDD and at the same time adequately protect individuals and communities whose traditional forest-based incomes would be impacted. - Suggests: o Forestry programmes that are sensitive to the needs of the local communities and particularly to their land rights. In particular, ensure "voice and choice" in REDD design and implementation for local communities. o Collecting and integrate information and fill data gaps for national REDD opportunities and scoping. o Engaging effectively those who depend on forests or deforestation and forest degradation.	**OP 4.01 Environmental Assessment:** Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable **OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions OP 4.10: Indigenous Peoples: Recognize indigenous people and their rights to access as well as right to seek redress **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Biodiversity Strategy and Action Plan (NBSAP)	- It provides frameworks for addressing (i) biodiversity conservation; (ii) sustainable use of biological resource; (iii) equitable sharing of benefits arising from the utilization of biological resources; (iv) conservation of agrobiodiversity (v) biosafety; and (vi) biodiversity-industry interface. These are aimed at improving the quality of the natural ecosystems and the positive role in the carbon cycle and global climate change phenomena. - The current NBSAP 2016 -2020 provides a strategic framework and programme instrument for the conservation of Nigeria's biological diversity and its sustainable use by	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions OP 4.10: Indigenous Peoples: Recognize indigenous people and their rights to access as well as right to seek redress	

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
	integrating biodiversity considerations into national planning, policy, and decision-making processes	**OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Policy on Drought and Desertification, 2007	- The main thrust of the policy is to reduce (or where possible prevent) the adverse effects of drought and desertification, and halt or even reverse the processes of desertification, so that people's lives are immensely improved and poverty reduced. - It provides strategies for integrated land management, including afforestation, forest conservation and protection, agroforestry, and active stakeholder engagement. - The policy and NAP (National Action Programme (NAP) to Combat Desertification and Mitigate the Effect of Drought, 2000) promote and support REDD+ activities and safeguards.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Policy on Erosion, Flood Control and Coastal Zone Management, 2005	- Strategies include: (iv) protection of the marginal lands by limiting utilization to their carrying capacity; (v) subjecting resources users and developers to guidelines to reduce the vulnerability of the environment to flood and erosion-related disasters - …implications for climate change adaptation measures that would need to be adopted to increase people resilience.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	
National Agricultural Policy, 2001	- A vital feature of the policy is to reduce risks and uncertainties in agriculture by reducing the natural hazard factor militating against agricultural production and security of investment. - The country is pursuing several agricultural development programmes, including the development of grazing reserves and ranching and agricultural productivity expansion (including tree and food crops) towards the attainment of food security. - The issue of food security and poverty reduction is crucial to national security and sovereignty. - The opportunities for synergies between the agriculture and forestry sectors should be enhanced to ensure that forested lands are not converted to agricultural production in a manner that compromises REDD+ activities.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	These initiatives have expanded into forestry frontiers in meeting the increased demand for more land. The country has in the past made significant investments to increase productivity in agricultural sectors, and most cases had resulted in the conversion of forests to agricultural land

Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
National Renewable Energy and Energy Efficiency Policy (NREEEP), 2015	- This is aimed at driving the development of electricity generation from biomass - The government also has a deliberate policy of promoting the use of clean stoves that are fuelwood efficient. - …if faithfully implemented, monitored, reported, and verified could help to increase the carbon stock, and such a project may be eligible as a REDD+ project. - However, the risk of emission displacement and reversals through the increased intensity of forest biomass use and conversion of forest lands for biofuel production	**OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	p.22
National Forest Development Programme(s)	a) **Presidential Initiatives on Afforestation Programme, 2009 -** The Federal Government approved that 60% of the accrued Federal Government Share of the Ecological Fund be committed to massive afforestation programme. Funding constraints stalled the implementation of the programme after the first one year in 2011/2012 planting season. b) Approved Forestry Development Programme, 1999; and c) Report of the Inter-Ministerial Committee on Combating Desertification and Deforestation, 2000 The broad objectives of all NFDPs in Nigeria were consistent with the REDD+ activities and safeguards such as the requirement for actions to be consistent with the objectives of national forest programmes and relevant international conventions and agreements; transparent and effective national forest governance structures; effective participation of relevant stakeholders; consistency of actions with the conservation of natural forests and biological diversity.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	Governance issues exacerbated by inadequate funding and political commitment among other competing sectoral needs.
Great Green Wall For The Sahara And Sahel Initiative National Strategic Action Plan (GGWSAP), 2012	- It is a principal tool for the implementation of the AU Agreement to Combat Desertification. This has been domesticated in Nigeria as the Great Green Wall Project (GGWP) under the Great Green Wall Agency - The main objective is to combat land degradation and desertification to protect and restore ecosystems and essential ecosystem services that are key to reducing poverty, enhancing food security, and promoting sustainable livelihoods.	**OP. 4.04 on Natural Habitat:** Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions **OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development	This has been domesticated in Nigeria as the Great Green Wall Project (GGWP) under the Great Green Wall Agency, but the level of implementation is below expectation and target

State level			
Policies and laws	Key points related to redd+	Opportunity for world bank safeguard	Challenges
Forest Policy of state	- Forest Policy is to encourage and support an aggressive ecological restoration of indigenous species and foster the re-direction of development resources. - Extraction of forest resources	**OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop an appropriate pest management plan to address risks	- Most of the laws need reviews - Support commercial forestry and granting of a concession - Does not consider sensitive ecological environment such as watersheds
Agricultural Policy of states,	- Agricultural Policy to "provide an enabling environment and service towards sufficiency in Agricultural Production guaranteeing for security and the wholesome development of our resources." - The promotion of primary production of all items of agricultural produce (including crops, livestock, and fisheries) - Ensuring access to land by those who wish to engage in farming; - The control of plant and animal pests and diseases - Ownership, management and control of forest estates held in trust for the local communities - Poverty reduction and improve standard of living	**OP 4.36: Forest: I**ntegrate forests effectively into sustainable economic development **OP 4.09: Pest Management:** Identify pesticides that may be financed under the project and develop appropriate pest management plan to address risks	For example in CRS, at least 10 of the acquisitions are located within forest reserves and encroached into the Cross River National Park, with 57,855 ha conflicting with protected areas; many of which comprising dense and closed canopy forests located within important connectivity zones (Schoneveld, 2014). - The agricultural policy of State could be a threat to the REDD+ activities if the forest estates are converted to agricultural plantations without provisions for outset replacement.
Environmental policies of states	- Advocates a low carbon/green economy; effective adaptation to climate changes; Conservation of forest resources to provide Eco-services for the reduction of Green House Gas (GHG) emission and global warming		
Land use Policies	- Respect right of communities, recognize Land use plan and ensure efficient use of land		
Policy on water and sanitation	- Efficient management of water resources and increasing access to water and sanitation services for all (men, women, and children), the poor and other vulnerable groups		

4.3 National and States institutional framework for forest and natural resource management

The environment has emerged as one of the most topical issues of contemporary times. This is in the realization of the ever-increasing negative environmental impacts of rapid industrial development. As natural resources are being exploited at rates unprecedented in human history, the quality of the environment deteriorates, and many of the development projects become unsustainable. This has, therefore, necessitated the enforcement of relevant environmental protection laws to protect and restore the Nigerian environment.

The legislation outlined in the preceding parts of this chapter is derived from Nigerian Government laws and regulations, State and local Government laws as well as international conventions and other instruments that Nigeria is a signatory to. The World Bank Safeguard Policies are also discussed in addition to other relevant voluntary standard tools. The relevant administrative and legal framework/structure and then the relevant regulatory instrument and policies. Hazardous substances; and promote cooperation with similar bodies in other countries and international agencies connected with environmental protection. In response to her mandate, the Ministry has developed far-reaching legal reference instruments for:

- Achieving environmentally sound management of resources and sustainable development across all major sectors of the economy.
- For enforcement mechanism, the Ministry has two agencies namely:
- National Oil Spill Detection and Response Agency set up by NOSDRA ACT, 2005 and National Environmental Standards and Regulations Enforcement Agency set by NESREA ACT 2007.

The National Environmental Standards and Regulations Enforcement Agency is most directly relevant to the proposed project.

4.3.1 National Environmental Standards and Regulations Enforcement Agency.

The Federal Government in line with Section 20 of the 1999 constitution of the Federal Republic of Nigeria established the National Environmental Standards and Regulations Enforcement Agency {NESREA} as a parastatal of the Federal Ministry of Environment.

The bill for an act establishing the agency was signed and published in the Federal Republic of Nigeria Official Gazette No.92, Vol. 94 of 31st July 2007. By the NESREA Act, the Federal Environmental Protection Agency Act Cap F 10 LFN 2004 was repealed.

NESREA has responsibility for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology including coordination, and liaison with, relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws policies and guidelines. Its role in impact mitigation monitoring cannot be over emphasized in the project.

4.3.2 Federal Ministry of Agriculture and Rural Development (FMARD).

The Federal Ministry of Agriculture and Rural Development ensures that the citizenry are provided with credible and timely information on government activities, programs, and initiatives in the development of agriculture and food production; while creating an enabling technological environment for the socio-economic development of the nation

As part of the Transformation Agenda for import substitution and creation of rural employment, saving foreign exchange, the Ministry has adopted a multi-disciplinary, private-public collaboration approach to increase crop yields such as for cassava.This is with the view toorganize into cost-effective supply chains and link them to large-scale factories; which in turn

provides employment for landless labour and offers opportunity to develop the agro-service industry.

4.3.3 Federal Ministry of Water Resources (FMWR)

The Federal Ministry of Water Resources (FMWR), initially created in 1976, is responsible for formulating and coordinating national water policies, management of water resource, including allocations between states, and approving developmental projects.
Specifically, the functions of the FMWR include:

- Establishment and operation of National Water Quality Laboratories and Monitoring Network and water quality standards.
- The maintenance of a database on water supply and sanitation facilities and performance.
- The mobilization of national and international funding and technical support. Promote and coordinate other collaborative activities by other government and Nongovernmental agencies in the sector.
- Provision of technical support and assistance to State and Local Government Water Supply and Sanitation Agencies and community water supply andsanitation committees.
- The creation of an enabling environment for meaningful private sector participation in the sector.
- Provision of a framework for the regulation of private sector participation in water supply and sanitation.
- Assistance to individual agencies, and be responsible for the maintenance of the primary hydrological network.

Specifically, the ministry through the Nigeria Hydrological Service Agency (NIHSA) will provide the technical assistance on water resource (underground and surface water) assessment for the project in general.

4.3.4 Federal Ministry of Health

The Federal Ministry of Health (FMoH) has a responsibility to manage health services for the prevention and control of communicable and non-communicable diseases. For the HPDP2 and under the implementation of ESMF, the Ministry has the following responsibilities:

- Coordinate the efforts of state, local government, and private health care providers and development partners to ensure effective implementation.
- Ensure the provision of adequate equipment in tertiary and specialized hospital services.
- Provide technical assistance to state ministries of health in the development of plans, technical materials, policies, and standards to properly perform their functions.
- Issue and promote adherence to norms and standards, and provide guidelines on health matters, and any other matter that affects public health, promoting adherence to norms and standards for the training of human resources for health.
- Supervise the provision of health services for the management, prevention, and control of communicable and non-communicable diseases,e.g., HIV/AIDS.

4.4 State environmental protection agency or authority

Each state within Nigeria is empowered to make laws for the protection of its environment, within its jurisdiction. State Environmental Protection Agency or Authorities (SEPAs) are responsible for the assessment of all public or private projects activities within the states. The roles of SEPAs in this project include;

1. Conducting public enlightenment on environmental sanitation and management;

2. Co-operating with the Federal and Local Governments, Statutory bodies and Research Agencies on matters relating to the project;
3. Pollution control and environmental health in the states;
4. Collaborating with FMEnv and other agencies to achieve effective prevention of abatement of trans-boundary movement of waste

4.5 Legal and administrative structure at Local Government Area

The Local Government Councils in Nigeria, without any specific laws on environmental management, are charged with the following responsibilities, among other things:

- Coordinating the activities of the Local Government Council;
- Maintenance of Law and Order in collaboration with Law Enforcement Agencies;
- Collection of taxes and fees;
- Establishment and maintenance of cemeteries, burial grounds, and homes for the destitute or infirm.
- Establishment, maintenance, and regulation of markets, motor parks, and public conveniences;
- Construction and maintenance of roads, streets, drains and other public highways, parks, and open spaces;
- The naming of roads and streets, and numbering of houses;
- Provision and maintenance of public transportation and refuse disposal; and
- The registration of births, deaths, and marriages;
- The local government will be involved inproject/sub project screening stage and ESIA review level.

Administrative Framework:

The relevant administrative structures are presented here below:

Federal Level Institution

1. National Council on Environment

This consists of the Minister of Environment, Minister of State for Environment, and State Commissioners of Environment and is the apex policy making organ on the environment. The Council participates in the formulation, coordination, harmonization and implementation of national sustainable development policies and measures for broad national development. The Council meets regularly to consider and receive States' reports on environmental management; national environmental priorities and action plans as it affects Federal and State governments; and exchange ideas and information and where necessary the Federal Government through Federal Ministry of Environment give financial and technical assistance to States having problems in implementing environmental policies.

2. The Federal Ministry of Environment

In Nigeria, the power of regulation of all environmental matters is vested in the Federal Ministry of Environment (FMENV), hitherto, the now defunct Federal Environmental Protection Agency (FEPA) which was set up by Act 88, of 1988) Set up by Presidential Directive No. Ref. No. SGF.6/S.221 of October 12, 1999.

The Ministry Is empowered with the regulation of all environmental matters, protecting, enhancing and preserving the Nigerian environment

- It carries out the Federal Executive Council decisions on environmental matters.

- Mandated to coordinate the environmental protection and conservation of natural resources for sustainable development in Nigeria, some of which are:
- Monitor and enforce environmental protection measures;
- Enforce international laws, conventions, protocols, and treaties on the environment;
- Prescribe standards and make regulations on air quality, water quality, pollution and
- Effluent limitations, the atmosphere, and ozone layer protection, control of toxic and

Table 4.2 Institutional roles and responsibilities in REDD+

Institutions & Stakeholders	Primary function	REDD+ roles
Federal Ministry of Environment 1. Department of Climate Change	Conservation and Management of Nigeria's Environmental resources in sustainable manner.	Lead Agency for Nigeria's Climate Change Policy and designated national authority to UNFCCC.
2. National Advisory Council on REDD+	Designated National Authority for Climate Programme in Nigeria	Provide a legal, financial and institutional platform for mainstreaming REDD+ into overall National Climate Change Policy
3. Federal Department of Forestry	Lead Agency for planning, policy, and regulations for the Conservation, Protection and Sustainable Management of Nigeria's forest resources	Provide policies guidelines for sustainable forest management (SFM) in Nigeria including REDD+
4. National Planning Commission	Responsible for overall national Development Policies Implementation	Integration of REDD+ into National Development Programmes including Budget processes
5. Fed. Ministry of Agric. & Rural Development	Agriculture and rural development policy formulation and projects implementation	Integration of REDD+ into National Agricultural and Rural Development Policies and programmes (Agriculture is a major deforestation driver in Nigeria)
6. Nigeria Air Space Research and Development Agency (NASRDA)	Provision of maps and data on Nigeria's natural resources and land use and monitor change therein	Provision of vegetation and land use change maps and data (for MRV, Carbon/Biodiversity mapping)
7. Federal Ministry of Women Affairs	Mainstreaming gender equality and women affairs into national and international development	Ensuring active participation of women in REDD+ programmes and promotions of equitable distribution of REDD+ benefits to women who have particular linkages with the forest.
8. Research Institutes (Universities, Forest Research Institute of Nigeria, etc.)	Teaching and research in National resources in sustainable Forest Development in Nigeria	Studies and research on social, economic and technical aspects of REDD+
9. NGO/CSO Stakeholders (WCS)	Advocacy, studies, awareness creation and capacity building in partnership with institutions and programmes on climate change and sustainable environmental management in Nigeria	Studies, awareness creation, capacity building, and liaison between REDD+ implementing agencies and Stakeholders. (However, yet to have an effective coordination platform at the national level)
10. National REDD+ Forum	To serve as a platform for cross-fertilization of ideas on planning and implementation of REDD+	Facilitate regular update and exchange of feedbacks between REDD+ implementing Agencies and Stakeholders
11. Media	Dissemination of information on CC and other matters to the general public	Dissemination of information on CC and other matters to the general public
12. Forest-related private sector	Management of private forests, timber production, agro-forestry based ecosystem restoration	Investment and Best practices for forest conservation and enhancement of Carbon stocks, Carbon projects

13. Federal Ministry of Power, Works, and Housing (formerly Federal Ministry of Energy)	Policies and regulations on energy including renewable energy	Enhancement of access to alternative and clean energy for forest communities to reduce pressure on fuelwood
14. Federal Ministry of Finance	Financial policies and regulations, including international financial mechanisms	Advise on carbon finance and REDD+ financial mechanism
15. National Park Service	Protection, management and biodiversity conservation in National Parks/Protected Areas	Joint implementation of REDD+ project activities including biodiversity cobenefits and other ecosystem services
16. UN Donor Agencies	Technical and financial assistance/collaboration on national and international development programmes, including CC	Already involved in REDD+ planning and implementation in Nigeria
State Levels	**Primary function**	**REDD+ roles**
1. State Forestry Commission	Manage and protect the forest estate, carry out regeneration and afforestation programmes; coordinates community and private forestry activities in the state	Provide State REDD+ Desk Coordinate all REDD+ activities in the state. Liaise with the National REDD+ secretariat
2. State Technical Committee on REDD+	REDD+ readiness oversight and advice	Provide overall governance in the direction of REDD+ in the state. Co-ordinate the activities of the technical sub-committees
3. Legal sub-committee	To ensure that REDD+ programmes are protected by law	Integration of REDD+ activities into the state legal instruments
4. MRV sub-committee	To undertake monitoring and reporting of the REDD+ programmes in the state	Monitor changes in the forest cover and carbon stocks in the state
5. Stakeholders' sub committee	Ensures the participation of all stakeholders in the REDD+ process in the state	Raising awareness, promote dialogue, foster collaboration, identify stakeholders needs and concerns in the REDD+ process in the state
6. Stakeholders' forum	Articulate stakeholders interest and concerns	Collaborate with the state REDD+ secretariat to ensure full participation and support of all stakeholders in the REDD+ programmes in the state
7. State Climate Change Committee	Articulate climate change policies and programmes and facilitation of their implementation in the state	Monitor and ensure the implementation of REDD+ activities in the state
8. Forest Dependent Communities (those living within/around the forest and directly dependent on the forest)	They are custodians of the forest	Create a conducive environment at the site level for REDD+ activities
9. Local NGOs and CSOs	They work with forest communities to promote sustainable forest management.	They provide oversight of monitoring and reporting. They help build the capacity of local communities in finding alternative livelihood systems. Also build capacity in other, related areas. Also, addressing human rights issues about resettlement and displacement of people and their economic activities, health and other social & environmental safeguard issues.
10. Academia	Education, Research, and Community Service	Provide research, collate/manage data to support REDD+ process in the state, collaborate with other agencies to undertake REDD+ related research/dissemination of research results. Provide training and capacity development for REDD+ programmes.

4.6 Local/Community Institutional Arrangement

Table 4.3: Institutional arrangement in communities

S/N	Community Governance Structure	Roles
1	Council of Chiefs and Elders	Highest traditional authority, which has executive, legislative, and judiciary powers in running the affairs of the community, including natural resource management. It makes rules for the community, oversees the implementation of community projects and activities, and resolves conflicts between stakeholders - groups or individuals.
2	The Town/Village Council	In-charge of the day-to-day administrative responsibilities of the Council of Chiefs. It reports to the Council of Chiefs which may assign it specific tasks. In some communities.
3	Traditional deity (gods and goddess highly worshiped by the community assumed to bring fortune and misfortune on disobedience)	Enforce law and order in the community. Enforce sanctions in severe cases of violation of community by-laws or where the violator fails to comply with the decision of the Council of Chiefs.
4	The age grade (a socio-cultural group with People within the same age range particularly among the youths)	Carry out specific activities such as boundary cleaning of forest areas, maintenance of access roads to farm and community, etc.
5	Women's Association	The women's group is also responsible for regulating migrant women's access to land and other natural resources. An essential role of the women's group in many communities is sensitization and regulation of access to and use of NTFPs by outsiders. Women also play a significant role in regulating and monitoring trade in forest products.
6	The Youth Council	The Youth Council plays an investigative, monitoring, and law enforcement role. Where necessary it apprehends and hands over defaulters to the Council of Chiefs.
7	Forest products and agricultural produce associations	Regulating the extraction and marketing of forest resources within their communities
8	Forest management committees	Facilitate sustainable community forest management through the creation of conservation awareness, and monitoring of forest activities, especially logging and deforestation. Currently, this is unique to Cross River State.

4.7 Institutional assessment & capacity of REDD+ related stakeholders

The unified National land policy in Nigeria has its origin from the Land and Native Right Act 1916 when the colonial masters introduced to protect the Rights of natives and also have access to land for development projects. That policy allowed the natives to own land and freely administer by shared governance but subject to the regulation and control of the Federal Government. Between 1916 and 1962, there were series of amendments when eventually 1962, tagged Land Tenure Law was reduced to apply toNorthern Nigeria while the rest of Nigeria continued with the 1916 Act as amended. The military re-enacted the 1962 law and tagged it Land Used Decree in 1978 and forced it on the whole of Nigeria which has become the National policy.

The aim and objective of the law were to preserve and to protect the “rights of all Nigerians to use and enjoy the land in Nigeria and the natural fruits thereof in sufficient quantity to enable them to provide for the sustenance of themselves and their families’’. By this, the ownership rights of all the communities together with the Natural and artificially forestry were transferred to the State Governors to hold in trust for the people while individuals, corporate organizations, etc. had rights to use only.

With that, the forestry resources were automatically controlled by the State while the original owners had the right to use subject to the approval of appropriate authorities. The subject authorities, in this case, were the various Departments of Federal, State, and Local Governments. The former traditional stools surrendered their original rights to the State. The State had rights to destroyed any forestry and change to another use, i.e., Roads, dams, buildings, etc but subject to the payment of compensation to initial owners now under the policy tagged ‘’ Deemed Right of Occupancy Holders’’.

In each State and LGC, a special committee tagged Land Use, and Allocation Committee [LUAC] and Land Advisory Allocation Committee [LAAC] are to be established respectively. Since much of the forestry resources in Nigeria are situated in the rural areas, the LAAC of the respective LGA are the institutions to initiate most actions but subject to the State Governors approvals. This has helped to preserve some forestry’s that could have been destroyed now if not regulated. The seriousness of this policy depends on each Local Government Area and the State Government.

The forestry’s and other Lands initially held by individuals were reduced to not more than 500 Hectares for agricultural use and 5,000 hectares for grazing purpose. This has remained a policy without actual application in any part of the country. The above notwithstanding, the State reserves the right to revoke any title for overriding public interest in any part of the country, including the LGC areas. However, this is subject to payment of compensation as it affects all the development, including crops, trees, and buildings on the land.

With these policies in place, many states and LGA have enacted state laws to control and regulate the use of forestry resources in their areas of jurisdictions. Some have also established bodies cooperate and some institutional departments to directly or indirectly manage or supervise the management of forestry resources

Customarily, land tenure is male-dominated under the patrilineal system, and so women rarely take part in decisions relating to land. Their rights to land are subjected to their fathers’ will before marriage and to their husbands’ after marriage. Women have no voice in any decisions on land matters. Even when women have unrestrained access to resources, there may still be constraints in access to and control over benefits derived from the mobilization of resources
Institutional Capacity;

A strong institutional framework has been put in place to enhance the sustainable management of the state’s forest resources. The Nasarawa Geographic Information Service (NAGIS) has been strengthened to produce up-to-date imageries of the general vegetation resources of the state in general and those of the forest resources in particular. Tree count analysis for 1ha of land undertaken by NAGIS is shown in Figure 1 as an example of its capability. In addition to the mapping of existing forest reserves, NAGIS has also supported the Nasarawa Ministry of

Environment to identify possible REDD+ pilot sites and produced REDD+ mapping guidance by December 2011.

There is also an ongoing initiative to harmonize the State's policies that are related to forest management and environmental sustainability to foster the enabling policy environment and have a standard approach to sustainable forestry in the state. In addition, the capacities of various institutions managing forest resources in the state in one form or the other (Nasarawa State Agricultural Development Project; Nasarawa State Urban Development Agency; Local Government Departments of Agriculture; Ministry of Agriculture and Natural Resources (Department of Forestry); Ministry of Water Resources and Rural Development; and Nasarawa

4.8 Institutional/organizational framework for the management of Nigeria REDD+ programme

Management Institutions:
The following institutions share tasks/responsibilities in forest management in Ondo:
Forestry Commission at the State Level will:

- Co-ordinate programmes and initiatives
- Provide advice to Government on demand from the communities

Forest Estate Management Committees are to drive the programme implementation in collaboration with the Forestry Commission.

- Making users comply with rules and regulation of sustainable forest management (Forest Concessionaires, Groups of NTFP collectors and Chain Saw Operators
- Formation of Community-Based Organizations (CBOS) to further the cause of sustainable forest management.

The second very important vehicle for the entrenchment of community-based forest management practice, and which is required to partner with the Forestry Commission, is the formation of local Forest Estate Management Committees (FEMC) in each Community or combination of Communities as the case may be.

The Forest Management Committee (FMC) in communities makes plans, recommend laws, implement sustainable forest management, organize the protection of the forest, and exercise overall control over forestry matters on behalf of the community. The approach in some communities is through coordinated monitoring of the forest through information from hunters and women who work in various areas of the forest regularly; supervision of the sustainable exploitation of the forest; arrest and sanctions of offenders.

The Village Council is the highest decision-making body in our community and includes the village administrators and Village Heads (the Chiefs). The Council approves all the regulations and responsibilities set down in these bylaws. It superintends over the enactment of laws about the forest and the various resources found within them. The Council also supervises the implementation and the enforcement of penalties for those who break these bylaws.

4.9 Alignment of the country's existing policy and legal framework with world bank safeguards

The constitution of the Federal Republic of Nigeria is no doubt the law upon which other laws in Nigeria derived its validity and effectiveness. By the provisions of section 1(3) of the 1999 Constitution of the Federal Republic of Nigeria, the Constitution is supreme and renders every

other law, be it Act of National Assembly, Laws made by State house of Assembly, bye-laws by the local Government and any other law, if in conflict with any of the provision of the constitution, such law shall be void to the extent of the inconsistency.

The National Policy on Environment was first adopted in Nigeria in 1991 and was last revised in 1999, before the adoption of the new National policy on Environment in 2017. With particular regards to the provisions dealing with environmental protection, the 1999 Constitution is credited to be the first constitution, in the history of Nigeria, to make provisions for the protection of the environment. This is irrespective of the fact that by the very tenor of the constitutional provisions, the said provisions are arguably not justiciable and therefore, unenforceable in a Court of law. However, it is instructive that under section 20 of the said Constitution, it is unequivocally provided that "the State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria" while Section 16(2) expressly provides that: "the State shall direct its policy towards ensuring: the promotion of a planned and balanced economic development." In a similar vein, Section 17(2)(d) provides for the ''furtherance of the social order, exploitation of human or natural resources in any form whatsoever for reasons, other than the goal of the community shall be prevented."

It may be noted that the above provisions are sound to the extent ofthe signposting of the ideal of protecting the environment, the fact that the said provisions are lumped with other pious provisions which are enacted to be non-justiciable renders their biting powers impotent. This is more worrisome especially as the above provisions fall short of constitutional developments in South Africa, Ethiopia and other African countries where the right to a clean environment, for example, is now regarded as a fundamental human right and so made justiciable in those jurisdictions. This is however, without prejudice to recent developments in Nigeria's judiciary where some courts have held that environmental rights under the constitution remain justiciable. With the recent development regarding the justifiability of environmental rights under the constitution, this has given some level encouragement to the actors in the enactment, enforcement, and interpretation of environmental rights. Now the various agencies responsible for the protection of the environment can either on their own or upon a complaint from an individual effect arrest of any person, who is found to have violated any environmental laws, prosecute the person and ensure that justice is done.

Under Section 20 of 1999 Constitution of Federal Republic of Nigeria, it is unequivocally provided that "the State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria''. Owing to that section 20, 16, 17 and other provisions of the constitution which were made to protect environment mineral resources and human life, apart from several agencies that were created by the Federal Government of Nigeria, several laws and policies were also made towards protecting the environment and human being. These no doubt informed the ideal of various laws on environment which may be either framework environmental laws or sectoral laws. Framework environmental laws include the Harmful Wastes (Special Criminal Provisions) Act 1988 Cap 165 LFN 1990; Federal Environmental Protection Agency (FEPA) Act 1988 Cap 131 LFN 1990; Environmental Impact Assessment (EIA) Act 1992 and Nigerian Urban and Regional Planning Act. The Sectoral legislation addresses specific aspects of the environment and human activities and includes Mineral Act 1956, Oil Pipeline Act 1958, Oil in Navigable Waters Act 1968, Petroleum Act 1969, Factories Act 1990, and Water Resources Act, 1993. Incidental legislations are laws that are not specifically intended to address environmental issues, but do contain some elements that have an impact on environmental

issues. It includes Water Works Act 1915, Criminal Code 1916 Cap 77 LFN 1990 and Public Health Act 1917.

There are also Nigerian national laws derived from international laws. Between 1963 and 1990, Nigeria was signatory to a number of international laws, including other national laws as Mineral Oil (Safety) Regulations Act 1963, Petroleum Regulations Act 1967, Oil in Navigable Waters Act 1968, Petroleum (Drilling and Production) Regulation Act 1969, Oil Terminal Dues Act 1968, Associate Gas Reinjection Act 1979, Petroleum Amendment Act 1973 and Harmful Wastes (Criminal Provisions) Act No. 42 of 1988 (Eneh, 2010; Anukam, 1997).

Some other legislations were also enacted mainly for environmental protection, these include: Civil Aviation Act 1964, Antiquities Act 1915 (1958), Live Fish (Control of Importation) Act 1965, Explosives Act 1964, Territorial Waters Act 1967, Exclusive Economic Zone Act 1958, Petroleum (Drilling and Production) Regulations Act 1969, Nigerian Atomic Energy Commission Act 1976, Natural Resources Conservation Act 1989, River Basin Development Authorities Act 1987, Sea Fisheries (Licensing) Regulations 1992, Quarries Act 1969, Land Use Act 1972 and National Parks Acts 1991 (Eneh, 2010; Anukam, 1997).

Other legislation for environmental protections are highlighted in the chart below.

Table 4.3. Other environmental protection legislation.

Legislation	Purpose
National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007	Charged with responsibility for the protection and development of the environment and other related matters
Environmental Health Officer (Registration) Act 2003	Provide for Registration, and Practice among other provisions, of Environmental, Health officers in Nigeria.
National Park Services Act 1999	Established to be responsible for the preservation, enhancement, and protection of wild animals and plants and other vegetation in National Parks; and for matters connected therewith
Oil and Gas Export Free Zone Act, 1996	Established for the oil and gas export free zone
National Crop Varieties and Livestock Breeds (Registration etc) Act,1987	
Endangered Species (Control of International Trade and Traffic) Act 1985	Passed to provide for the conservation and management of Nigeria's wild life and the protection of her endangered species in danger of extinction, as required under certain international treaties to which Nigeria is a signatory
Hydrocarbon Oil Refineries Act, 1965	Enacted to make provision for the licensing and control of the refining of hydrocarbon oils
Indian Hemp Act 1966	Legislated to make the planting, cultivation, importation, etc. Of Indian hemp an offence
Inland Fisheries Act 1992	It is act to provide for the licensing of fishing and regulation of fishing on the Inland waters of Nigeria
Federal Lands Registry (Miscellaneous Provisions) Act 1992;	Enacted mainly to ascertain the extent and control of Federal Government Lands and to prevent illegal encroachment on Federal Lands registered in State Land
Institutional Institute of Tropical Agricultural Act, 1967	The Act enacted to undertake high quality research into tropical Agriculture and related matters particularly section 2 sub 2 paragraph a-f, the provisions which is to effect emphasised on research both local and international as well as periodic seminar, forum and

	conferences on issues with tropical agriculture and proper information dissemination
National Agricultural Development Authority Act, 1992.	The Act was to provide, among other things, strategic public support for land development, section 6 (i) of the Act, provides among other functions of the Institution the **"**development of a code of sound land management procedures for all land resources development proposals in order to ensure that they conform with national needs and policy of minimizing land degradation and enhancing land and other resource conservation**"**
National Agricultural Seed Act 1992	The Act was enacted to among others to analyse and propose programmes, policies and actions regarding seed development, carry out research and advise on legislation regarding seed development in Nigeria

Nigeria's environmental policy is directed at achieving development that can be sustained in the country and strongly, at creating and ensuring a quality environment for all Nigerians, adequate for their health and well-being. It is for the conservation and usage of the natural environment and resources for the benefit of present and future generations;to restore, maintain and boost ecosystems and ecological processes necessary for thr fucntioning of the biosphere and for the preservation of biological diversity. It is also intended to adopt the principle of optimum sustainable return in the use of living natural resources and ecosystems. It serves to raise public awareness and promote understanding of necessary linkages between the environment and development and and to encourage individual and community involvment in environmental improvement efforts and establish a co-operation in good faith with other countries, international organizations and agencies to achieve optimal utilization of trans-boundary natural resources and effective prevention of trans-boundary natural polution (Doherty, 2016).

Some guidelines have been identified for the implementations of Nigeria's Environmental policies. Six guidelines and standards were introduced as part of the implementation of Nigeria's environmental policy. They are (1) effluents limitations (2) water quality for industrial water uses at point of intake (3)limitations of industry emissions (4) noise exposure limitations (5) management of solid and hazardous wastes and (6) pollution abatement in industries.

Nigeria's environmental protection policy notwithstanding, protection of Nigeria's environment leaves much to be desired. For instance, water pollution in Nigeria occurs in both rural and urban areas. In rural areas, drinking water derived from natural sources, such as rivers and streams, is usually polluted by substances which are organic, from users upstream who apply the stream water to agricultural purposes. Forestry activities upstream increase concentrations of soil particles washed into the stream by land disturbance. The large particles sink and drift to the bottom and increase the bed load, while, depending on the stream velocity, smaller particles remain in suspension and float around. The suspended matter may obstruct the penetration of light and limit the photosynthetic zone to less than one-metre depth. In water supply courses, they also increase water treatment costs. Many industries, such as petroleum, mining (gold, coal and tin), wood and pulp, pharmaceuticals, textiles, iron, steel and plastics, brewing, distillery fermentation, paint and food, located on river banks use the rivers as open sewers for their effluents. In addition, accidental oil spillages occur from the petroleum industry, which endangers local sources of the supply of water and fresh water living resources. Inadequacy of resources occasioned risk for about 40 million urban poor and landless people. This level of environmental degradation is going to create water-borne diseases due to the consumption of unsafe drinking water, as well as put fisheries and land resources at risk

Many of the policies are dated, for example, the Water Works Act 1915 and Public Health Act 1917, which is unlike the National Environmental Policy Act (NEPA) enacted by the Senate and House of Representatives in the Congress of the United States of America on 23 December 1969 and signed into law by President Nixon on 1 January 1970. Only five years later, this policy was amended twice within the same year on 3 July and 9 August 1975. Seven years afterwards, it was amended on 13 September 1982. This updating shows the seriousness attached to environmental protection and enhances its implementation.

Many of Nigeria's policies are also fragmented. Take for example, the diverse pieces of legislation, which fall within the armpit of environmental protection, including Civil Aviation Act 1964, Antiquities Act 1915 (1958), Live Fish (Control of Importation) Act 1965, Explosives Act 1964, Territorial Waters Act 1967, Exclusive Economic Zone Act 1958, Petroleum (Drilling and Production) Regulations Act 1969, Nigerian Atomic Energy Commission Act 1976, Natural Resources Conservation Act 1989, Sea Fisheries (Licensing) Regulations 1992, River Basin Development Authorities Act 1987, , Quarries Act 1969, Land Use Act 1972 and National Parks Acts 1991 This approach negates the usually effective and time-saving one-stop table implementation strategy. Rather, it encourages fragmented implementation processes that waste time and promote corruption.

There was no environmental understanding by the masses when the policies were being formulated, nor is there any massenvironmental education and awareness creation regarding sustainable environment. People participation in formulation and implementation of the policies is lacking. Standards were set without nationally generated baseline data, usually lacking in the country, but with adapted guidelines and standards of the World Health Organizations (WHO). In transposing these data between countries socio-economic and climatic difference are compromised.

Although, Nigeria has established Federal Ministry of Environment (FMENV), which has swallowed FEPA, the basic challenge facing FMENV is implementation of the provisions of the FEPA Act. Impeccable policies in Nigeria often suffer failure at the implementation stage. Nigeria is replete with impeccable policies, but falls short in their implementation. Corruption makes a mess of implementation of even faultless policies in Nigeria and puts to waste resources employed in producing and promulgating them.

EIA is hardly undertaken before the approval of projects, especially infrastructure projects. The case of National Stadium Abuja is typical and a clear example. Engineering infrastructure is a core need of Nigeria today and is the basic driver and trigger of other investments that inspire economic development. The principle enshrined in the Act, of pro-active integration of development programme and environmental issues to deliver environment-friendly projects is observed and noticed more in the breach. The key defaulters in this exercise are the various levels of Government - federal, state and local - who routinely approve projects within the mandatory study list before any kind of EIA is undertaken.

Poor communication among the internal departments of FMENV to the extent that a department may be unaware and uninformed of what the other department is doing. There exists a surprising lack of knowledge of the general legislation covering the environment.This knowledge gap includes lack of clarity about the roles of the federal and state ministries and the state EPAs in monitoring and enforcement of federal and state environmental laws and regulations, weak

institutional capacity, lack of funding, and numerous overlapping functions amongst the agencies. Also bad governance characterized by gratification, corruption and greed and poor implementation of the laws, policies and regulations are among the capacity deficit.

4.10 Possible areas of intervention

The remote sensing and GIS technologies can be exploited in creating a wealth of relevant information about various components of biodiversity in developing countries and generating an integrated Decision Support System (DSS) to assists tropical forest researchers in making informed decisions. It is expected that developing an integrated decision support system would enable policy makers/managers to better understand the linkages between local, regional and global processes, take effective management decisions and achieve the goal of sustainable development of biodiversity in tropical and subtropical countries, hot spots regions.

Using remote sensing, spatially explicit time series of environmental data can be quickly obtained and updated, with GIS (Geographical Information System) techniques to provide information about landscape history, topography, soil, rainfall, temperature and factors on which the distribution of species depends.

5.0 FOREST AND NATURAL RESOURCE USE SYSTEMS

Forest Ecosystems, Various Goods, and Services for Human Well-Being**.** These include:

Provisioning

Provisioning services, useful physical products of the forest which include products like wood and non-wood forest products for commercial and local use such as food (e.g. game, roots, seeds, nuts and other fruit, spices and fodder), fibre (e.g. wood and cellulose) and medicinal products (e.g. aromatic plants and pigments); this also include forested catchments providing water downstream for, for instance, urban areas (Figure 1)

Regulating

Regulating services, which are of paramount importance for human society and include various services.These are the 'preventative' benefits of forests: their role in erosion control, flood prevention, climate regulation involving regulation of climatic stress, lowering extreme temperature, heavy rainfall, water retention, and protecting soils, humans and animals. Other benefits also include: carbon stock and carbon sequestration by forests and soils; stock of carbon in wood products; Water conservation, run-off regulation, and water retention and storage;protection from natural hazards, such as floods, avalanches, rock-fall and erosion reduced chemical and pesticide exposure; flood regulation; air pollution reduction. Others include water and air purification; and disease and pest regulation;

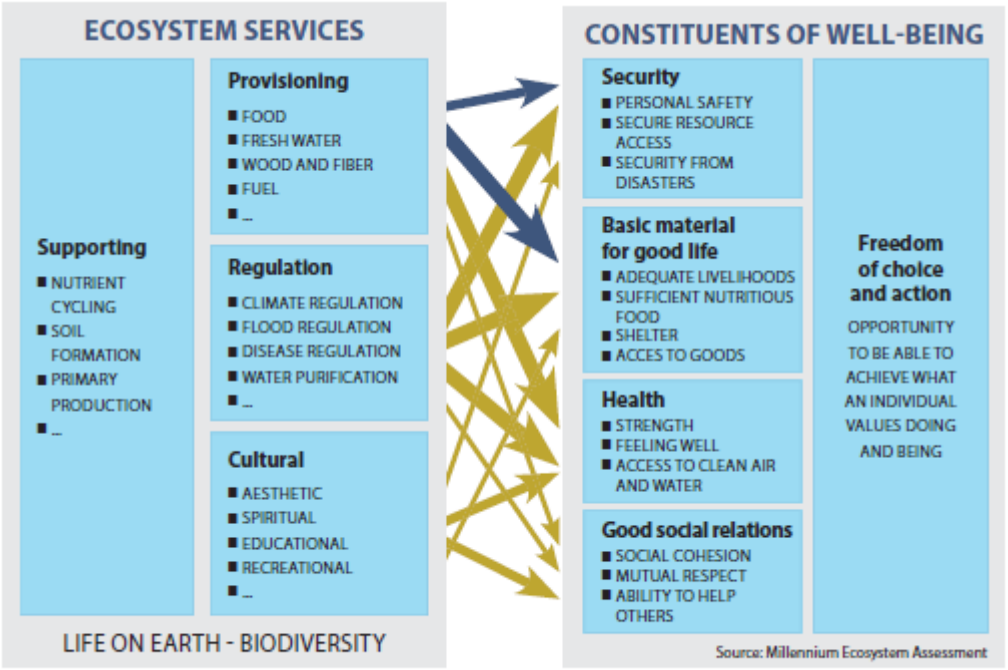
Cultural

Forest provides habitat for flora, fauna and microorganisms; genetic reserves. Forests are sources of aesthetic and spiritual regeneration as well as providing recreation and education, which supplies services for the tourism industry

Supporting

This describes the role of ecosystems as a 'nursery' for other environmental benefits, such as nutrition cycling and soil formation. Biodiversity services such as species and habitat

conservation fall into this category(FAO Forest Resources Assessment (FRA), 2005, (Millennium Ecosystem Assessment, 2005).



Source: Millennium Ecosystem Assessment. Ecosystems and Human Well-being. A synthesis. p.vi

Figure 5.1: Ecosystem services and constituent of well being.

Nigeria is naturally endowed with a vast expanse of forest land, the swamp forests in the extreme Southern part of the country, the tropical rainforest in the South, the wooded savannah in the middle belt, and the Sudano-Sahelian vegetation in the north. These Eco zones contain numerous forest types and natural resources.

5.1 Forest products and natural resources

Across the six geo-political zones of Nigeria and all forest communities around REDD+ pilot sites, forest remains a source of energy (Table 5.1) where fuelwood, foods, fiber, medicinal products, timber, and non-timber forest products (NTFPs)are extracted. They are also sources for game animals, cultural artifacts and a great variety of building materials for construction and homemaking.

Table 5.1: Important Product Derived from the Forest

Regions	Assessment of the Five Most Important Product Derived from the Forest
North-East (Taraba State)	Timber, Fuelwood, Bushmeat, Honey, Herbs
North-West (Katsina, Kano & Kaduna States)	Firewood, Herbs, Honey, Palm wine (southern Kaduna) and Bush Meat
North Central (Nassarawa State)	Firewood, Bush Yam, Herbs, Honey and Bush Meat

South-South (Rivers & Akwa Ibom States)	Bush mango and leaves, Periwinkle. Fuelwood. Bushmeat, Herbs,
South-West (Ondo State)	Bush Mango (Ogbono), Snails, Firewood, Herbs, Mushroom
South-East (Anambra & Enugu)	Timber, Firewood, Bushmeat, Bush mango, Vegetables

Source: SESA Field Study, 2018.

5.2 Forest and livelihood systems

Occupation by Age & Gender.
Forest-based livelihoods mainly consist of farming, fuelwood business, charcoal business, NTFP gathering and logging, among others. Farming agricultureis the predominant livelihood (Figure 5.1a) carried out by 85.8% of the respondents. When the occupational distribution is disaggregated by age (Figure 5.1b), farming as an occupation is mainly carried out bythe youths (59%). The same pattern holds for a profession such as bricks making, charcoal production, fuelwood business and logging with over 70% of youths involved. NTFP gathering, however, is carried out by both Adults and Youths (50% respectively).

Disaggregation of occupation by gender (figures 5.2 & 5.3) reveal charcoal business to be dominated by females (66.67%) in Nasarawa while males (40.79%) dominate farming. The men dominated logging in Ondo state by 85.00% while the womenwere more dominant in farming in Ondo state at 45.16%.

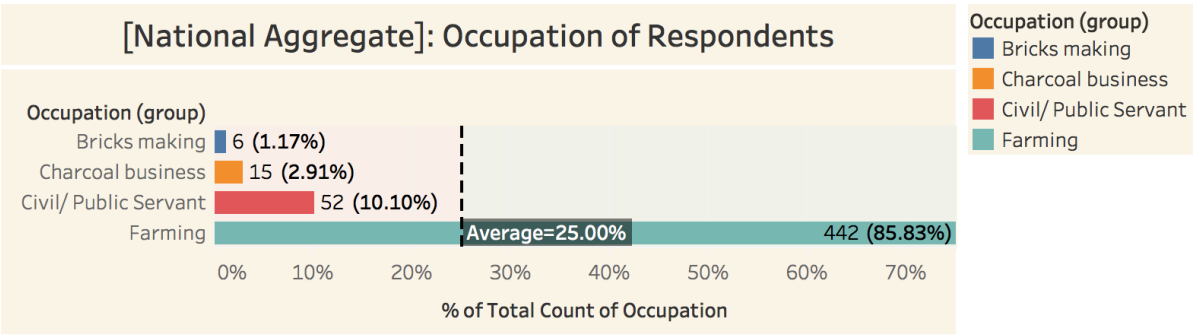


Figure 5.2a: Occupation of Respondents

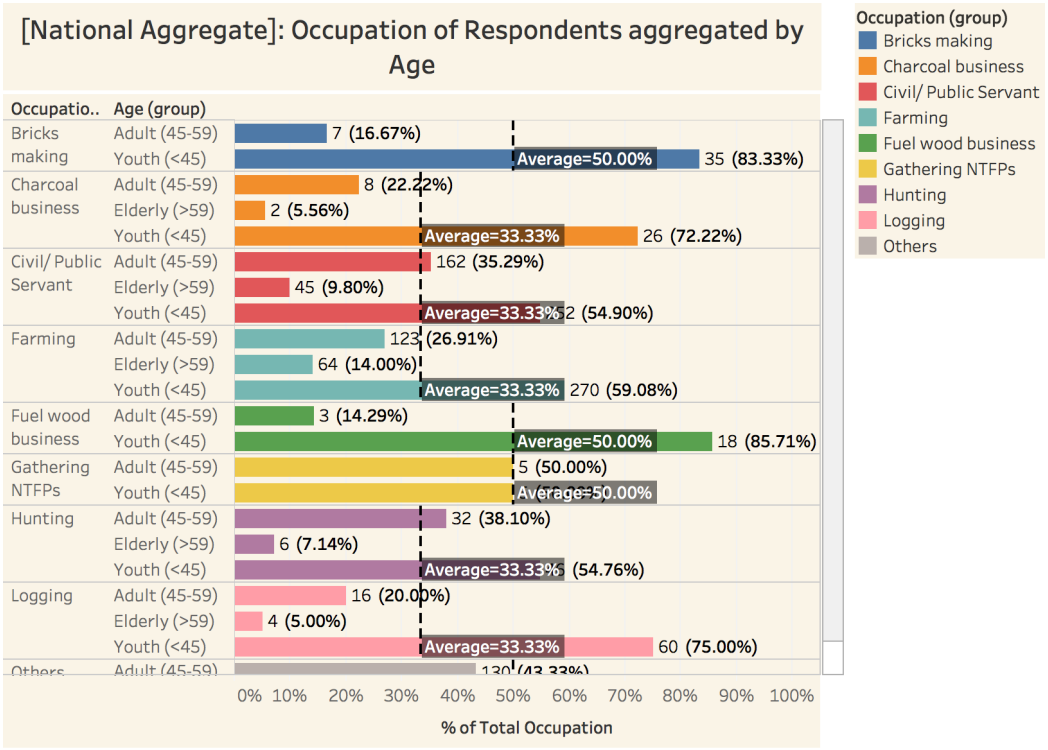


Figure 5.2b: Disaggregation of Respondents by Age

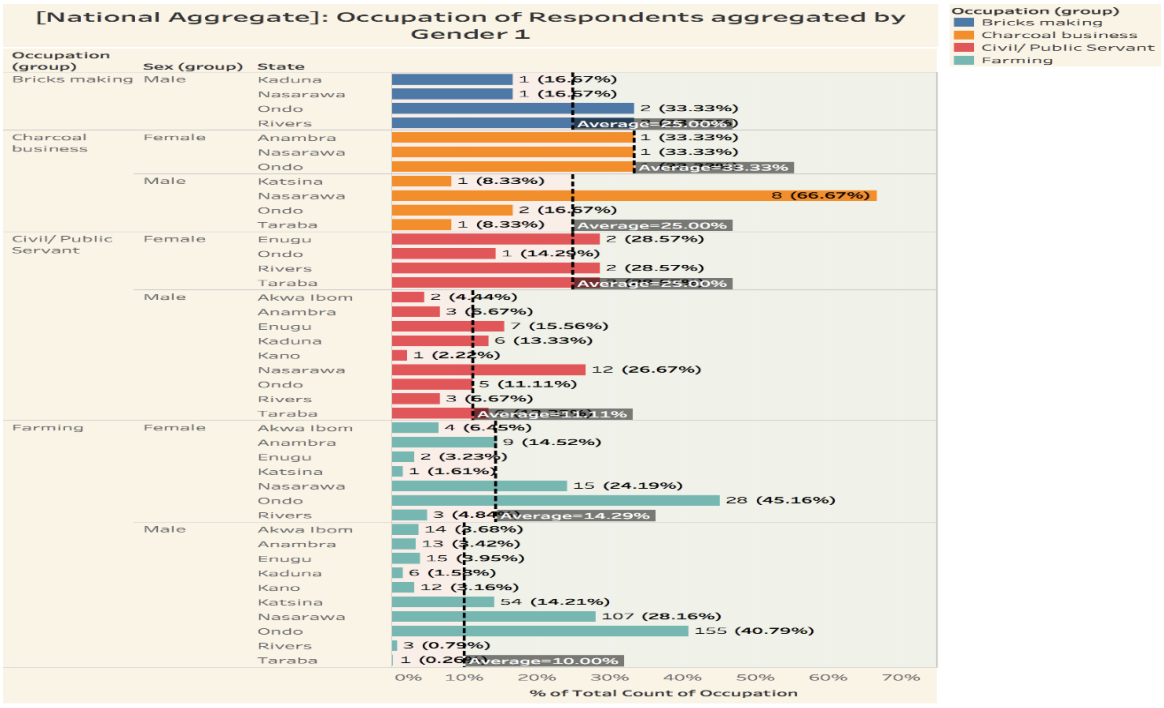


Figure 5.3a: Disaggregation of occupation by gender

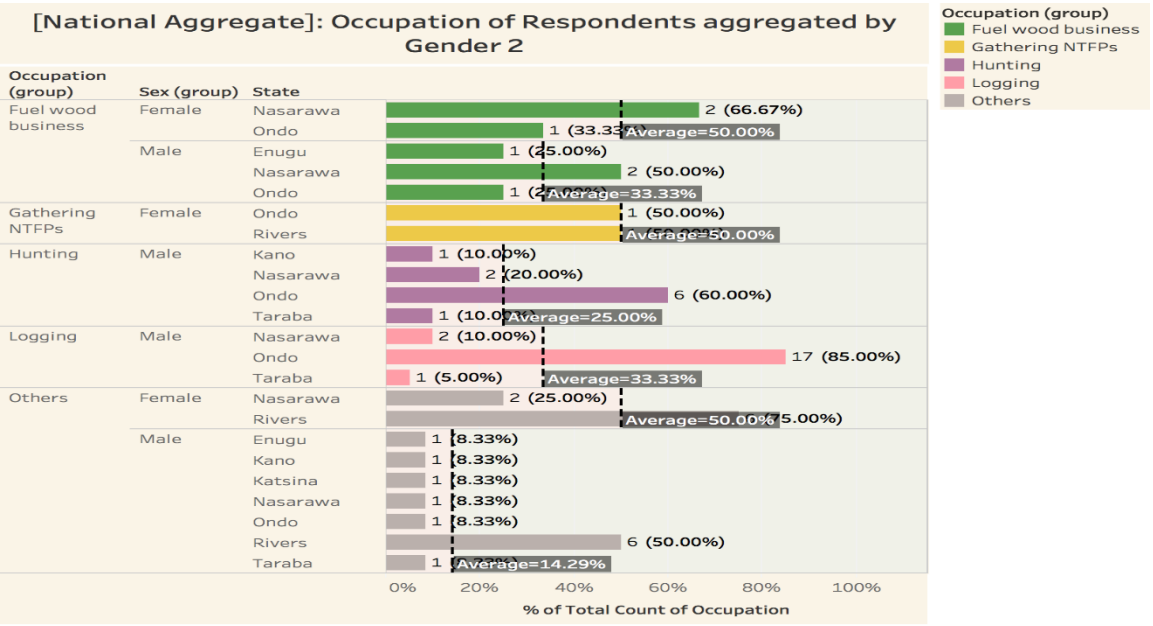


Figure 5.3b: Disaggregation of occupation by gender

5.2.1 Other sources of livelihood.

Apart from the primary occupation of individuals, people are also directly or indirectly involved in other alternative sources of income. Non-farm/forest business is highly utilized by people asanalternative source of livelihood as shown by 30.85% of respondents in figure 5.3.Agriculture and livestock production ranks next as an alternative source of livelihood with 22.34% of respondents respectively.

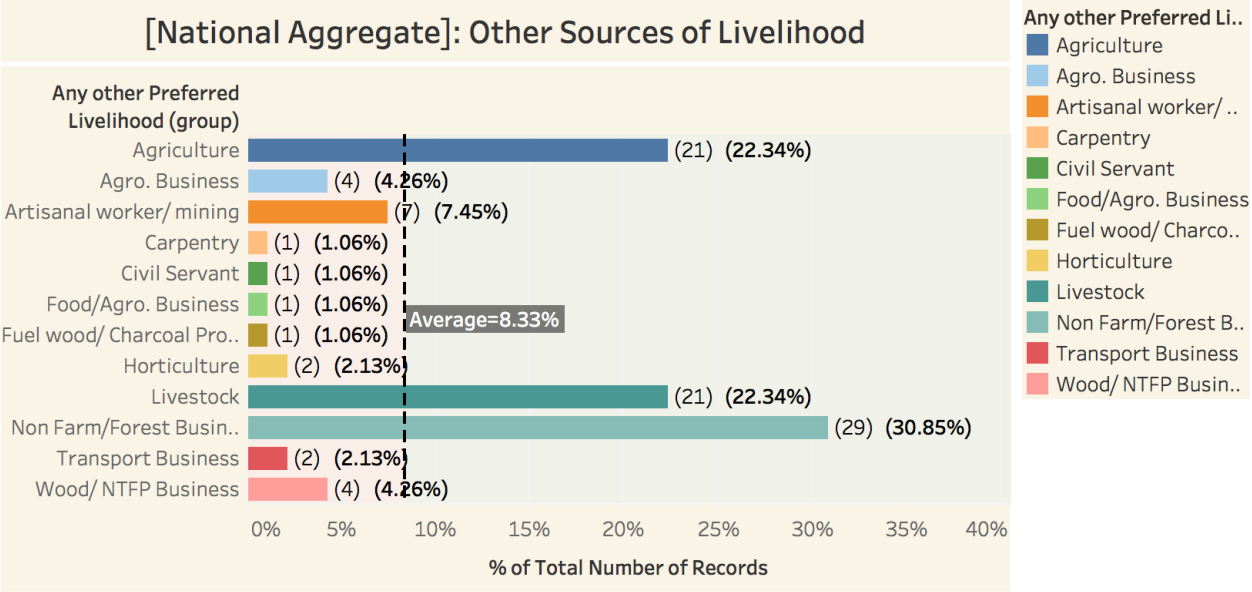


Figure 5.4: Other sources of livelihood.

5.2.2: Location of livelihood activity:

The greater proportion of livelihood activities are carried out (figure 5.4) in the open/free areas or commonly owned lands attested to by about 70% of respondents. A sizeable proportion of livelihood activities (25%) are carried out in the forest reserves.

Figure 5.5 further reveals that males utilize free spaces more than females, whereas females use the forest reserves more significantly than males. This is understandably so considering access constraints experienced by female folks to communal land holdings. The female activities of mostly NTFP gathering are more in the forest reserves where considerable stockings exist.

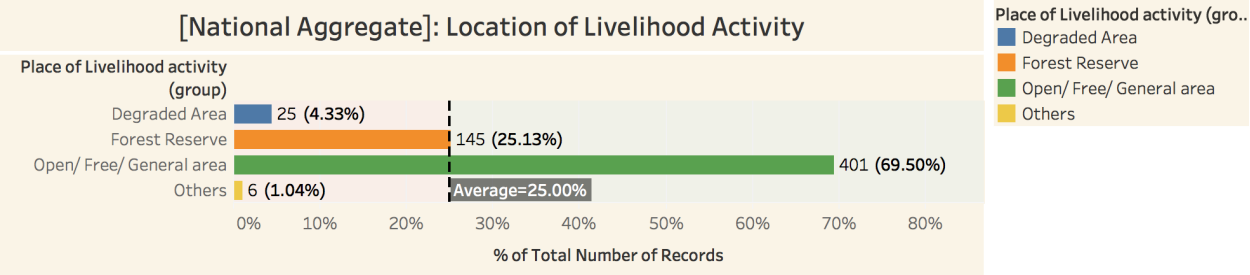


Figure 5.5: Location of livelihood activity

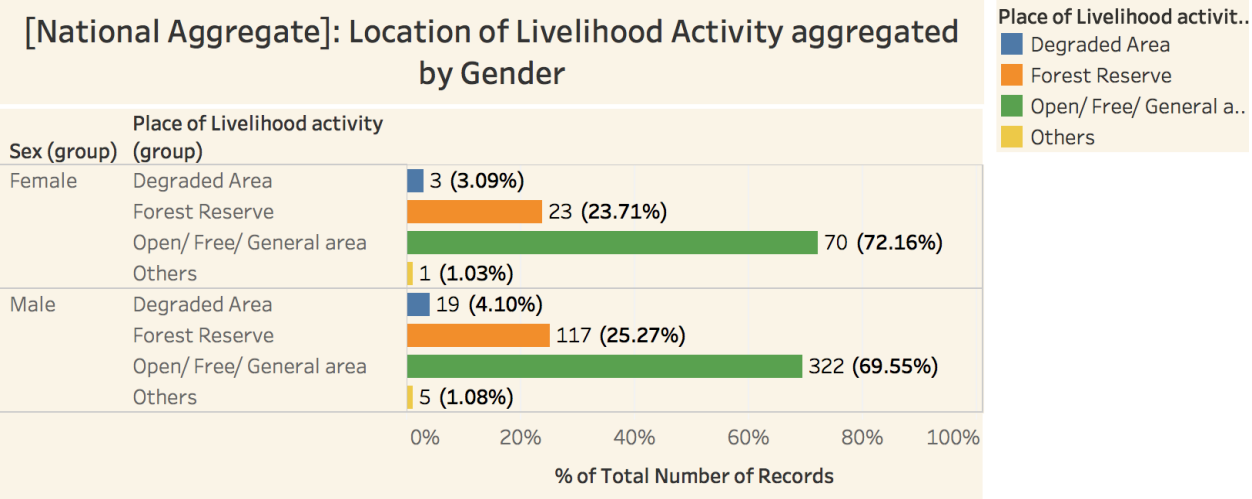


Figure 5.6: Location of livelihood activities by gender

5.2.3: Location of livelihood by occupation:

Agriculture as an occupational activity is pervasive regarding its location (figure 5. 6). Its share of place relative to other activities is 70% in degraded areas, 86% in forest reserves and 75% in open/free regions.

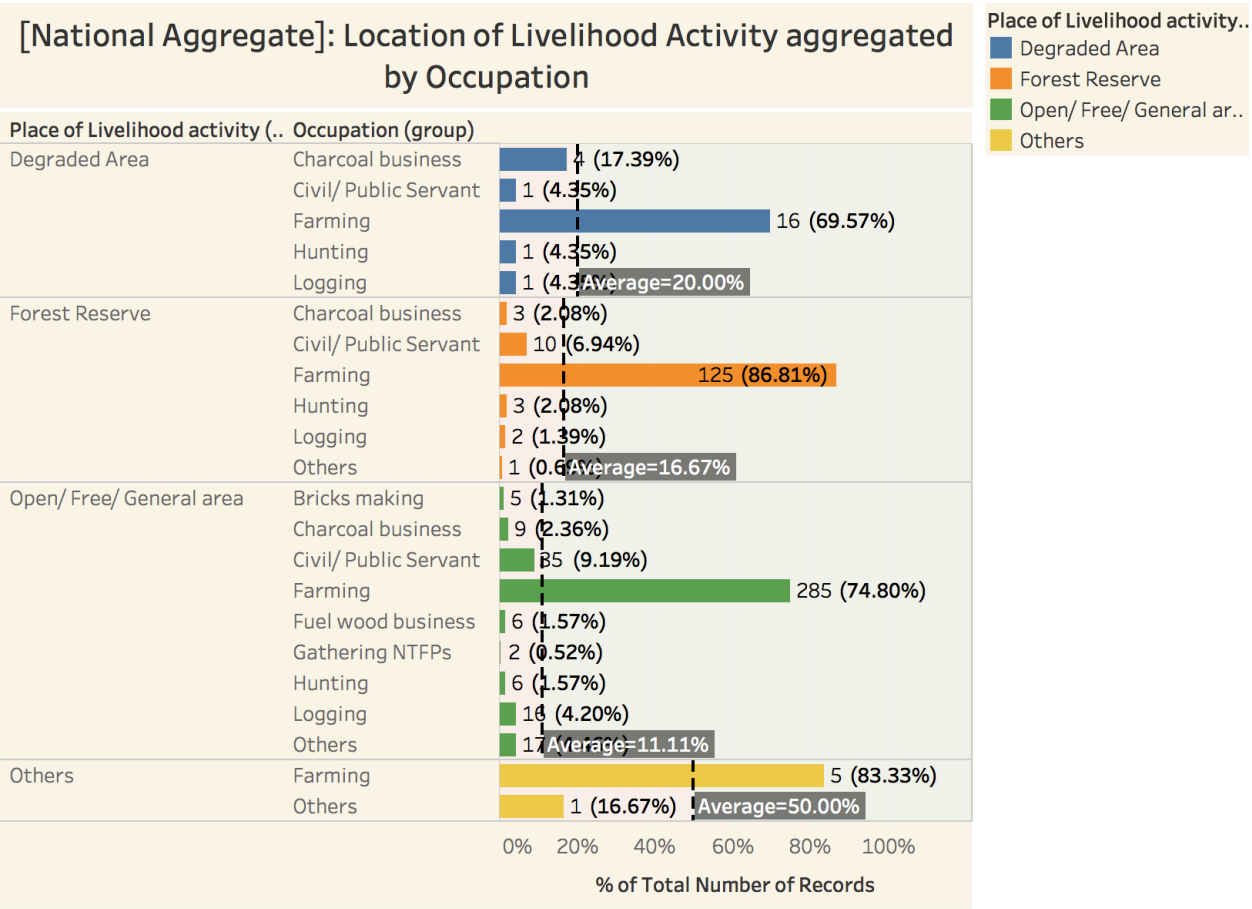


Figure 5.7: Location of livelihood by occupation

5.2.4. Livelihood and Income

Figures 5.7, 5.8, 5.9, and 5.10, show variations in a monthly income of respondents. It shows that the average monthly revenue of the people is between N20, 000 to N40, 000, which is less than US$100 a month and less than US$3 a day. Those that earn above 100,000 are mostly loggers, followed by farmers (33.3%) and public servant (22.2%). Loggers earn the highest income from the extraction of wood from the forest. This trend is vital for the REDD+ process in curtailing deforestation and forest degradation. A striking feature of income distribution by occupation shows agriculture as dominant (Figure 5.8) in all segments of the income groups.

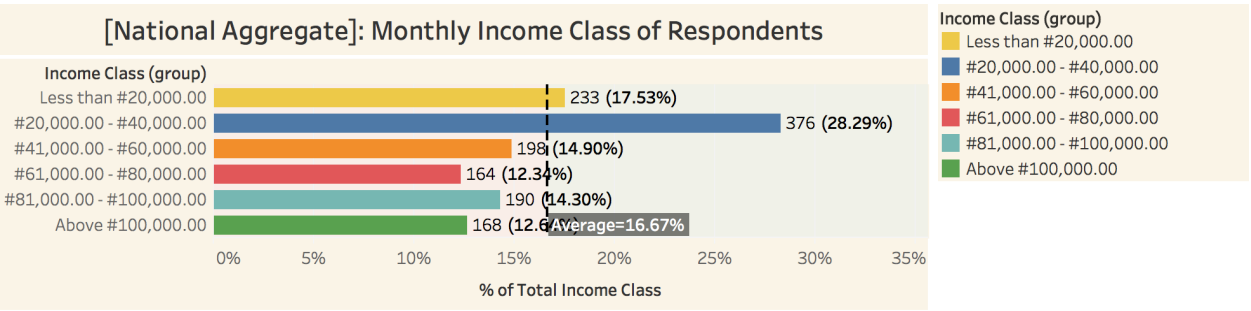
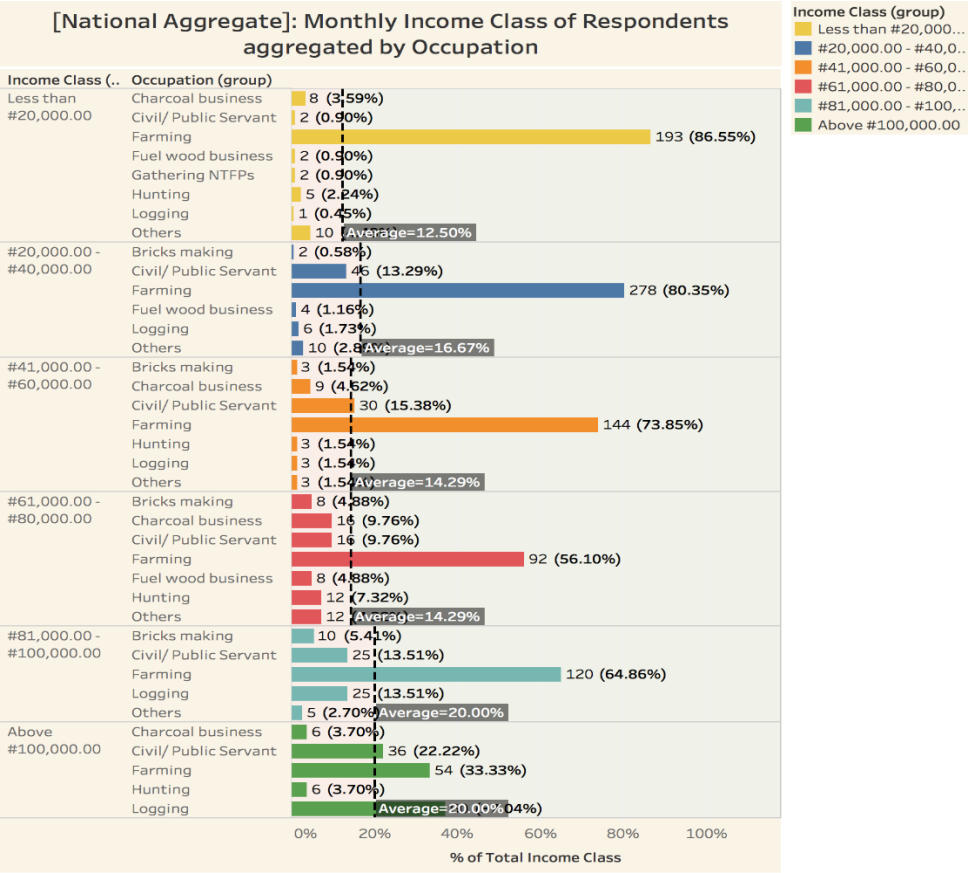


Figure 5.8: Aggregate monthly income



Figures 5.9: Monthly income by occupational group

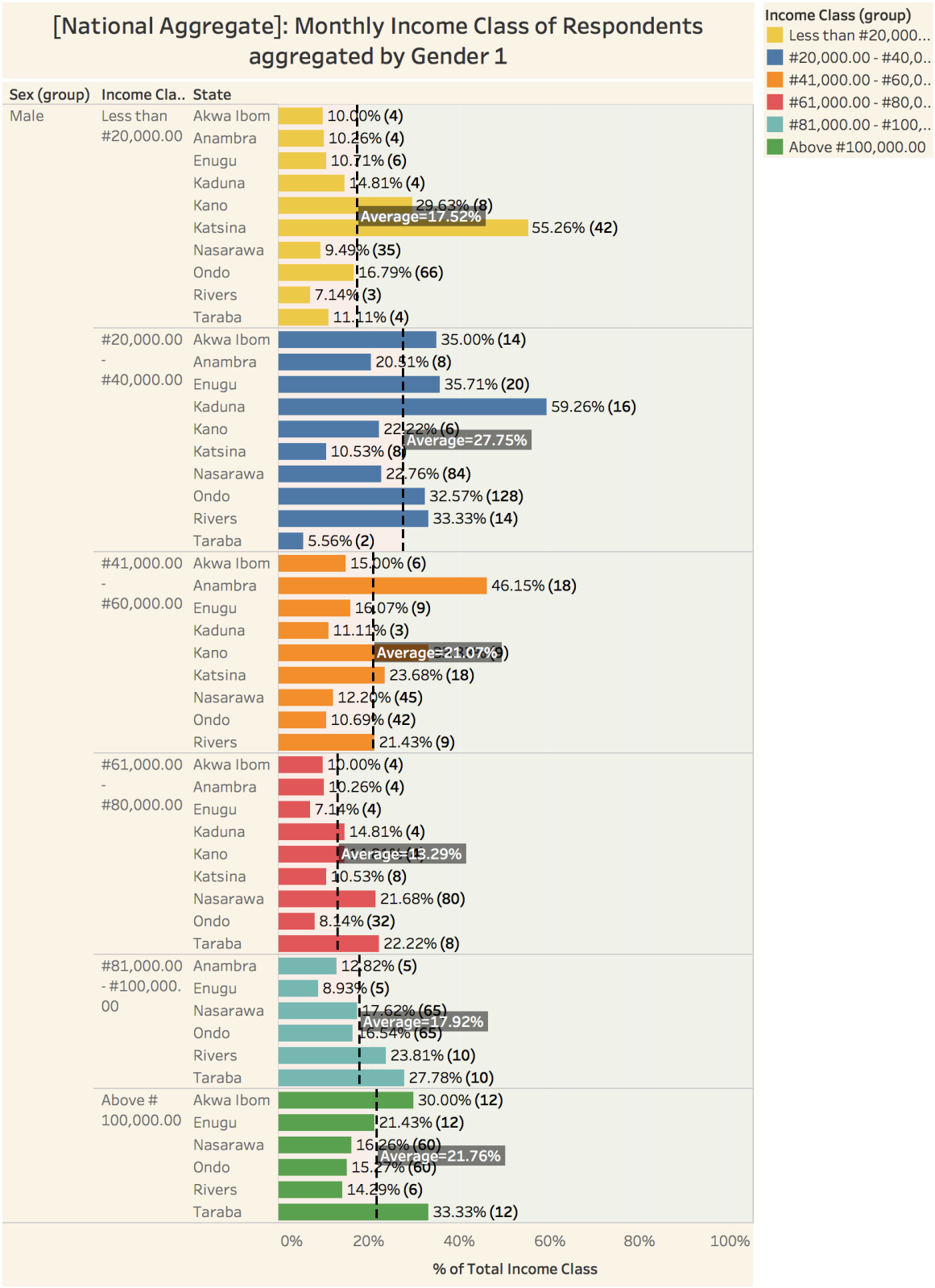


Figure 5.10: Male monthly income distribution

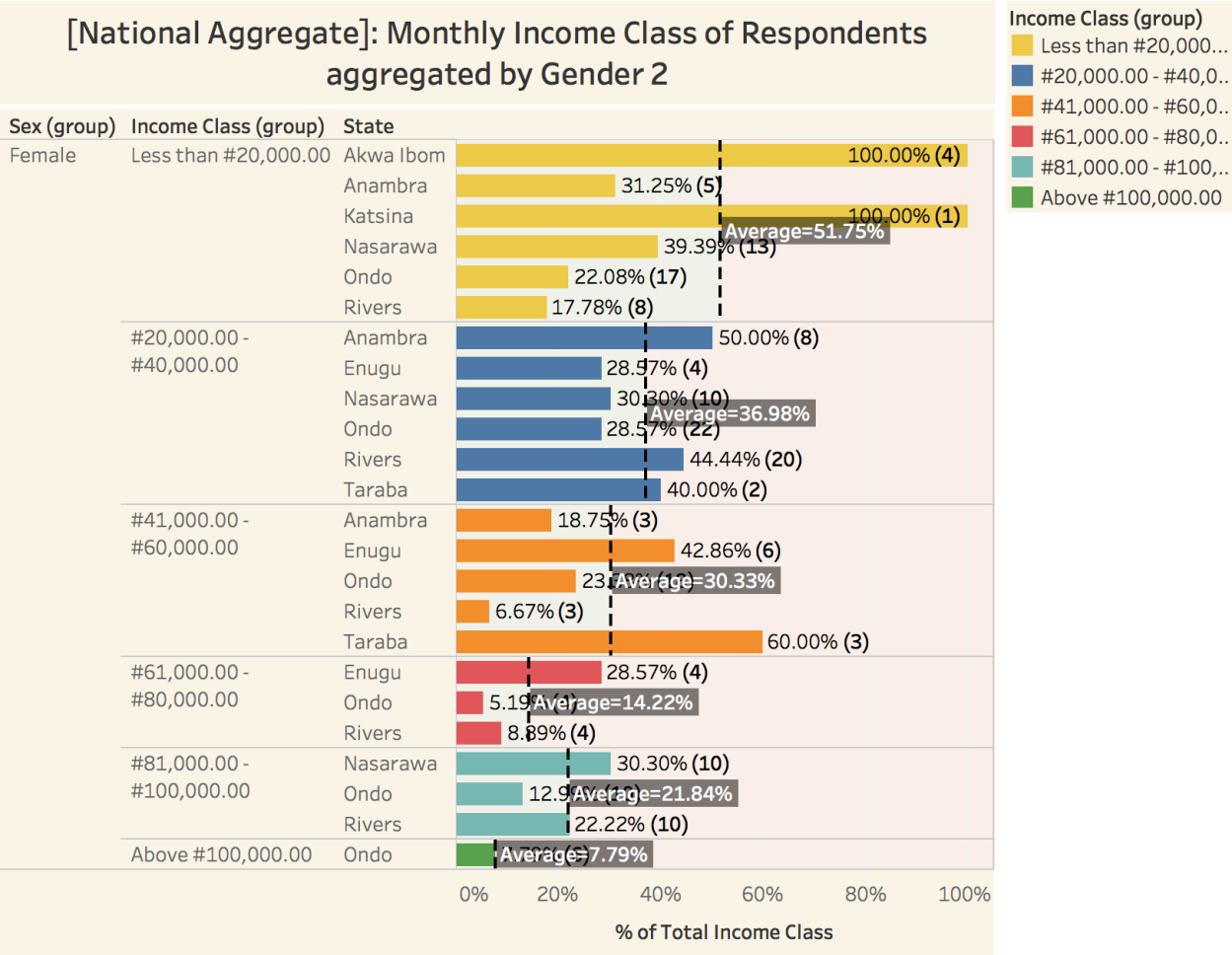


Figure 5.11.Female monthly income distribution

5.2.5: FGD profile of community livelihood sources in REDD+ pilot sites and other forest dependent areas.

In Nassarawa State REDD+ pilot sites (North Central Nigeria), the livelihood system of the communities is largely dependent on land and forest resources. They include:

i. Farming mainly on grains including rice, millet, guinea corn, melon and sesame seed in Zono and Obi pilot sites, Marhai pilot site is dominated by tubers such as cassava and yam and grains.
ii. Charcoal Production
iii. The brewing of local Beer called “Burukutu” using millet and guinea corn particularly in Obi pilot site
iv. Fuelwood business (mostly for subsistence requirement)
v. Animal husbandry/livestock rearing
vi. Rice production (milling and selling)
vii. Hunting
viii. Logging
ix. The collection of NTFP, such as Locust bean.

Among the livelihood sources, farming and charcoal are the dominant ones, whereas animal husbandry is practiced as secondary to agriculture and other occupations, brewing of local beer also attract high income.
In Ondo state REDD+ pilot sites, the main source of livelihood includes:

i. Farming where 70% of the population are involved, including cocoa, cassava, plantain farming.
ii. Trading on plantain, banana and other foodstuff
iii. Collection of NTFPs such as Bush mango
iv. Garri processing, palm oil processing
v. Fuelwood/Charcoal business.

In South-south Nigeria (Rivers and Akwa Ibom States) the states shared a similarity in the farming mainly on root crops including cassava and grain such as maize and seed such as bush mango.

i. Fishing
ii. Logging
iii. Collection of NTFPs
iv. Hunting
v. Bunkering

Among the livelihood sources, farming and fishing are the dominant ones, others such as bunkering are mainly practiced by the youth in Rivers states.

Similarly, in Norwest West Nigeria (Kano, Kaduna and Katsina States), the livelihood system of communities under study is also dependent on land and forest resources. The sources of livelihood include:

i. Farming mainly on grains including maize, guinea corn, rice, millet, Cassava, ginger, and bean. Agban-Kagaro in Kaduna is dominated by ginger that is produced on a commercial scale.
ii. Charcoal Production (Mostly on low rate)
iii. Fuelwood business (mostly for commercial purpose especially in Buruku Community of Kaduna State)
iv. Animal husbandry/livestock rearing (higher in Katsina)
v. Hunting (Common in Agban-Kagaro site in Kaduna State because of the mountain that surrounds the community)
vi. Logging
vii. Collection of NTFPs especially herbs, palm wine (in Agban-Kagaro) and honey

Among the livelihood sources, farming, fuelwood business, and animal husbandry are the dominant ones, whereas the collection of NTFPs is practiced as a secondary livelihood.

In North-East Nigeria (Taraba State), the livelihood system of forest communities also encompasses dependency on land and forest resources. The sources of livelihood include:

i. Farming of grain such as Maize, Millet, Guinea Corn as the dominant occupation
ii. Hunting is the second highly practiced occupation.
iii. Logging
iv. Bee Keeping
v. Collection of NTFPs which include phony leaves, ginger, etc.

However, in south-east Nigeria (Enugu and Anambra States) primary sources of livelihood in the community is farming of Cassava, Cocoyam, Maize, Rice and animal husbandry (Fishery, Piggery, Goatery, GrassCutter rearing, etc.).

5.3 The economic dimension of forest products

Generally speaking, the economic benefits of forest products to communities are highlighted in Table 5. 2. These include income, food, building materials, herbal medicine, and energy for household use. Economic benefits from forest products may accrue to individuals or the community.

Figure 5.12 highlights in aggregate terms the revenue sources for communities. Forest concession fees (from logging and fuelwood/NTFP harvesting) and loyalty fees for forest protection and conservation are the common sources of community revenue from forest products. Mining fees also serve as a source of community revenue from forestry.At the individual level, income sources from forest products vary along gender (Figure 5.14) and occupational groups (figure 5.13) with agriculture, fuelwood/charcoal and wood/NTFP business as the leading sources of revenue.

Table 5.2 Benefits of forest products to communities.

Regions	The benefit of the Products to the communities
North-East (Taraba State)	Source of income, building materials, energy and herbal medicine.
North-West (Katsina, Kano & Kaduna States)	A major source of energy, income, food and herbal medicine
North Central (Nassarawa State)	A major source of energy, income, food, and herbal medicine.
South-South (Rivers & Akwa Ibom States)	Major Source of protein and income to hunters, medicine, and general food.
South-East (Anambra & Enugu)	Source of income and energy for household cooking

Source: SESA Field Study, 2018.

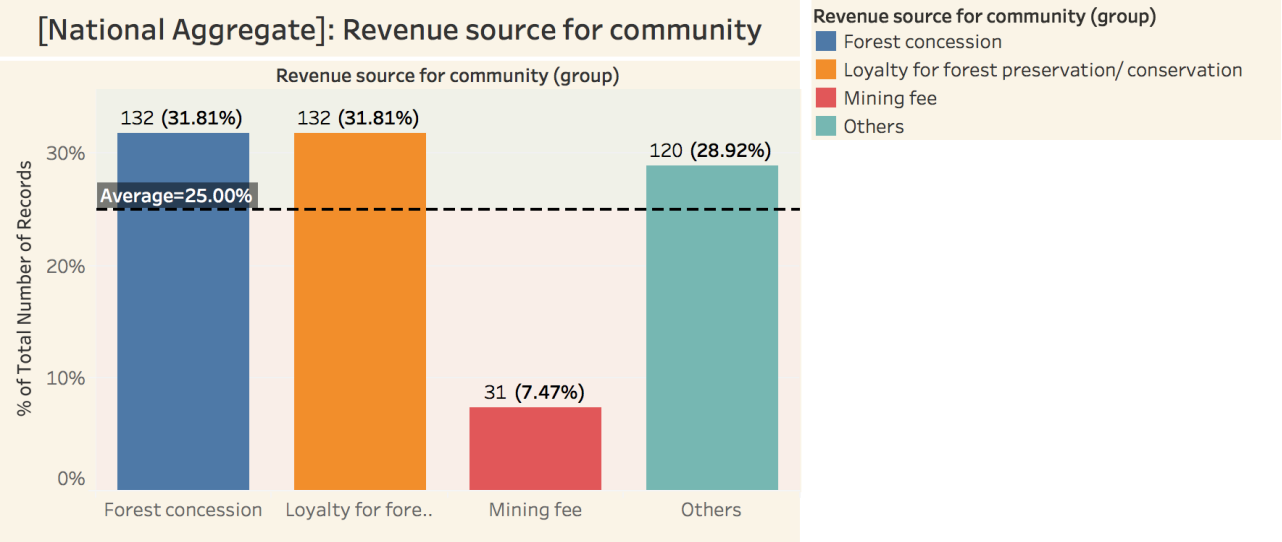


Figure 5.12: Community revenue source from forest products.
Source: SESA Field Study, 2018.

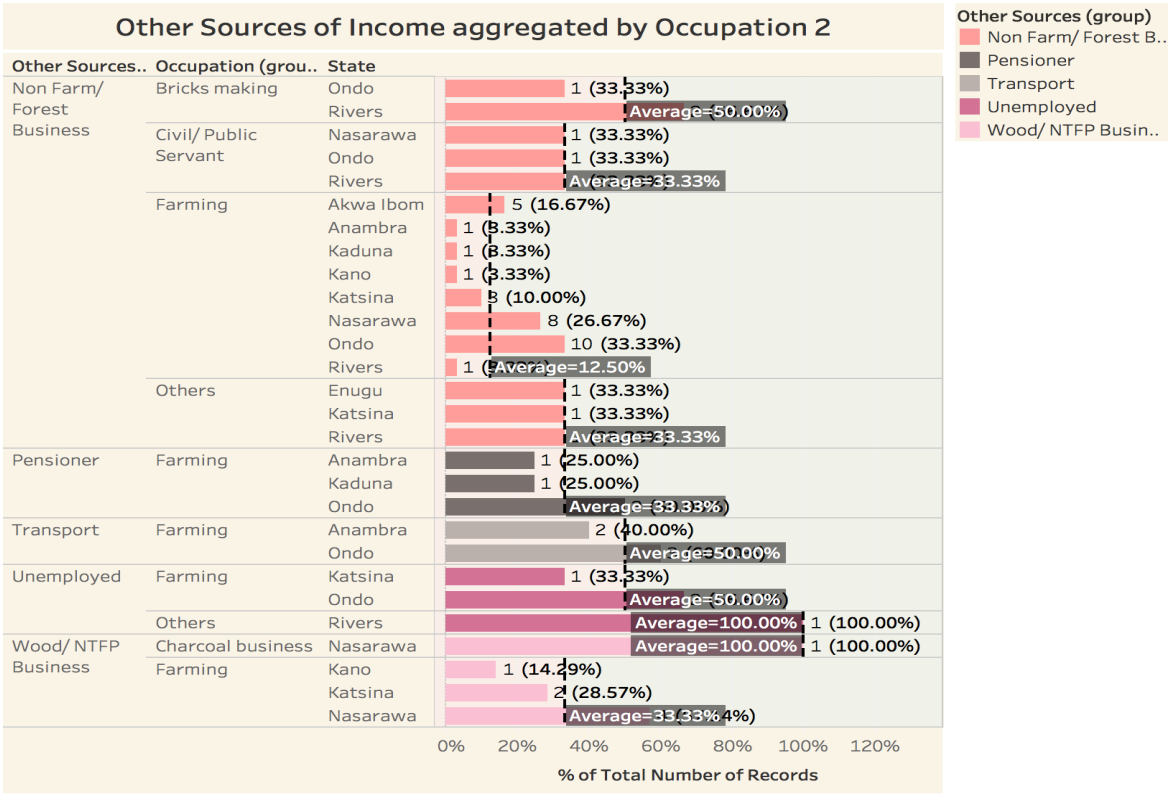


Figure 5.13: Income sources disaggregated by occupation.

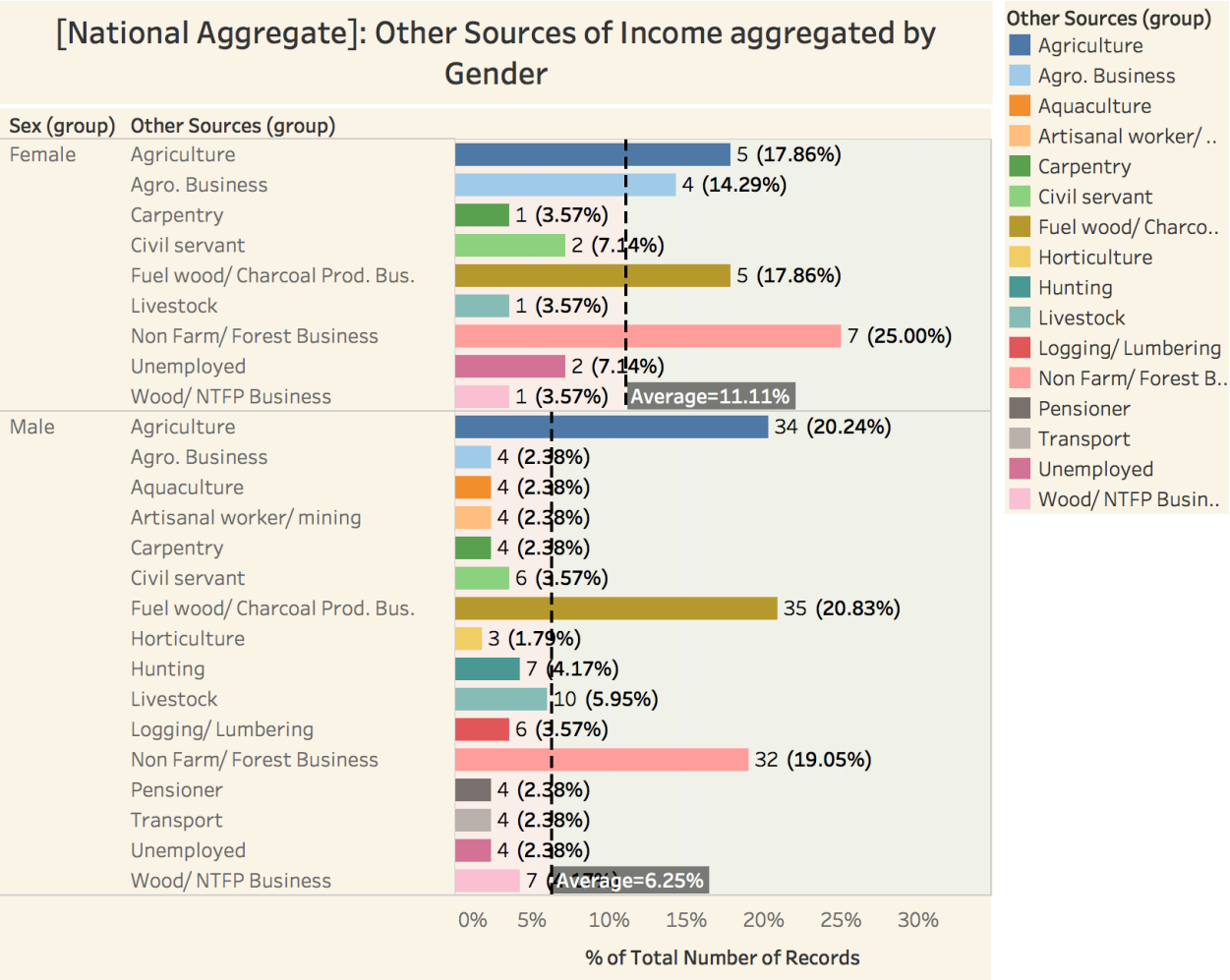


Figure 5.14: Income sources disaggregated by gender.

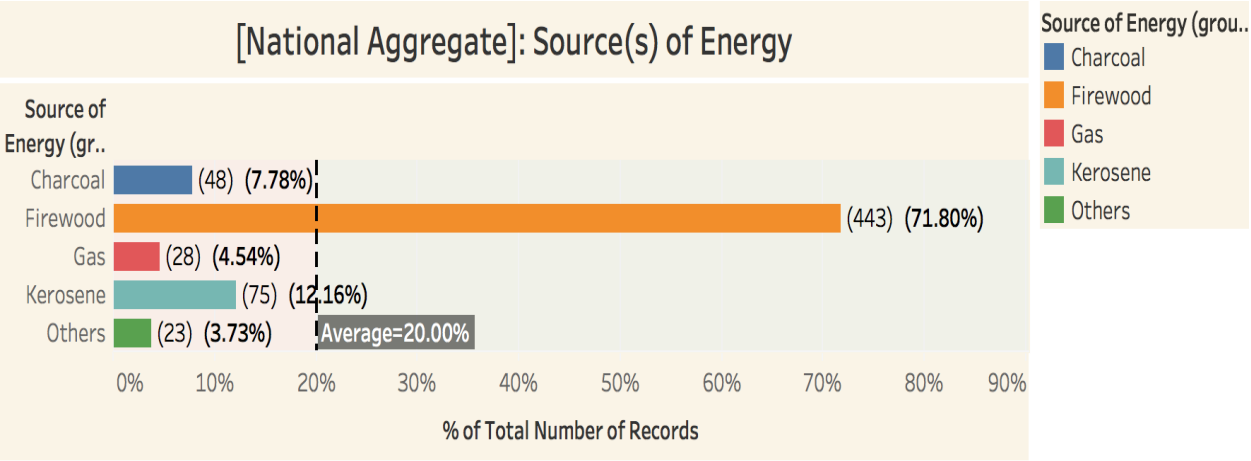
5.3.1 Energy and Forest Resource Use (Fuel Wood/Charcoal).

5.3.1.1 Sources of energy

There are various sources of energy in Nigeria. However, a large proportion of the population utilizes charcoal and fuelwood as primary sources of energy.

Figure 5.15 shows firewood as the primary source of energy used by 71.8% of respondents. Disaggregated by gender (figure 5.16), a discernable contrast can be observed in the use of charcoal and firewood between men and women in Nasarawa and Ondo States. Charcoal is male-dominated in Nasarawa state in the energy economy. In Ondo state, however, firewood is the dominant male activity regarding energy utilization.

The source of energy disaggregated by occupation (figure 5.17) indicates that farmers are the dominant users of charcoal, firewood, and kerosene as a source of energy. This has implications for policies to curb deforestation through sustainable energy utilization in agrarian communities.



Figures 5.15: Energy sources in forest communities

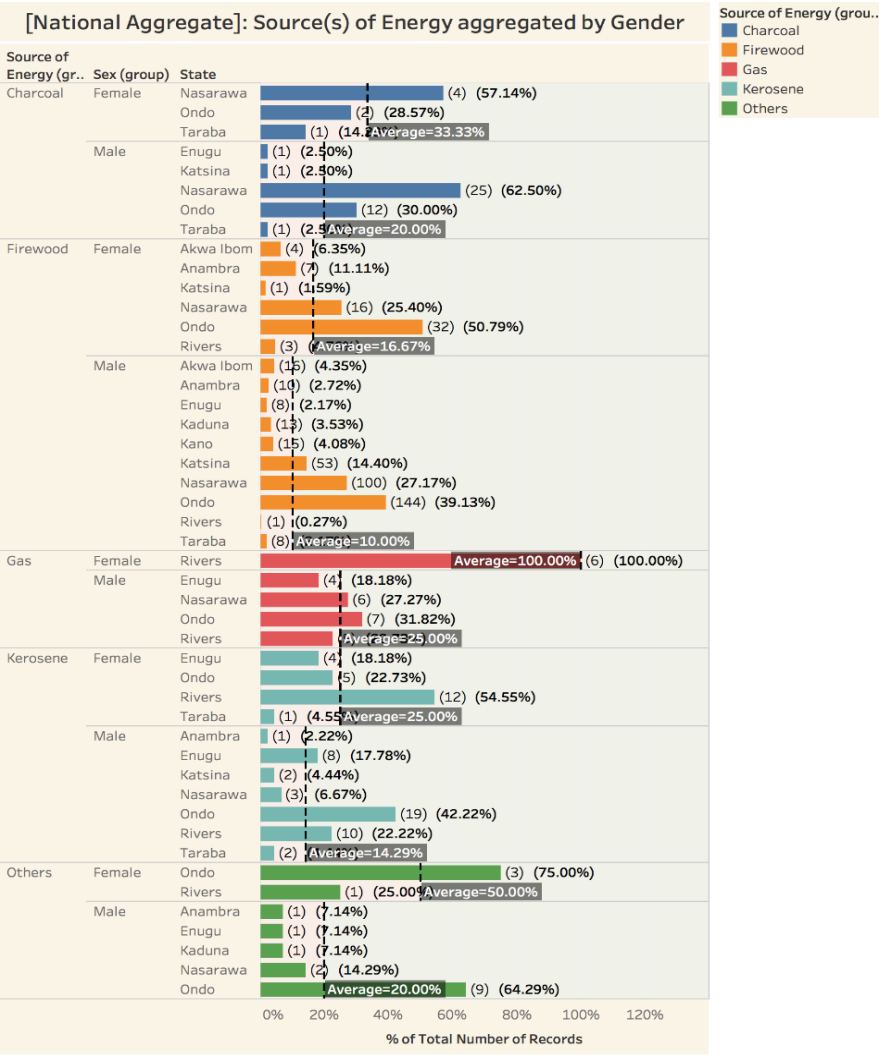


Figure 5.16: Energy sources disaggregated by gender

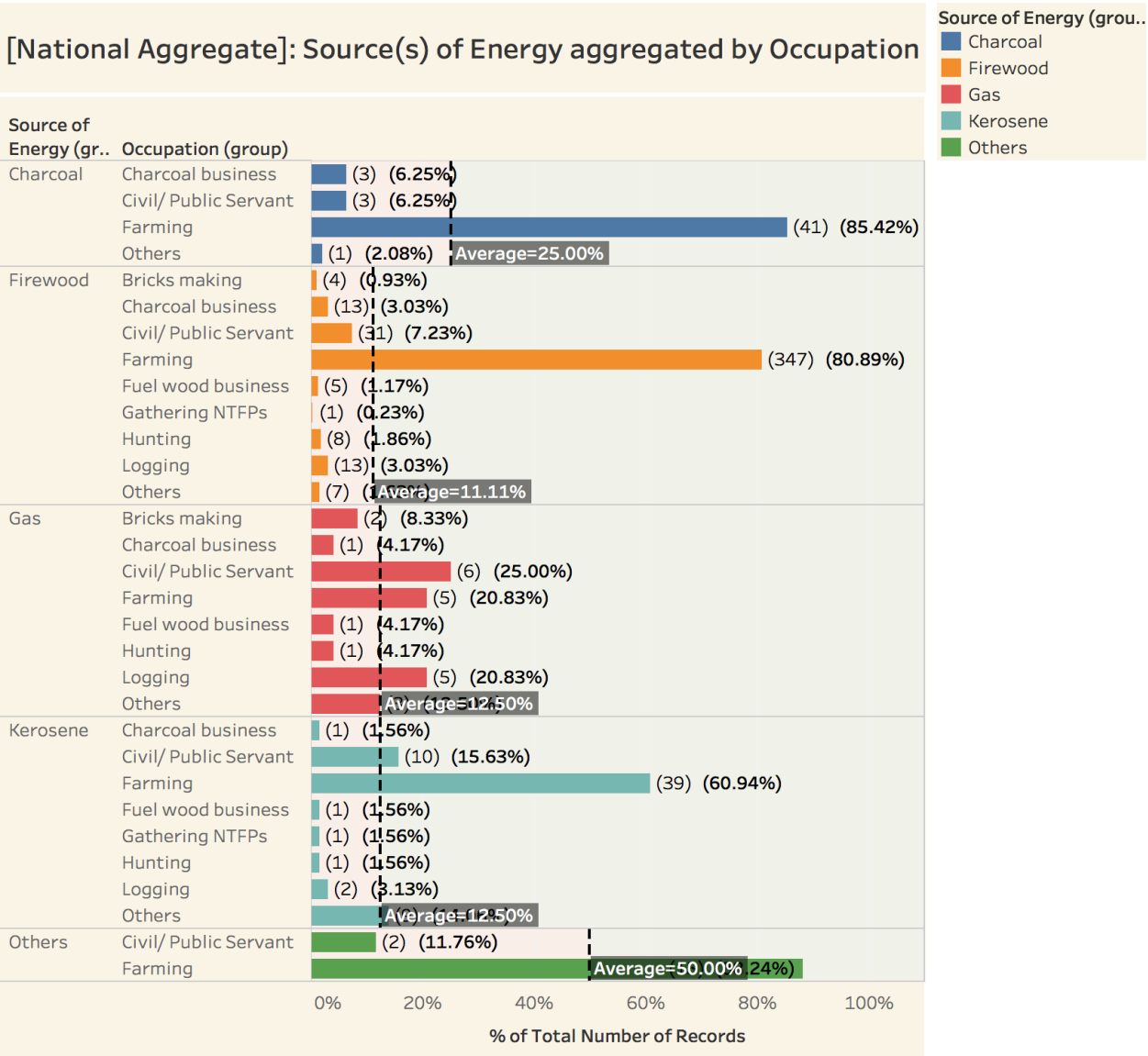


Figure 5.17: Energy sources disaggregated by occupation

5.3.1.2 Preference source of energy

Preference for charcoal and fuelwood as the source of energy in REDD+ pilot sites and forest-dependent communities is largely a function of availability and affordability at national (figure5.18) and state levels (figure 5.19). Fuel wood is readily available in the forest with little or no cost for access. The sales of fuel wood, including charcoal, also generate income for the local people, which may drive deforestation.

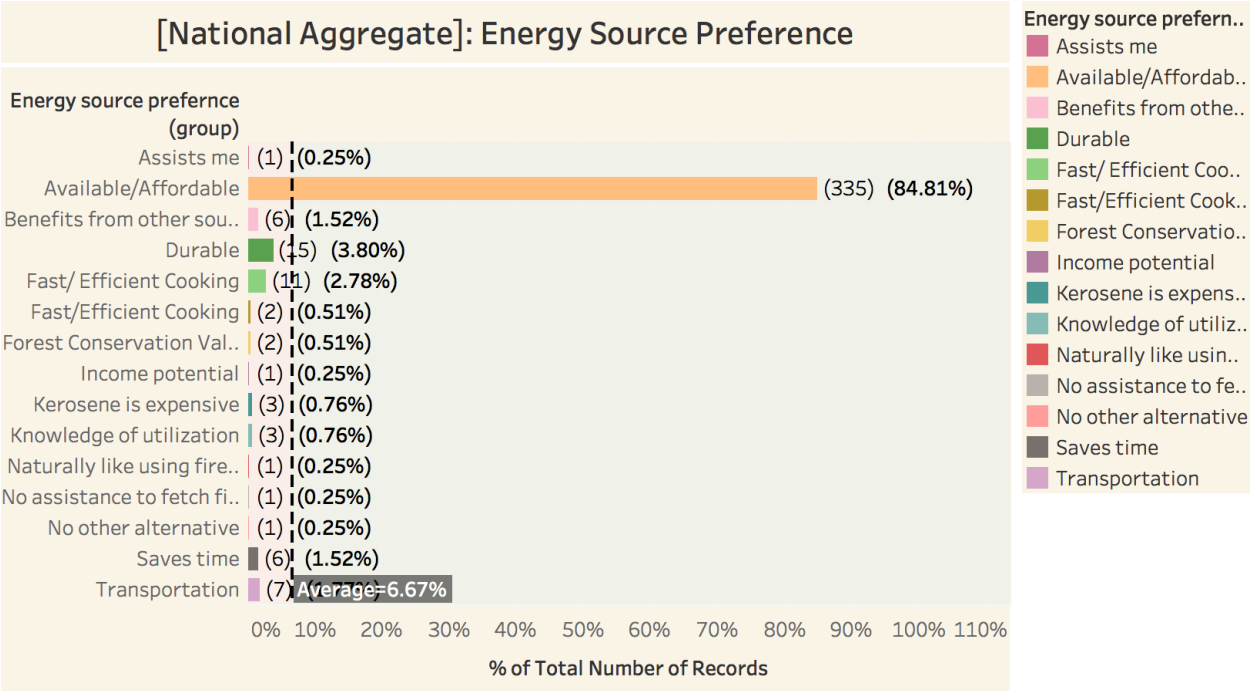


Figure 5.18: Reason for choice of energy

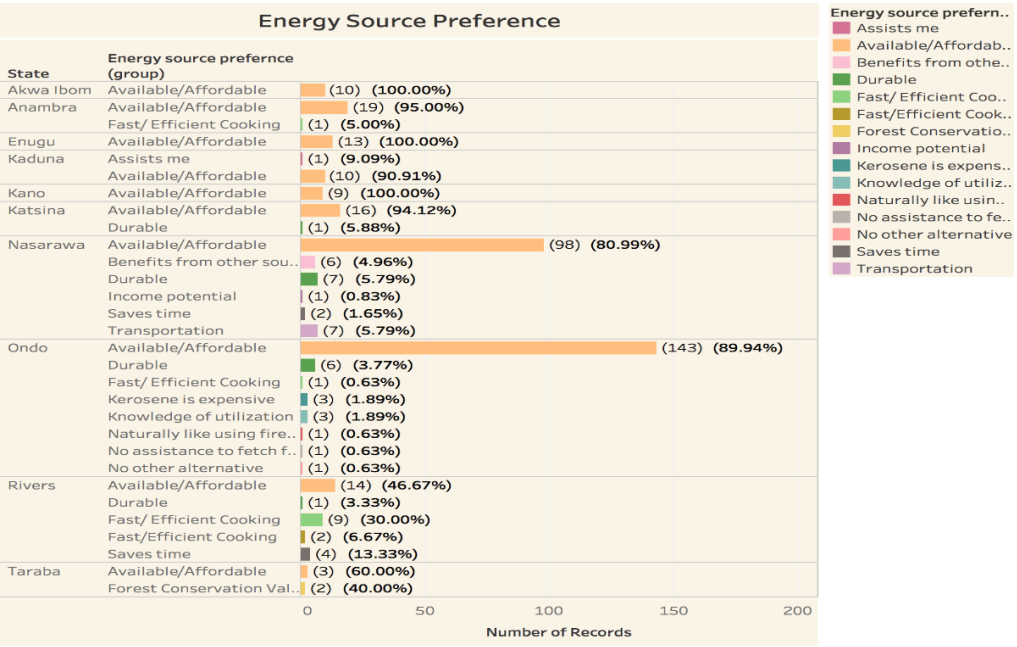


Figure 5.19: Reasons for choice of energy (state level)

5.3.1.3 Site of energy source

The open forest leads (42%) as the primary location for the extraction of energy resources as charcoal and firewood, followed by the forest reserves (29%), and community woodlot (15%) (Figure 5.20). At state levels, the location for fuelwood and charcoal extraction in Ondo state is

in the open forest and community woodlots, while inNasarawa state, it is in the forest reserves (figure 5.21).

Disaggregated by gender, the location for the source of energy contrast significantly between the men and women (figure 5. 22)..

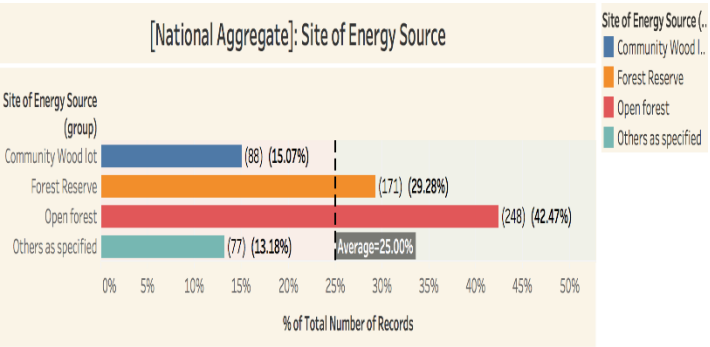


Figure 5.20: Site of Energy souces

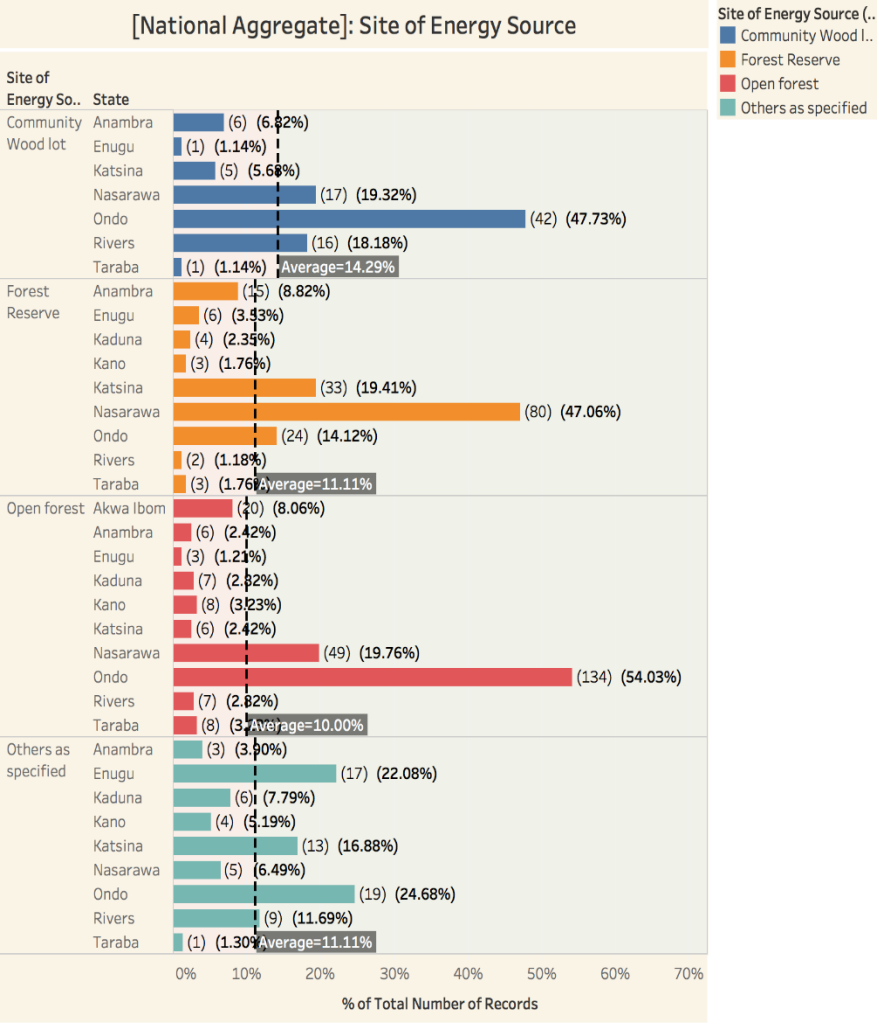


Figure 5.21: Site of energy sources in the states.

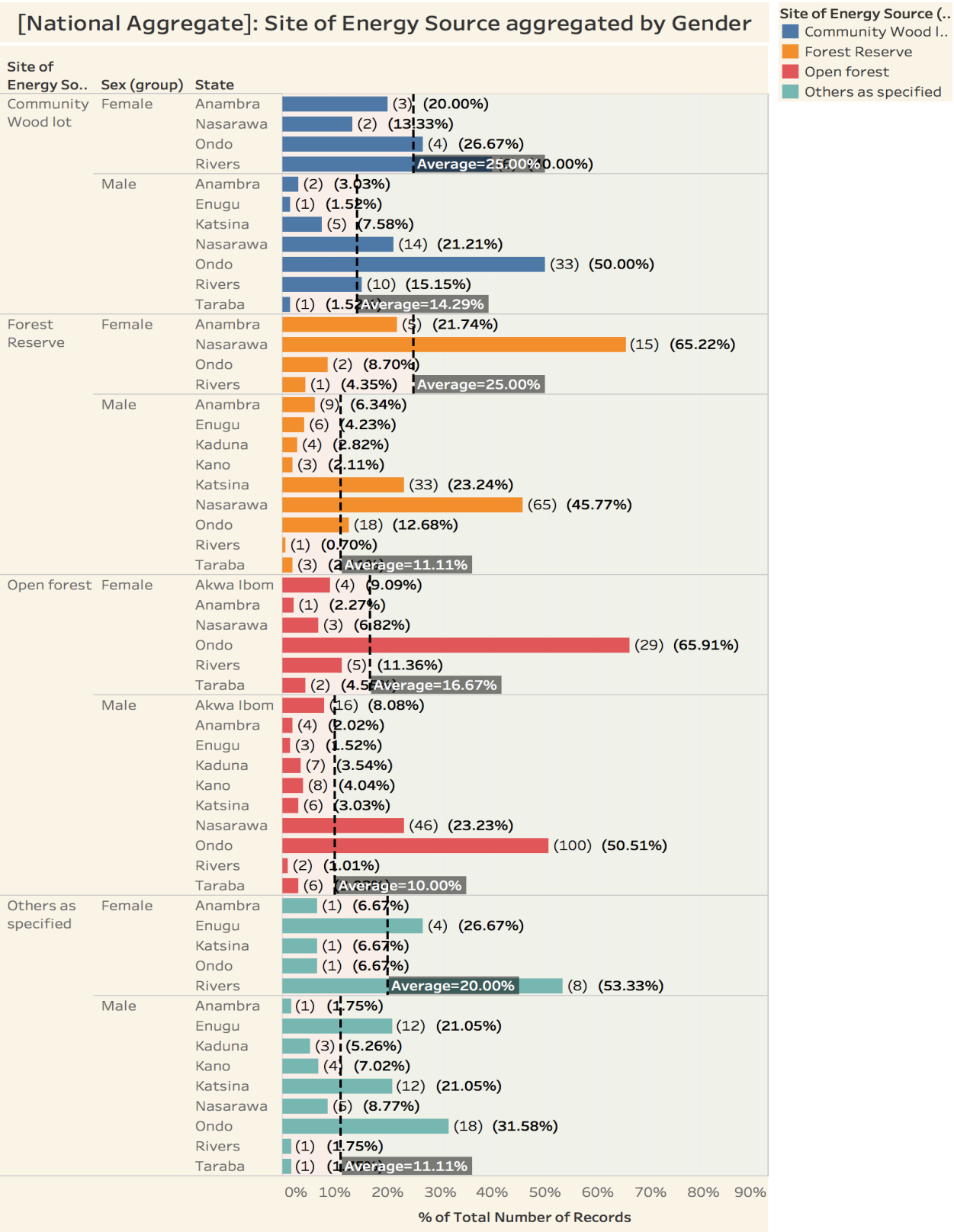


Figure 5.22: Site of energy source by gender

5.3.1.4 Energy production

Charcoal production is the second primary occupation in the Nasarawa state. Table 5.3 shows it is one of the significant drivers of deforestation after farming. 20% of the population, mostly women are involved in the charcoal production. The markets are available in Lafia, Abuja, and Lagos as well as other cities. Nearness to a ready source of market makes the charcoal production a lucrative business. The species that are usually exploited include in Atabla,and Obi forest reserve is "Kiriya."

Table 5.3 :Charcoal production and Characteristics

Charcoal Production	**Characteristics**
No. of people involve	20%; out of which 80% are women
Viable species	**"Kiriya"** (Popularly called Ogi); **"Dorowa"** (Locust Beans); Parkia
Reason for the choice of species	Burns efficiently, give quality charcoal, Produce more quantity
Availability of species	Very scarce because of overexploitation
Quantity of charcoal	3 to 4 100kg bags for trees of 15 total height and dbh of 30m to 10m diameter at the top
Weight	100kg of charcoal = 50kg of rice
Price	N1,500 to 2,000 per 100kg bag

Features of Fuelwoodand charcoal as an energy source in Marhai: From the community perspective, the following are deduced as the key features of the fuelwood and charcoal industry:

1. Fuelwood is the source of energy for the Kurele communities
2. Local extract directly from the forest for use and sale to foreign buyers
3. A household consumed a bundle of firewood per day. One bundle is about N200.00
4. Women are strictly involved in energy provision
5. Firewood is sold to outsiders
6. Majority of buyers come from Jos and few from Akwanga
7. About 5-7 buyers per day during the peak period (October-December) and 2 tons Hiace bus loaded with firewood worth N20,000.00
8. No firewood plantation, government or private and no management plans.
9. Access restriction to the forest that harbours energy resources in the event of REDD+ programme will b a huge burden considering the role of charcoal and fuelwood as vital sources of income to the family.

5.3.1.5 Energy Consumption

Energy consumption cost

Figure 5.23 shows the daily energy consumption cost nationally to be between N100 and N200 evidenced by 38.0% of respondents. An appreciable proportion of respondents (29%) spend between N300 to N400 for daily energy needs. At state levels however, daily energy consumption cost is higher in Nasarawa and Ondo states (figure 5.24) indicated respectively by 33.3% response with more than N500 and above.

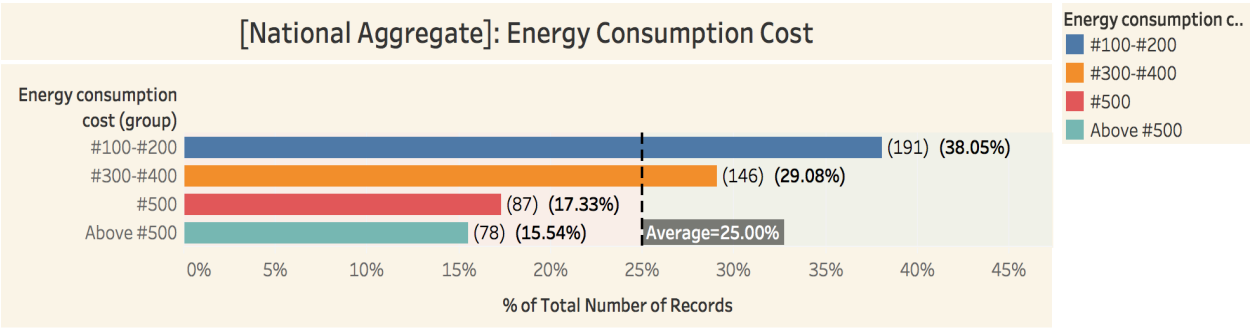


Figure 5.23: Aggregate of National energy consumption cost

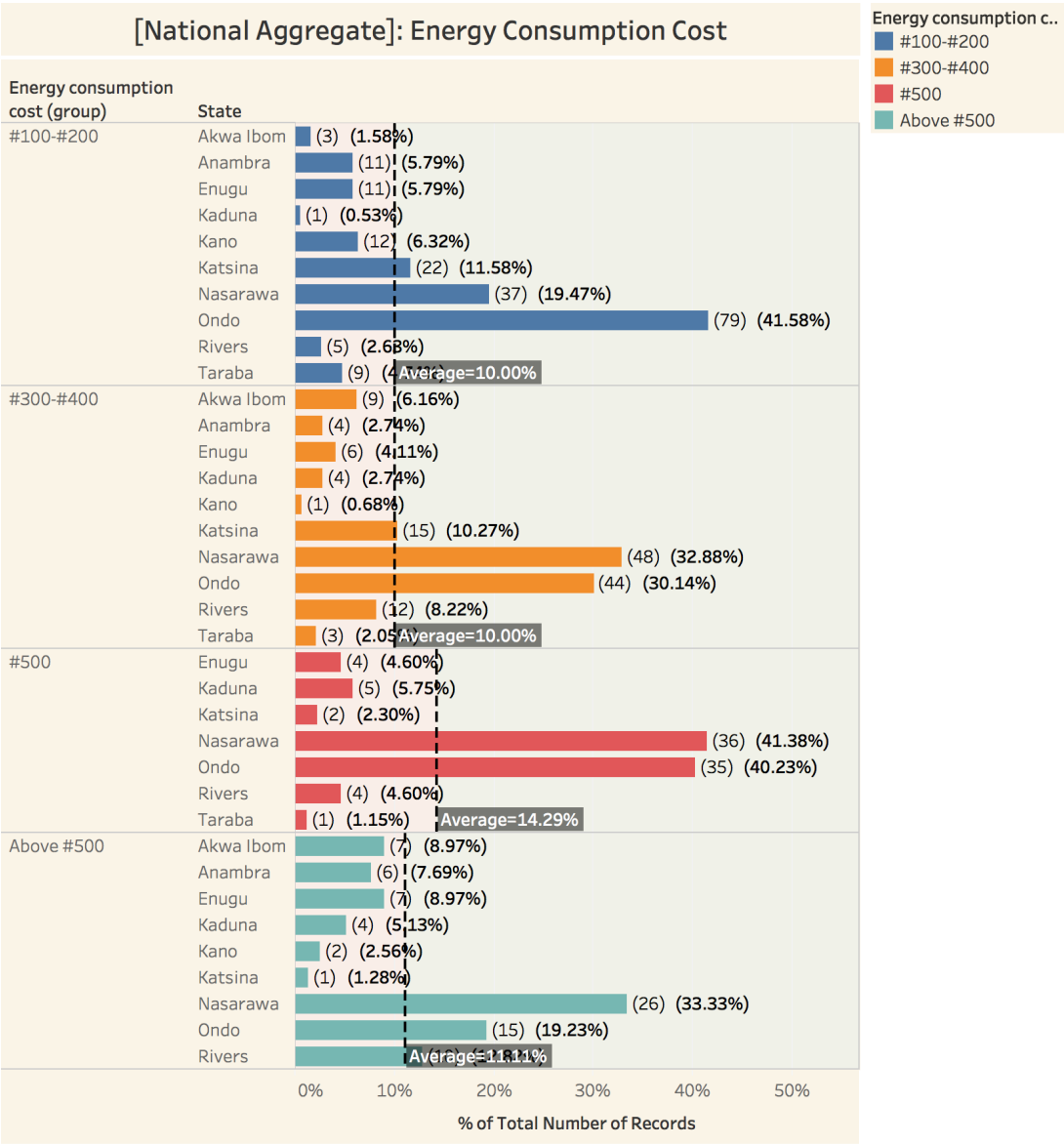


Figure 5.24: Energy consumption cost at the state level

5.3.1.6 Energy Consumption Profile of Forest Communities in Northwest Geo-political Region.

The energy consumption profile in some forest-dependent communities in the north-west geo-political region of Nigeria depicted in Table 5.4.

Table 5.4: Summary of Energy consumption (Fuel Wood/ Charcoal)

Community	Source of energy	Means of energy	Quantity/household	Effects of conservation intervention	suggestion
Kaduna (Agban-Kagaro and Buruku communities	Fuelwood and charcoal	Fuelwood is extracted directly, and charcoal is produced from fuelwood. At Buruku community, fuelwood is extracted for commercial purpose. The site produced fuelwood that is supplied to the neighboring States in the North.	6 logs per week or 14 kg of charcoal are consumed by average household size per week	No access to fuelwood and charcoal production thereby creating a problem for cooking	Provision of a sustainable alternative source of energy
Kano (Kagadama and Mekiya communities)	Fuelwood and Cornstalks	Fuelwood extracted directly and purchased from the local market	4 logs per week plus some corn stalks	Nonavailability of the cheap alternative source of energy	Provision of an alternative source of energy
Katsina (Kadobe, Maye, and Tandama)	Fuelwood and Guinea-corn stalks	Fuelwood extracted directly and purchased from the local market	3 logs per week plus some corn stalks	Nonavailability of the cheap alternative source of energy	Provision of an alternative source of energy

5.4 Agricultural systems and forestry

The main features of the agricultural land use and cropping systems typical of the REDD+ pilot sites and selected forest-dependent communities across the geopolitical zones of Nigeria are briefly highlighted.

5.4.1 North Central- Taraba State.

In Taraba State, the characteristics of the agricultural systems in communities are based on their major crop cultivated and are summarized below:

a. The principal cropcultivated includes maize, rice, cassava, beniseed, groundnuts, guinea corn,etc.
b. The land is acquired through inheritance, leasing to those who need more land either from individuals, family, and community.
c. Bush fallowing/shifting cultivation and rotational system are the most prevalent land management technique. The length of the fallow varies between 3-5years depending on the availability of land in the new cropping season.
d. Mixed farming, mixed cropping, intercropping are practiced where root crops such as cassava are intercropped with grains and vegetable such as cucumber within the same piece of land.
e. Forest and agricultural system are interlinked. Forest is cleared for the cultivation of crops. Many farmers have preference for natural forest lands or old fallow regrowth in

cultivating their crops. Crop types therefore could inform land use decisions and suatainable use of forest lands..

f. Agroforestry is highly recommended for the area.

5.4.2 South-East Geo-political Region - Enugu & Anambra States.

Enugu State in south-east Nigeria has the following agriculture and forestry practice

1. The chief crops grown in the community are Cassava, Yam, Maize,and Okro.
2. Rotational bush fallow cultivation is practiced.
3. Lands are acquired by Inheritance (family land) where rotation of crop land is practiced. Permission from Forestry Commission is also required for land access or acquisition.
4. For land management techniques, shifting cultivation is adopted for an increase in output.
5. Tungya farming and shifting cultivation which is practiced in Uzzo communities create the links between forests and agricultural system that are being practiced.

The perceived forest conservation effect on community agricultural practice is provided in Table 5.5

Table 5.5 : Perceived effect of community agricultural practices on forest conservation.

Positive	**Negative**
Protect the environment	Neighbors and boundary invasion over the years.
	The survey carried out for boundary purposes is no longer used. Thus we are losing our lands to others.
	No carriage of the forestry department

Suggestions provided by the community to reduce adverse effects and or promote the positive ones are highlighted below.

- The appropriate agency concerned should resuscitate the forestry commission to be fully functional.
- Employ indigenous forest guards to guard against any form of encroachment
- The gap in communication between forestry commission and the community should be bridged.
- The government should provide external protection to forest communities.

5.4.3 South-South Geo-political Region – Akwa-Ibom & Rivers State:

In Akwa Ibom state, (South-south), agricultural systems differed according to communities and based on their major crop cultivated as summarized below

1. Taunya system is practiced in some part of the Stubbs creek reserve.
   The chief crops grown in Ntak Inyang and Akpayak communities include Cassava, Maize, Yam, Cocoyam and Plantain and Cucumber. Akpayak community cultivates rice, and the community is the primary producer of rice in Akwa Ibom State.
2. The land is acquired through inheritance, leasing to those who need more land from individuals, family, community and sometimes from the reserve in Stubbs creek.
3. Bush fallowing/shifting cultivation and rotational system are the most prevalent land management technique. The length of the fallow varies between 4-7 years
4. Mixed farming, mixed cropping, intercropping are practiced where root crops such as cassava are intercropped with grains and vegetable such as cucumber within the same piece of land.
5. Forest and agricultural system are linked, e.g., Gnetum Africanum is gotten from the forest for domestication. Taunya system is also practiced in the forest reserve.

6. The activities of Oil companies such as Mobil, Universal Energy, and Frontier have affected the soil in the area, thereby reducing economic gains of agricultural output.

Similarly in Rivers State;

1. The chief crops grown in Emeleko and Ugbokolo, communities include Cassava, Maize, yam, Cocoyam and Plantain.
2. The land is acquired through inheritance, leasing to those who need more land.
3. Bush fallowing and rotational system are the most familiar land management technique.
4. The mixed farming, mixed cropping, and intercropping being practiced, has not stabilized land use. Forest land is therefore still being cleared for agriculture.
5. The activities of Oil companies such as Shell have affected the soil in the area, thereby reducing commercial agricultural output.
6. Tungya system is also practiced in the forest reserve

In North-west Nigeria, the agriculture system is as presented below.

Table 5.6: Table of Agriculture System in Kaduna, Kano, and Katsina States (North-West Nigeria).

Community	Crop is grown	Land Acquisition	Crop Management	Effect of forest conservation on Agric output	Suggestions
Kaduna (Agban-Kagaro and Buruku communities)	Maize, Rice, Guinea corn, Groundnut, Ginger, Beniseed, Cassava, and pepper	Grass land and fallow	Application of both organic and inorganic fertilizer. Also, practice crop rotation and Tugya system	Reduce livelihood dependency on the forest, hunger, loss of livelihood Restore climate condition, improve health and improve soil fertility and soil structure	Creating alternative livelihood means such as poultry and pig farming especially in Agan-Kagaro
Kano (Agban and Mekiya communities)	Yam, Maize, cocoa, cassava	Grassland and fallow	Application of nutrientsisi.e. Spreading of animal dung and harvest of decay leaf from the forest reserve to be spread on the farmland before tillage.	Livelihood limitation Helps to minimize erosion	Provision of alternative livelihood
Katsina (Kadobe, Maye,and Tandama)	Millet, Guinea corn, Maize, Rice	Grass land and fallow	Application of nutrients i.e. spreading of animal dung and harvest of decay leaf from the forest reserve to be spread on the farmland before tillage.	Erosion control, Livelihood limitation, non-availability of the source of energy	Provision of alternative livelihood, Boosting of Agricultural activities

5.4.4. North-Central Region – Nasarawa State

In North Central Nigeria, (Nasarawa State), agricultural systems also differ according to communities and based on their major crop cultivated as summarized below:

1. The chief crops grown in Kurele communities include Guinea corn, Maize, Acha (Hungry Rice or Fonio) and Sesame, yam, Cocoyam, cowpea, cassava, banana and oil palm.
2. Obi and Zono practiced mixed cropping and cultivate, grains such as rice sesame, guinea corn, millet, locust beans, and soya beans etc predominantly. .
3. The landis acquired through inheritance, leasing to settlers is also common.

4. Bush fallow is the familiar land management technique others includes the use of farmyard manure obtains from Fulani herdsmen.
5. Generally, Agricultural systems include mixed farming, mixed cropping and intercropping. There are no clear links between the agriculture being practiced and forest protection as the forest is continously being cleared for farming.
6. Forest Conservation will restrict farming in the forest and thereby reducing economicgains agricultural output. (ii) the open forest soils are less fertile (iii) with conservation of forest; less fund will be available to invest in farming (Note: most farmers generate income from the forest during the dry season)
7. Taungya system is also practiced in Obi forest reserve by Atabla community where they buy the reserve from the government for farming.
8. In Zono the land at the buffer zone of the forest reserve is used for farming.
9. Agroforestry is rare. However, trees such as cashew, locust beans, mango, etc. are being conserved in farms to produce forest products for consumption

A. Land Management

- Clear and decay composting
- Use of poultry waste to enrich the soil
- The cow waste to enrich the soil
- They also use inorganic fertilizer
- Distance to Ogbono = 100 km
- Forester office arrest people to carry out activities in the forest
- They pay fine as a penalty on the offense
- Hunting is not also allowed
- The government does not involve the people in anything
- REDD+ engagement

5.5 Logging

5.5.1 Level of involvement in fuelwood production.

Figure 5.25, shows a high proportion of persons involved in fuelwood production, particularly in Ondo state (40%) and Nasarawa State (37.5%).

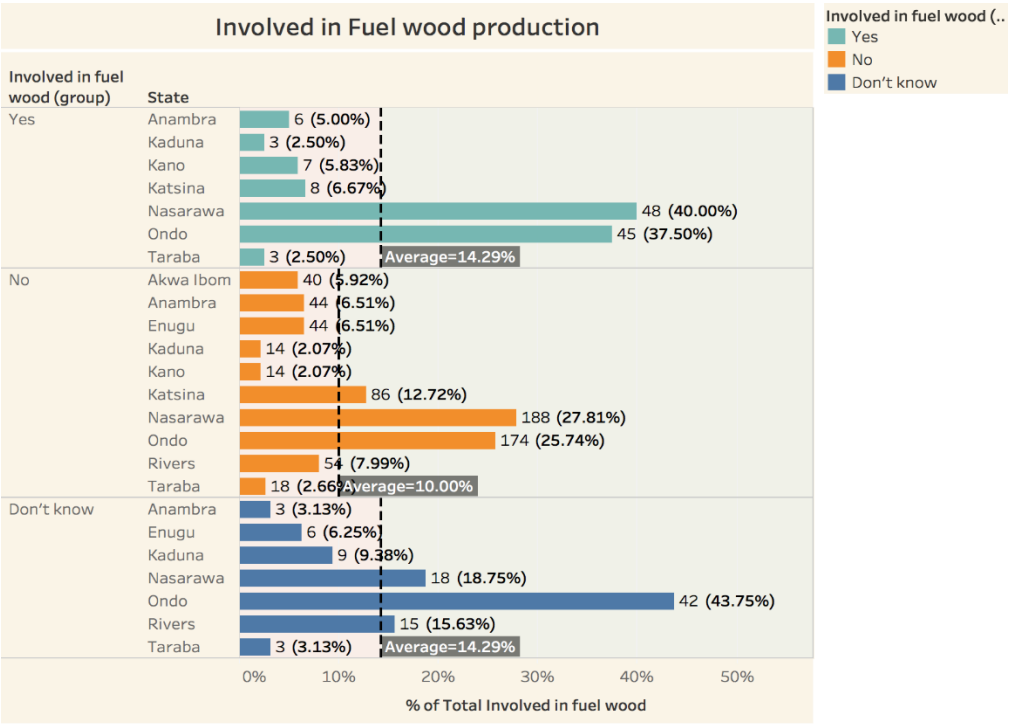


Figure 5.25: Level of involvement in fuelwood production

5.5.2 Case study: Timber Business in Idoani (Ondo State)

The timber association in the area is a registered organization with the government and named Timber Trade Organization (TTO). This organization is spread across communities such as Idoani, Afo, Imeri,and dogs. The organization included loggers and saw millers. The association also helps to checkmate illegal logging as they usually seize illegal woods and arrest offenders. Logging is carried out in all other lands except in government reserve. A total of six sawmills operate in Idoani. The logging process and associated cost are highlighted in table 5.7.

Table 5.7: The Activities of logging and cost implication:

Process of Logging	The cost in (₦)
a. Pay the owner of the timber or the community if the tree is in community land and obtain a permit	₦3,000 for hardwood 9ft round and 20m in height depending on size. ₦1,000 for softwood
b. Get a permit from the government (forestry office)	₦2,600 for hardwood also depending on species ₦2, 000 for softwood
c. Pay for felling	₦500 per stand
d. Pay for the evacuation of the wood	₦80,000 for one full load of a lorry (300 cubits)
e. Community development fee	₦500 per trip
f. Sawmilling	₦30,000 to 36,000 for one full load depending on species, Less for softwood
g. Total input range	₦200,000 to 220,000
h. Profit range	₦40,000-50,000
i. No of the trip per week	4-5 full load of lorries (1200 to 1500 cubits)

j. The price range of planks as output	₦800 to 1,500
k. Available market	Lagos, Port Harcourt, Onitsha, Kano, Kaduna, Abuja, Ibadan etc.
l. Species Preference	Iroko, Mahogany, "Apa", "Ayire" Antiaris (Oriro), Ceiba petendra, Obeche, Brachystegia, Astonia, Iroko, Afzelia, Ebony, Poga.
m. Involvement of women	Few women are involved and are treasurers and welfare officers in the timber organization

5.5.3: Mining and forest

Mining activities are often carried out in forest areas with eventual consequences on deforestation from the removal of the overburden, the scarification of the land and pollution of forest vegetation. Table 5.8 depicts this relationship in some communitie in the North-Western Geo-political Zone.

Table 5.8: Mining Activities

Community	Mining Activities	Group involved	Scale/ mineral extracted	Impact of mining on forest	Suggestion
Kaduna (Agban and Buruku communities	Manually done in the neighboring communities	Youth and men	Artisan-level at the moment Mineral extracted are; Tin and Columbite	Deforestation and soil nutrient loss and landslide. It leads to soil erosion and land crust failure. However, it will generate employment to youth	Regulation of the activities by the statutory agency and upgrading of the available local govt department of natural resources office that presently regulate the activities
Kano (Kagadama and Mekiya communities)	Nil	Nil	Nil	Nil	Nil
Katsina (Kadobe, Maye and Tandama)	Nil	Nil	Nil	Nil	Nil

Taraba

Mining Activities

Mining activities are not pronounced in the area. However, artisanal mining at low scale goes on in the area with the excavation of sand used for building. The impact on the environment, especially the forest, is insignificant. There is no firm operating within the area; hence no policies and laws guiding the regulation of mining activities.

5.5.4 Grazing and forest resource use

At all the sites visited for this study in the, herdsmen were found around these communities. The herdsmen are living very close to their homes and farm settlements. There are no areas demarcated for grazing. Hence, the herdsmen move around the farm and forest area to feed their herds. Most of the community men that are farmers are also rearing animals for farming activities such as; soil tillage, hauling and supplying of farmyard manure.

Couples of conflicts had cropped up between the community people and the herdsmen that had even led to the loss of lives and properties, especially in Kaduna State. In Agban-Kagaro site of Kaduna State, the communities such as Gododo, Gidan wire,and Tadowada witnessed herdsmen conflict with their farmers in 2011 that led to massive loss of lives and farmlands. Most of the farmers had resulted to sleeping on the farm to protect their farm from being invaded upon by the herdsmen. However, no farmers/ herdsmen crisis was reported in Kano and Katsina States.

The community people advocated for government intervention to provide adequate security in their communities. Also, they suggested the creation of ranches and demarcation of graze land for the herdsmen.

Grazing – Marhai - Nasarawa state.

a. Many communities don't practice cattle rearing
b. Herdsmen settle very close to the communities
c. No areas demarcated for grazing
d. Yes, frequent conflicts between herdsmen and farmers
e. The only reason for the conflict is the destruction of farm products by cattle.
f. Restrict open grazing could be the only solution

Grazing - Taraba state.

Though the presence of Fulani herdsmen is felt in the area resulting in crisis, there is no area dedicated to grazing. The open grazing by Fulani herdsmen has resulted in crisis at different dimensions. The reason for the crisis is that the Fulani herdsmen feed their cattle on peoples' farms.

5.6 Cultural dimension of forest product

Socio-Cultural Dimension of Forest Product

(a) The market for Forest Product: The market for forest products mainly charcoal are the big cities of Abuja, Lagos, Ibadan, Kaduna, Kano, Lafia, Akwanga, among others.
- Fuelwood and minimal charcoal, honey, palm oil and kernel, banana commercial activities. Primary markets are found in these cities
- No Forest Community Association
- Bush burning, farming, and deforestation reduces forest cover and stock and thereby reduces NTFPs,e.g., honey and the market are affected negatively.
- There are no regulations on Forest/land use in Marhai reserve. However, in obi and Zono, there is enforcement though weak.

(b) Culture and Forest Resources

There are cultural practices in the communities with little effects of forest
- Kulere festival: annually celebrated in April

- Shrines: Ndukon Mambun is a shrine of Karam which is visited before any cultural occasion in the forest or the village
- Kufma Rikil is a sacred forest within Gufur (traditional settlement of Karam where series of artifacts and symbols of the waterfalls are located), an arena for performing of rituals increasing the sacred values for traditional rights
- REDD+ conservation plans will negatively affect the activities of shrines if forest restriction is enforced.
- Water Falls lead to electrification of the communities

In Atabla, Obi forest reserve, there are three tribes within the communit, which include the Eggons, Mikili, and Angas. Each tribe has a distinct culture. However, there is a general forest for shrine called “Kurumi” only men are allowed into the forest; women will not give birth if they enter the forest. Logging is not allowed there. The different tribes have their chief priest for the performance of the cultural festival. There are times the whole community comes under one roof to celebrate as directed by the chief.

In Sere of Zono forest reserve, they have an annual festival but no shrine as other two pilot sites.

5.7 Forest Management Interventions

5.7.1 Community Interventions, Their Status,And Involvement.

Figure 5.26 assessed whether there had been forest management activities that have been carried out in various forest communities in the past. The responses show a not too significant level of intervention generally (figure 5.26), concerning forest management programs and activities.

Figure 5.27 going by absolute numbers show in descending order of magnitude that forest regeneration activities (tree planting), forest management plans and livelihood activities were the more commonly received forms of interventions particularly in Nasarawa and Ondo states.
Disaggregation by gender on support received from the government showed that the level of support received by both men and women were low (figure 5.28).

The government’s effort to reduce dependence on forest through various forms of interventions was generally considered minimal or non-existing (figure 5. 29). The common response was ‘don’t’ know.

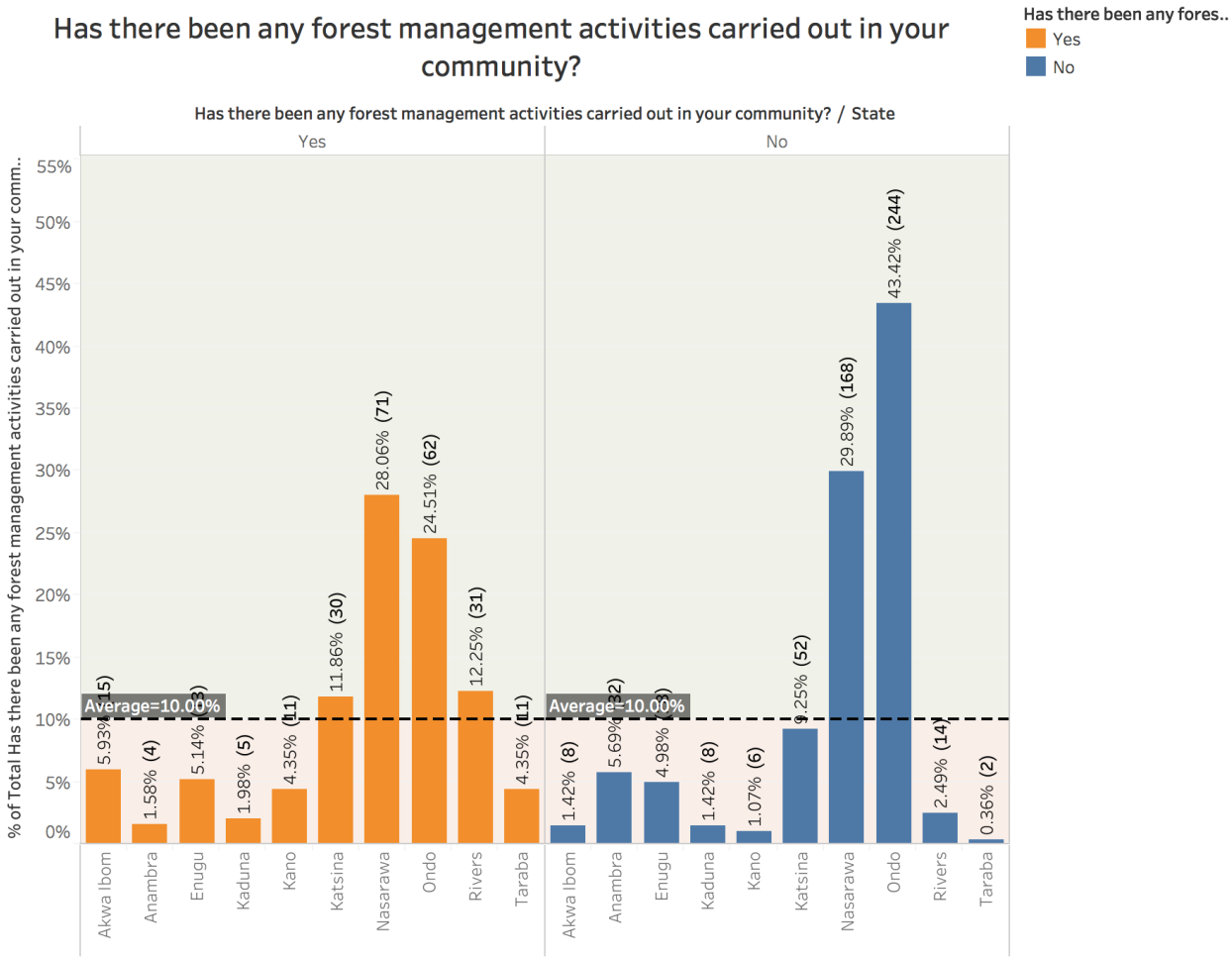


Figure 5.26: Forest managemet activities in the communities.

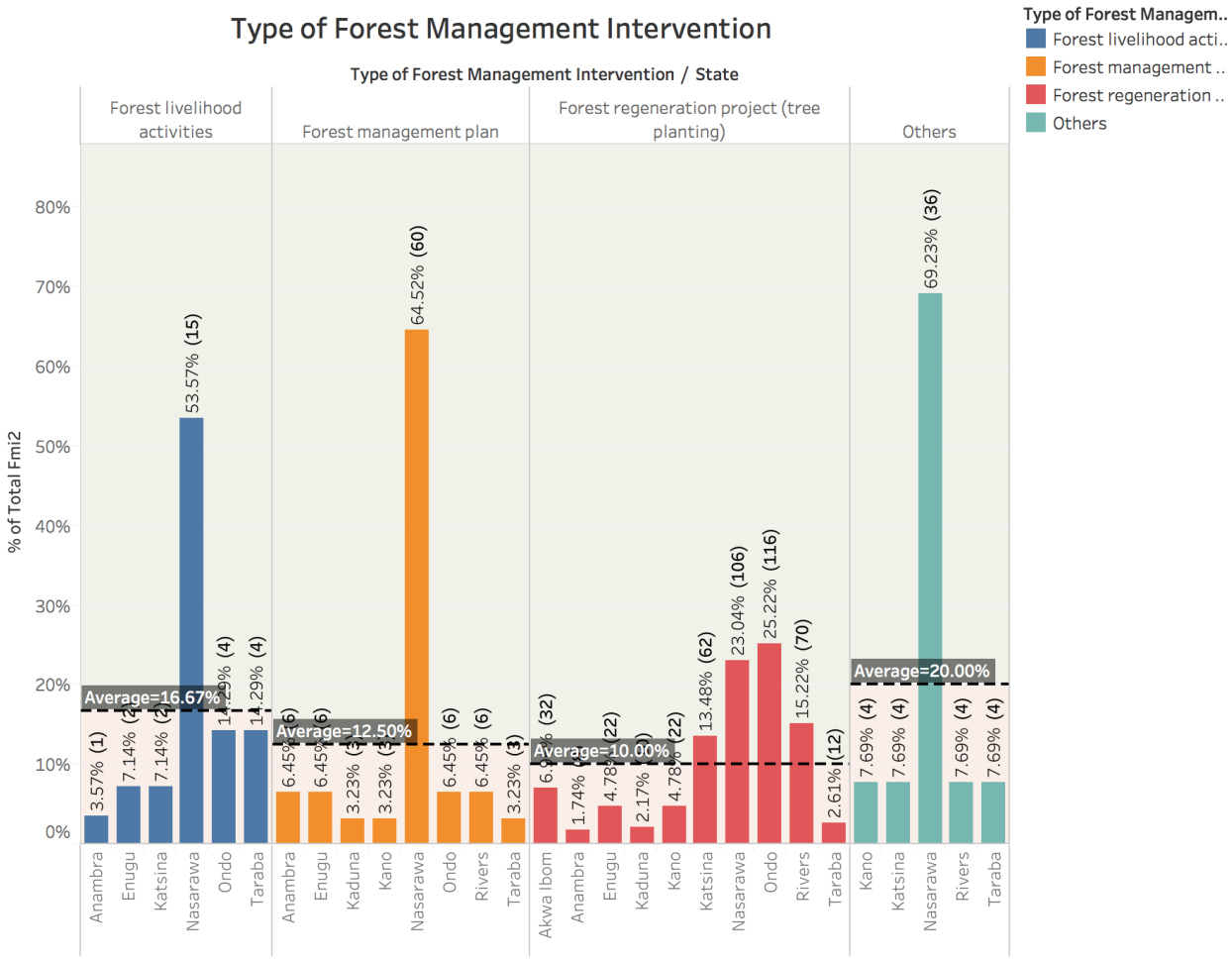


Figure 5.27: Types of forest management intervention.

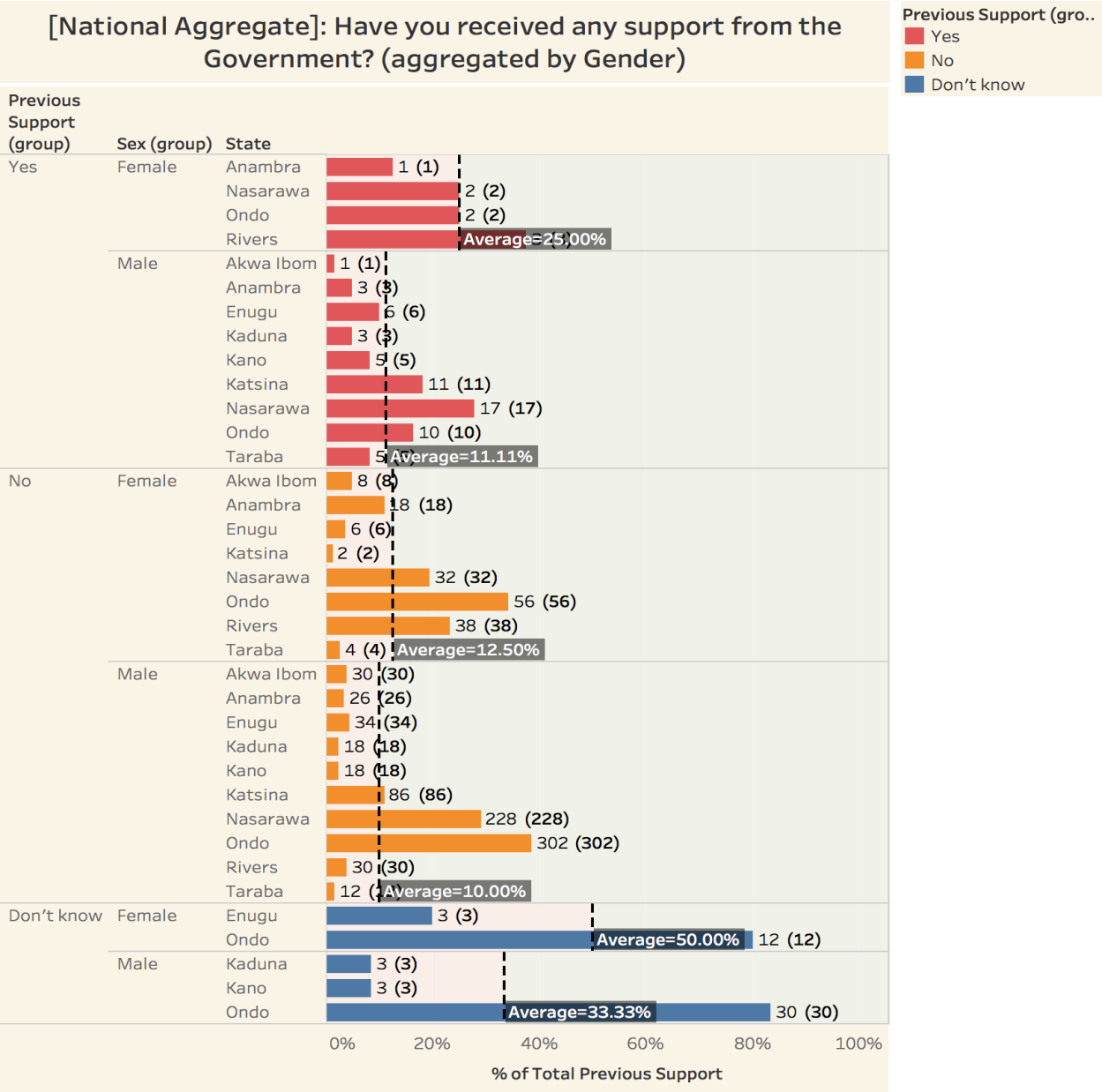


Figure 5.28: Receipt of support from the government.

5.5.2 Case studies of community experience on levels of participation and satisfaction with development intervention projects.

Communities across the different geopolitical zones were assessed based on their level of satisfaction and participation with community development projects ranging from forestry and agricultural interventions to infrastructure that had taken place in their villages. Tables 5.9 to 5.18 captured the various responses. The report card is mixed and range from the not satisfied to the very satisfied. The agencies responsible and the status of the projects are captured. The extent of community participation in the various phases and lifecycle of projects are also captured. The results have serious implication and application to REDD+ interventions to ensure

people participation and satisfaction with respect to benefits enhancement and risks minimization.

Table 5.9: Nasarawa State- North Central Nigeria. Community intervention.

S. No.	Projects	Agency responsible	Year	Status of implementation	Current State of the project	Community Perception of benefits	Level of Satisfaction (1=not satisfied, 5= highly satisfied
Atabla Community (Obi Pilot Site)							
1	Capacity building for Cultivation of Soya beans	NGO (Name not known)	2017	Not implemented after registration and initial engagement	Not in existence as there was no follow-up	The community was deceived into registering with N1000. No impact on women who were beneficiaries	1
2	Rice Cultivation	Fadama (Agriculture Development agency)	2017	Fully implemented	Partially working,	It will be beneficial if the project is sustained	3
3	Provision of farm incentives	Political party (PDP)	2013	Not in existence	Not in existence	Only shared few food items and promised to come back	1
Marhai Community (Marhai Pilot Site)							
	None	None	None	None	None	None	None
Sere Community (Zono Pilot Site)							
	None	None	None	None	None	None	None

Table 5.10: Involvement Level, Nasarawa State (North Central) Nigeria.

S.No	Projects	Agency responsible	Project Phases				
			Beneficiaries	Planning/ Design	Decision Making	Project Implementation	Monitoring
1	Capacity building for Cultivation of Soya beans	NGO (Name not known)	Women	Chief in Council/ women leaders	None	None	None
2	Rice Cultivation	Fadama (Agriculture Development agency)	All	Chief Council and community leaders	Chief Council	None	None
3	Provision of farm incentives	Political party (PDP)	All	All groups	None	None	None

Table 5.11: Community Intervention, Ondo State, South West Nigeria.

S/n	Projects	Agency responsible	Year	Status of implementation	Current State of the project	Community Perception of benefits	Level of Satisfaction (1=not satisfied, 5=

							highly satisfied
Idoani Community (Osse river park Pilot Site)							
1	Women empowerment project named "Sunshinefadama"	Fadama	2016	Implemented with eight lock up stores	In contention with the chief and elders who claim ownership	Men and elders want to take over the management of the shops	2
2	Community Hall	Community and social development project (world bank assisted)	2016	Fully implemented	working,	Beneficial to all	5
3	Drainage	Community and social development project (world bank assisted)	N/A	implemented	working	Benefit to all	5
Obada (Akure Pilot Site)							
1	Forest Regeneration project	FRIN	2009-2014	implemented	working	Multiple benefits	5
2	Forest Regeneration project of Akure forest reserve	FRIN and Ministry of natural resources	2009-2014	implemented	working	Multiple benefits	5
3	Afforestation	IITA, International biotropica	2017-2018	On-going	working	Multiple benefits	5

Table 5.12: Involvement in Intervention Ondo State (South-West Nigeria)

S/n	Projects	Agency responsible	Project Phases				
			Beneficiaries	Planning/ Design	Decision Making	Project Implementation	Monitoring
1	Women empowerment project named "Sunshinefadama"	Fadama	Women	Chief Council/ women leaders	None	Women	Chiefs
2	Community Hall	Community and social development project (world bank assisted)	All	Council of Chiefs/ and community leaders	Council of Chiefs	None	None
3	Drainage	Community and social development project (world bank assisted)	All	Chief Council and community leaders	None	None	None

4	Forest Regeneratio n project	FRIN	All	Chief Council and community leaders	None	None	None
5	Forest Regeneratio n project of Akure forest reserve	FRIN and Ministry of natural resources	All	Chief Council and community leaders	None	None	None
6	Afforestation	IITA, International Biotropica	All	Chief Council and community leaders	None	None	None

Table 5.13: Community Intervention, Kano, Kaduna & Katsina States (North West) Nigeria.

S/n	Projects	Agency responsible	Year	Status of implementation	Current State of the project	Community Perception of benefits	Level of Satisfaction (1=not satisfied, 5= highly satisfied
Kaduna State							
1	UNDP-GEF fuel wood lots Plantation. 3003 ha in Kaduna and 100 Ha in Tsonge	UNDP-GEF	2017	The project was not completed after the stipulated 3 years	There is pressure on the existing ones due to high need for fuelwood assource of energy	The project is impactful as it helps in the provision of grazing areas for animal and collection ofmanual for farming	3
Kano State							
1	Establishment of Forest Reserve in Mekiya and Kagadama communities	State Ministry of Environment and Forestry	The 1960s	The government has allocated a significant portion of the reserve at Kagadama for the establishment of the refuse dump site.	The established forest reserve is not sufficient	The project is impactful as it helps in the provision of grazing areas for animal and collection of the manual for farming	3
Katsina State							
1	Establishment of Forest Reserve in Kadobe, Maye,and Tandama)	State Ministry of Environment and Forestry	The 1970s	state government interference by allocating land even within gazette forest	The established forest reserve is not sufficient,andthe law governing forest and land use not effective	The project is impactful as it helps in the provision of grazing areas for animal and collection of the manual for farming	2

Table 5.14: Involvement in Intervention Programmes.Kano, Katsina and Kaduna States.(North West Nigeria).

S/n	Projects	Agency responsible	Project Phases				
			Beneficiaries	Planning/ Design	Decision Making	Project Implementation	Monitoring
1	UNDP-GEF fuelwood lots Plantation. 3003 ha in Kaduna and 100 Ha in Tsonge	UNDP-GEF	All	Government and the donor	None	None	None
2	Establishment of Forest Reserve in Mekiya and Kagadama communities	State Ministry of Environment and Forestry	All	The government,Chief Council, and community leaders	Chief Council	Men and youth	Youth
3	Establishment of Forest Reserve in Kadobe, Maye,and Tandama)	State Ministry of Environment and Forestry	All	The government,ChiefCouncil,and community leaders	Government	Government officers and some youth	Government MDAs and community leaders

Table 5.15: Community Intervention, Akwa Ibom State (South-south Nigeria).

S/n	Projects	Agency responsible	Year	Status of implementation	Current State of the project	Community Perception of benefits	Level of Satisfaction (1=not satisfied, 5= highly satisfied
Ntak Inyang (Stubbs Creek Forest Reserve)							
1	Alternative Livelihood	Nigeria Conservation Foundation (NCF)	1990	Implemented with the provision of goatery	Not in existence as there was no sustainability	There was a benefit at the time the project was in existence	2
2	Payment of Royalty	Forestry Department	Over the years	Implemented	Still in vogue	Need more incentives	3
Akpayak (Ogu Itu Forest Reserve)							
1	Enrichment Planting	Forestry Department	1980s	Implemented as at then	The project was completed then	It was for mutual benefit	3
2	Payment of Royalty	Forestry Department	Over the years	Implemented	Still in vogue	More collaboration for provision of incentives	3

Table 5.16: Level of Involvement in Intervention Project/Programme, Akwa Ibom State (South-south Nigeria).

S/n	Projects	Agency responsible	Project Phases				
			Beneficiaries	Planning/ Design	Decision Making	Project Implementation	Monitoring
Ntak Inyang (Stubbs Creek Forest Reserve)							
1	Alternative Livelihood	Nigeria Conservation Foundation (NCF)	The entire communities	Community Leaders including women leader	Community Leaders including women leader	Community Leaders including women leader	None
2	Payment of Royalty	Forestry Department	The entire communities	N/A	N/A	N/A	N/A
Akpayak (Ogu Itu Forest Reserve)							
3	Enrichment Planting	Forestry Department	The entire communities	Community Chiefs	N/A	N/A	N/A
4	Payment of Royalty	Forestry Department	The entire communities	N/A	N/A	N/A	N/A

Table 5.17: Community Intervention, Taraba State (North East Nigeria).

S/n	Projects	Agency responsible	Year	Status of implementation	Current State of the project	Community Perception of benefits	Level of Satisfaction (1=not satisfied, 5= highly satisfied
Aforobe Community							
1	Enlightenment Campaign	Nigeria Conservation Foundation (NCF)	2000	Implemented	Awareness for conservation was created	Communities are aware of the need for conservation	3
2	Bee Keeping (Capacity building for Alternative Livelihood)	Nigeria Conservation Foundation (NCF)	2013	Implemented	Not in existence as there was no sustainability	There was a benefit at the time the project was in existence	2
3	Soft loan	N/A	N/A	Implemented	Still in vogue	Need more incentives	3
Buru community							
1	Enlightenment Campaign	Nigeria Conservation Foundation (NCF)	2000	Implemented	Awareness for conservation was created	Communities are aware of the need for conservation	3
2	Forest management plan	Ministry of Environment	2007	Implemented	Awareness for conservation was created	Awareness for conservation	3
3	Bee Keeping (Capacity building for Alternative Livelihood)	Nigeria Conservation Foundation (NCF)	2013	Implemented	Not in existence as there was no sustainability	There was a benefit at the time the project was in existence	2

Table 5.18: Llevel of Involvement in Intervention Project/Programme (Taraba State) North-East Nigeria.

S/n	Projects	Agency Responsible	Project Phases				
			Beneficiaries	Planning/ Design	Decision Making	Project Implementation	Monitoring
Aforobe Community							
1	Enlightenment Campaign	Nigeria Conservation Foundation (NCF)	The entire community	All community members including women and youth	Community Leaders including women leader	All community members	None
2	Bee Keeping (Capacity building for Alternative Livelihood)	Nigeria Conservation Foundation (NCF)	The entire community	All community members including women and youth	Community Leaders including women leader	All community members	N/A
3	Soft loan	N/A	The entire community	All community members including women and youth	Community Leaders including women leader	All community members	N/A
Buru							
1	Enlightenment Campaign	Nigeria Conservation Foundation (NCF)	The entire communities	Community Chiefs	N/A	All Community members	N/A
2	Forest management	Ministry of environment	The entire communities	Community Chiefs	Community Leaders including women leader	All community members	
3	Bee Keeping (Capacity building for Alternative Livelihood)	Nigeria Conservation Foundation (NCF)	The entire communities	All Community members including women and youth	Community Leaders including women leader	All community members	N/A

6.0 LAND USE LAND COVER CHANGE AND SPATIAL ANALYSIS OF DEFORESTATION DRIVERS

6.1 Land use/land cover trends

6.1.1 Ondo State

Ondo state created on 3rd February 1976 from the former western state is located in the southwest part of Nigeria. The state covers an area of approximately 15,500 square Kilometres (6,000 square miles). Ondo state borders Osun state in the Northwest, Kogi state in the northeast, Ekiti state in the North, Edo state in the East, Ogun state in the southwest, Delta state in the southeast and the Atlantic Ocean in the south. Ondo state has a population of about 3.4 million people (1761263 males and 1679761 females) as at 2006 population census. With a population growth of 3% per annum, this numbers would have soared over the last 12 years. The dynamic of land use land cover change over time is a function of the socioeconomic and anthropogenic activities of man in his environment. The people of Ondo state are predominantly fishermen, farmers, and traders.

6.1.1.1 Historical trends in land use/land cover change in Ondo State.

Rapid population growth, agricultural expansion, lumbering industries, and energy requirements (fuelwood) have affected the forest resources in Ondo state over time.

The land use andland cover change of Ondo state from 1990 till 2018 shows a continuous decline of forest from 42.6% in the 1990s to 34.1% in 2000s and then to about 31.3% in 2018. Analysis of land use land cover change using satellite images is depicted in table 6.1 below

Table 6.1. Land use/land cover change in Ondo state from 1990 till 2018

ONDO STATE	1990-1999 square metres	%	2000-2009 square metres	%	2010-2018 square metres	%
Water	59292.60	0.38	129930.0	0.8	28998.5	0.2
Settlement	1709042.74	11.03	2008212.1	13.0	2793068.7	18.0
Forest	6599485.54	42.58	5285500.0	34.1	4858167.7	31.3
cropland	502829.38	3.24	1711262.7	11.0	2192011.9	14.1
grassland	3912781.15	25.24	4614213.8	29.8	4873926.3	31.4
watershed	390983.41	2.52	380876.6	2.5	348492.7	2.2
other lands	2325585.17	15.00	1376667.8	8.9	405334.3	2.6

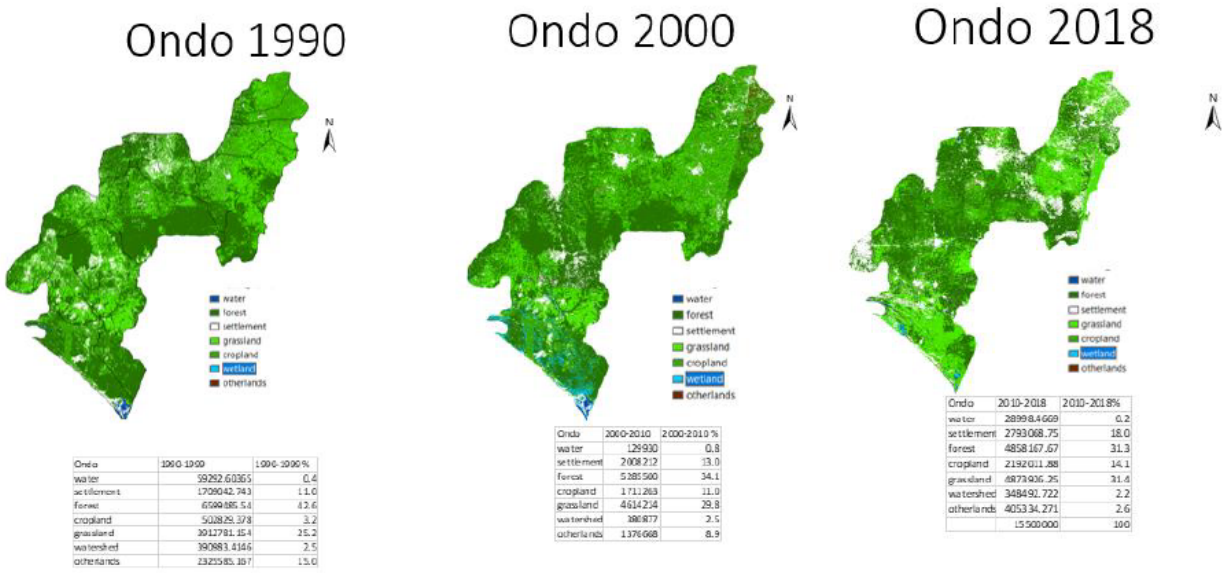


Figure 6.1 : Land use / land cover change from 1990-2018.
Source: SESA Study, 2018.

6.1.1.2 Major Drivers of Forest Change In Ondo State

Major driver of forest change in Ondo state are

1. Rapid population growth,
2. Increased urbanization

3. Agricultural expansion (cocoa plantation agriculture),
4. Striving lumbering industries, and
5. Energy requirements (fuel wood).

6.1.2 Analysis of key forest reserves and REDD+ sites

Spatial analysis of selected forest reserves in Ondo state, around the Osse river park, Ifon, Oluwa and Ofosu forest indicates that the reserves are not spared in forest degradation. This shows that forest conservation efforts in Ondo state leaves much to be desired if the REDD+ project must succeed in Ondo State.

It is expected that forest reserves and REDD+ project sites should be less affected by deforestation and forest degradation, however, this is not the case in Ondo state. A perfect example of forest reserve protection is the Cross River state forest conservation project with total moratorium on logging and full protection of the forest resources.

The following figures below show the state of those aforementioned forest reserves from 1990 till 2018

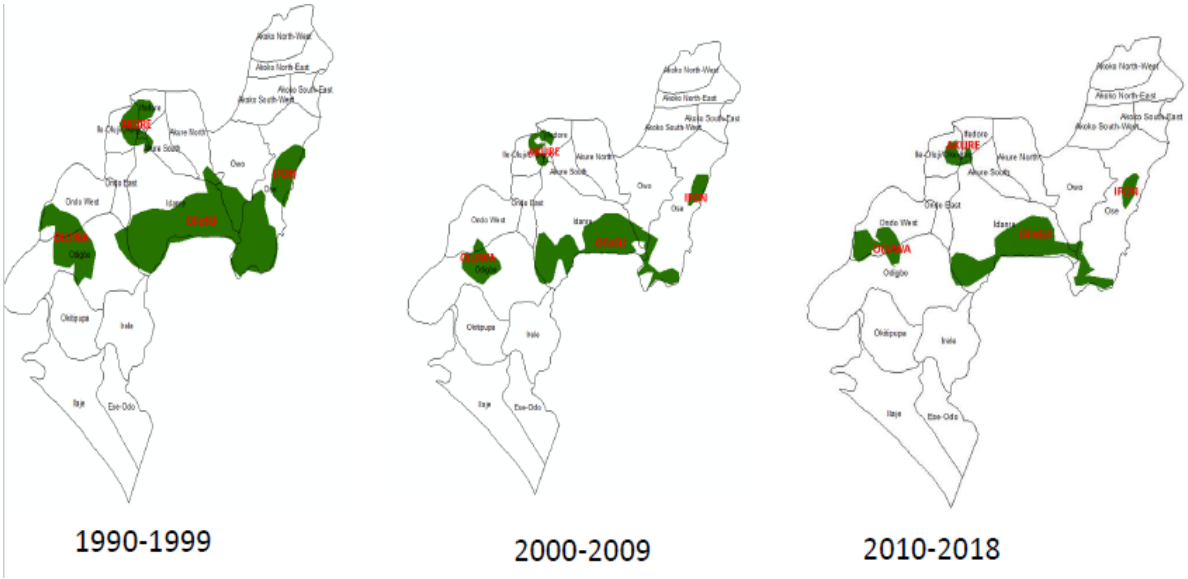


Figure 6.2: Ondo State forest reserve degradation 1990-2018
Source: SESA Study, 2018

6.1.3 Nasarawa State.

Nasarawa state created on 3rd February, 1996 is located in the central northern part of Nigeria. The state covers an area of approximately 27,117 square Kilometers. With an estimated population of 1,869,377 at 2006 count and a population growth rate of about 3%, it is significant that population has significant impact on the land use land cover of the state over the last 12 years. The dynamics of land use land cover change over time is a function of the socioeconomic and anthropogenic activities of man in his environment. The people of Nasarawa state are predominantly farmers, traders, miners.

6.1.3 Historical trends in land use/land cover change in Nasarawa State.

Rapid population growth, agricultural expansion, mining, and energy requirements (fuel wood) have affected the forest resources in Nasarawa state over time. The land useland cover change of Nasarawa state from 1990 till 2018 shows a decline of forest from 39.5% in the 1990s to 31.8% in 2000s and then dramatically declined to 16.4% in 2018.

Analysis of land use land cover change in Nasarawa state using satellite images is depicted in table 6.2 below.

Table 6.2. Land use land cover change in Nasarawa state from 1990 till 2018

Nasarawa State	1990-1999 Square metres	%	2000-2010 Square metres	%	2010-2018 Square metres	%
Water	268458.3	1.0	325404	1.2	199572.3	0.7
settlement	1730672.09	6.4	2467647	9.1	5355697.0	19.8
Forest	10711215	39.5	8623206	31.8	3643249.2	16.4
grassland	7755462	28.6	7972398	29.4	8263110.3	30.5
cropland	1708371	6.3	3525210	13	7071944.1	21.1
wetland	1762605	6.5	2006658	7.4	155235.5	3.6
other lands	3172689	11.7	2196477	8.1	2428191.5	8.0

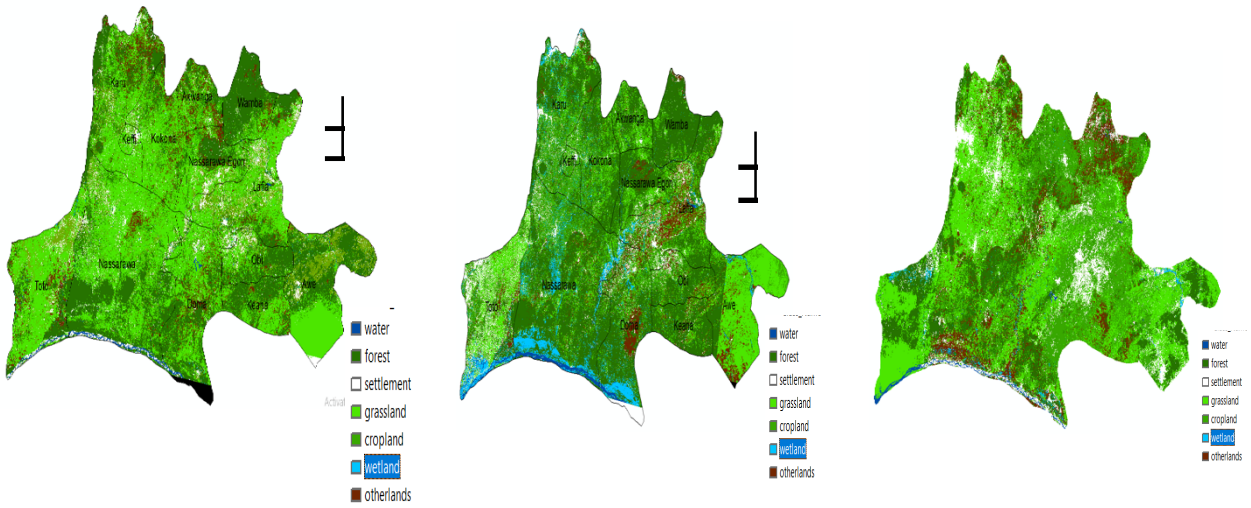


Figure 6.3: Nasarawa State Land use changes for (1990- 1999), (2000-2009), (2010-2018)
Source: SESA Study, 2018

6.1.3.1 Major drivers of forest change in Nasarawa State

Major driver of forest change in Nasarawa state are

1. Rapid population growth,
2. Increased urbanization due to service proximity to Federal Capital Abuja
3. Agricultural expansion (Subsistence farming, cash crops, plantations),
4. Open Mining, and

5. Energy requirements (fuel wood).

6.2 Matrix ranking of deforstation drivers (National and State scenarious)

Table 6.3 highlights the perceived drivers of deforestation and forest degradation in the REDD+ pilot sites and forest adjoining communities in the study region. Respondents ranked twenty potential drivers on a weighted scale of very high to low. The scales were transformed into scores and expressed in percentages. At the national level, the five topmost drivers in descending order of magnitude include forest fire through annual bush burning, fuel wood harvesting, overgrazing, large scale/commercial agriculture, and high population growth driving demand on land/forest products. In Nasarawa state, Logging/Illegal logging and charcoal production top the list with others as inefficient processing of timber, fuel wood harvesting, and timber fees. In Ondo state, overgrazing and forest fires were perceived to exert the highest impact on deforestation alongside corruption in the forest sector, logging/illegal logging,and weak forestry department. The magnitude of the perceived drivers also varies across the different ecological zones in the country represented by the states.

Table 6.3 Matrix ranking of drivers of deforestation in Nigeria

S/N	Drivers of Deforestation	Nasarawa	Ondo	Taraba	Rivers	Katsina	Kano	Kaduna	Enugu	Anambra	Akwa Ibom	National Average
1	Large scale/ commercial agriculture	65.52%	58.94%	61.11%	61.26%	46.91%	57.14%	62.50%	62.50%	71.93%	100.00%	64.68%
2	Small holdings agriculture	68.61%	59.94%	57.58%	43.52%	52.83%	66.67%	66.67%	45.83%	66.67%	33.33%	56.16%
3	Logging/ illegal logging	75.27%	70.35%	81.82%	39.47%	47.22%	54.17%	62.96%	76.67%	66.67%	63.33%	63.79%
4	Fuel wood harvesting	72.65%	58.65%	80.56%	39.64%	56.94%	80.95%	70.00%	68.00%	72.22%	66.67%	66.63%
5	Charcoal production	74.19%	47.77%	58.33%	38.74%	35.71%	33.33%	66.67%	73.33%	48.89%	66.67%	54.36%
6	Over grazing	69.08%	76.15%	72.22%	38.74%	43.70%	79.17%	70.37%	77.78%	56.86%	66.67%	65.07%
7	Mining activities	68.40%	55.03%	39.39%	38.74%	34.21%	44.44%	87.50%	65.15%	50.88%	66.67%	55.04%
8	Forest fire through annual bush burning	67.33%	74.02%	57.58%	70.18%	35.83%	57.14%	83.33%	68.00%	68.42%	100.00%	68.18%
9	Urbanization/ infrastructural development	66.44%	58.42%	39.39%	44.74%	43.14%	61.90%	84.85%	74.36%	46.30%	100.00%	61.95%
10	Outdated national or state forest laws	60.78%	56.40%	66.67%	35.96%	50.76%	77.78%	79.17%	61.11%	50.98%	33.33%	57.29%
11	Poor integration between MDAs	59.56%	58.20%	61.11%	47.37%	49.21%	57.14%	60.00%	63.49%	54.90%	33.33%	54.43%
12	Land/ forest tenure laws	68.22%	59.31%	48.48%	43.86%	47.15%	57.14%	66.67%	68.18%	66.67%	33.33%	55.90%
13	Weak Forestry Department	63.80%	69.35%	44.44%	56.14%	42.50%	40.00%	76.19%	78.33%	60.42%	33.33%	56.45%
14	Absence of working forest Reserve Management plan	65.13%	64.08%	52.78%	60.53%	51.67%	61.90%	66.67%	52.38%	66.67%	66.67%	60.85%
15	High forest revenue target	69.70%	65.03%	63.89%	52.63%	43.59%	52.38%	77.78%	55.56%	62.22%	33.33%	57.61%
16	Low timber fees	72.59%	55.77%	55.56%	40.54%	42.31%	38.89%	75.00%	69.70%	58.33%	33.33%	54.20%
17	De-reservation of forest reserve	68.02%	58.12%	58.97%	66.67%	50.00%	50.00%	59.26%	78.95%	66.67%	66.67%	62.33%
18	High population growth driving demand on land/forest products	69.89%	65.70%	86.11%	62.04%	59.09%	76.19%	60.00%	66.67%	66.67%	33.33%	64.57%
19	Inefficient processing of timber	73.29%	66.19%	80.56%	55.26%	41.27%	57.14%	62.50%	59.09%	68.52%	66.67%	63.05%
20	Corruption in the forest sector	69.89%	72.28%	74.36%	36.84%	41.41%	42.86%	59.26%	65.15%	70.37%	66.67%	59.91%

Source: SESA Field Study, 2018

Table 6.4:The relationship between underlying and proximate causes of deforestation and forest degradation

	Underlying Causes				
Proximate Causes	**Demographic**	**Economic**	**Technological**	**Policy and Institutional**	**Cultural**
Agricultural practices	Increased human population resulting in increased demand for agricultural land (forest conversion).	Need for food, income and nutritional securities by local communities and major source of rural employment.	Unsustainable agricultural practices and low agricultural productivity resulting in farmers being forced to open up new lands that are more fertile, and in a lot of cases in forested areas.	1) Subsidies that are in favour of non- climate smart agricultural practices. 2) Uncoordinated sector linkages for addressing food security.	1) Slash-and-burn agriculture to compensate for low soil fertility problem. 2) Use of fire to get rid of pests affecting soil organic content levels
Fuelwood (firewood and charcoal)	Increasing human population resulting in increased demand for fuelwood by households (both rural and urban).	Firewood/charcoal production as source of employment and alternative source of income. Alternative sources of energy to wood biomass fuel relatively more expensive (e.g., kerosene, LPG, etc.).	Unsustainable technology for charcoal production (earth kiln) and utilization (inefficient stoves).	Poor energy policy implementation leading to heavy dependence on charcoal and firewood for household energy requirements.	Perception/belief that food cooked using firewood or charcoal cooks, smells and tastes better than that from other sources of energy.
Timber harvesting	Increased human population resulting in increased demand for timber.	1) Global and local demand for timber resources by industry and households. 2) Source of employment and income. 3) Illegal timber harvesting.	Inefficient timber harvesting and processing technologies by concession holders and illegal harvesters.	Poor forest policy implementation leading to inadequate capacity and resource allocation for effective forest activity monitoring by the government.	Perception/ belief among rural communities that trees are God-given and for free access
Land use and Infrastructure development	Increased population pressure demanding land for settlements, agriculture, and general infrastructure development.	Foreign direct investments and local investments for development driving deforestation and forest degradation through forest conversion.	Availability of advanced technologies for forest conversion. Lack of access to modern technologies for integrated land use planning.	1) Lack of enforcement of legal instruments promulgating integrated land use planning. 2) Integrated land use provisions not covering customary lands.	Local community beliefs that once land on customary land is granted by local Traditional Authority (TA), it does not have to abide by government land use regulations.
Oil/Solid mineral exploration and quarrying	Increased population pressure for expansion of mining activities as sources of employment.	Global demand for oil and solid minerals and critical state economic activities for poverty reduction	Oil/mining technologies that are not green	1) Poor economic policy implementation leading to inadequate economic diversification. 2) Poor mining policy implementation that is negligent of environmental consequences.	Local beliefs and attitudes that mineral resources are God-given and therefore open to free access.

Source: modified from Cross River State REDD+ Strategy, 2016

6.2.1 Direct drivers

Direct drivers of deforestation are those causes directly leading to forest decline. For example, 'excessive logging' or 'forest conversion into agricultural land' directly implies a reduction of forests.Scientists today agree that agricultural expansion is the most important direct driver of land use change globally, followed by infrastructure development and woodextraction.

The direct drivers of deforestation in Nigeria and sub-Sahara Africa reflect the global pattern with agricultural expansion as the main driver of deforestation (FAO, 2009). Direct conversion of forest area into *small-scale permanent agriculture* accounts for approximately 60% of the total deforestation whereas direct conversion of forest area into *large-scale permanentagriculture* accounts for another 10% (FAO, 2002). The main direct drivers of deforestation in Nigeria (ranked based on relative importance) are thus:

1. Small-scale permanent agriculture (deforestation);
2. Large-scale permanent agriculture (deforestation);
3. Fuel wood consumption (degradation);
4. Commercial logging and timber production (degradation);
5. Illegal logging (degradation); and
6. Infrastructure development (deforestation).

6.2.1.1 Small-scale agriculture

Small-scale agriculture is vital for livelihoods in Nigeria accounting above 70 % of ruralemployment. The performance and productivity of African agriculture (both thesubsistence sector and the commercial sector) calculated per capita has been categorizedas very low in comparison with other regions (FAO, 2009). This is among others due tosoil fertility as a major constraint on productivity, but differences of productivity levelexist between large-scale agriculture and small-scale agriculture. An analysis conductedby the World Bank explores the causes of productivity differences by farm size, whichshows that yields per hectare are higher on large farms compared to small-scale farms,because of more intensive use of modern inputs as well as greater labour productivity.
This decline in productivity and subsequent decline in income has increased dependence on off-farm employment, including collection of fuel wood and production of charcoal (FAO, 2009). Studies point out that Africa is the only region in the world where the regional average of food production per person has been declining over the past 40 years, enhancing the demand for new agricultural land (FAO, 2002; African Development Bank, 2003).

6.2.1.2 Large-scale permanent agriculture

Deforestation for large-scale permanent agriculture is, unlike small-scale agriculture, often practised using slash-and-burn techniques. Thousands of hectares of land have been deforested this way. The converted land supports agricultural growth and delivers large harvests for 3-4 years, but then excessive use of fertilizers is necessary to yield a minimum harvest and additional land is needed for agricultural purposes.

6.2.1.3 Fuel wood consumption

Wood extraction for domestic fuel wood or charcoal production remains a major issue in some part of Nigeria, because most Nigerians still use wood and charcoal for cooking, since there are no other affordable energy sources available. The increase of collection of fuel wood is also due to a decline in productivity and subsequent decline in income, which imply a greater dependence on off-farm employment, such as collection of fuel wood and production of charcoal increase

(FAO, 2009). It is estimated that the majority of the removed wood is used as fuel wood, but since most of the fuel wood collection activities are not usually recorded, the actual quantity of wood removals might be understated (FAO, 2006).

6.2.1.4 Commercial logging, timber production and Illegal logging

Commercial logging and timber production in Africa carried out by large international companies is closely connected to the development of infrastructure. These companies are also responsible for creating new roads in the areas they operate in. Though transport extension was not directly aimed at promoting human settlement, road construction creates easy access for settlers, who colonise the areas around the newly implemented roads right after the logging is finished.

6.2.2 Indirect drivers

The indirect drivers of deforestation vary from country to country and even within a country and are often complex in nature. Due to Nigeria's diverse set of cultures, traditions, languages and political systems, a tendency is seen that in the majority of cases, deforestation is driven by the full interplay of institutional, demographic, economic, technological, and cultural variables rather than by single-factor causation. For Nigeria, the following indirect drivers are most often mentioned in deforestation studies (in order of importance): demographic, economic, technological, governance and sociocultural.

6.2.2.1 Demographic drivers

The underlying demographic drivers in Nigeria are mainly population growth and population density; both of which are closely interrelated with a range of direct and indirect drivers, including the increased demand for agricultural land, pressures on fuel wood, new settlements stimulated by easier access due to infrastructure development, land tenure arrangements, agro-technological change and increased demand for forest products.

Nigeria, with a population of more than 190 million people, is the most populous country in Africa and has the world's highest deforestation rate of primary forests. Logging, subsistence agriculture, and the collection of fuelwood are cited as the key direct causes of deforestation between 2000 and 2005; during this period the country lost more than half of its primary forests. In this case the demographic situation is regarded a leading indirect cause for the high deforestation rate (FAO, 2006).

6.2.2.2 Economic drivers

The key economic driver affecting deforestation in Nigeria is overall market growth (in particular for forest products) and the associated intensified pressures on natural resources.

Since 2000 much of Africa's economic growth has been driven by exports of primary commodities, primarily to the emerging Asian economies. A tendency that is likely to continue (FAO 2009). Market growth is an indirect driver that is affecting forests in Nigeria mainly due to commercial logging and timber production. The market demand for forest resources is dominating because of intensified commercialisation of the wood market.

6.2.2.3 Technological drivers

Regarding technology the most important indirect drivers of deforestation in Africa are agrotechnological change and harvesting (wood) technologies. Agrotechnological change: Technological change is a key adaptive response of a society to an increasing population.

In the case of Nigeria, agro-technological improvements, or the lack thereof, are closely linked to the deforestation rate through the intensification of agricultural production. Improved cropping techniques would allow for increased outcome of the existing agricultural land already cleared and reduce the pressure for expansion to new agricultural lands..

The slow technological development is thus an indirect driver negatively affecting deforestation rates. It is likely that only with agrotechnological changes of production methods the existing agricultural sector will be capable of responding to the rising food demand from a growing population. The rapidly growing human population in Nigeria would need continuous support to gain rapid advances in agricultural and industrial technology (FAO, 2009).

6.2.2.4 Bioenergy policy drivers

In Nigeria, though growth in domestic biomass energy production will continue, the growth rate- when compared to the growth rate in other regions - will slow significantly. Most of this production will continue to be from traditional fuelwood and charcoal since the region currently does not set ambitious renewable energy targets for its electricity and heat production.

The global interest and demand for biofuels, on the other hand, has increased investments in biofuels development for export purposes, for example, through the planting of *Jatropha* species.

6.2.2.5 Governance drivers

Governance, including institutional and policy factors, are important underlying factors of deforestation. For Africa, the main issues are the following:

- Poor governance and corruption;
- The declining capacity of public forestry agencies, including research, education, training, and extension. (FAO, 2009);
- Land tenure uncertainties, weak legal frameworks, and other hindrances to the development of a competitive private sector.
- Poor inter-sectoral linkages, with high-priority sectors such as agriculture, mining, industrial development and energy effectively having a greater impact on forests than forest policy.

6.3 Trends and Change in natural resource stocks

Change in Natural Resource Stock:

Across the six geo-political zone of Nigeria and all forest communities around pilot sites, changes in natural stock cover have occurred in varying proportion.

In the Northcentral zone, (Nasarawa State), very minimal changes were said to exist fifty years back in time from the communities to the forest edge. Over the years up till within the last five years, there has been high changes in the stock of aquatic resources, access regimes, unit sales, changes in forest cover and changes in forest cover around streams/rivers.

Table 6.5: Change in natural resource stocks in Northcentral zone, (Nasarawa State).

Specific Resources	50years	25 years	10 years	5 years	Now
a. Change in forest cover	Minor change	1	4	4	5
b. Change in the stock of NTFPs	No change	Minor change	1	3	3
c. Size of harvest per unit area	Minor change	4	4	2	2
d. Number/quantity of harvest per trip	Minor change	4	3	3	2
e. Change in the stock of aquatic resources	Minor change	1	3	5	2
f. Size of harvest per unit area	Minor change	2	2	2	2
g. Change in the stock of forest resources	Minor change	1	2	4	5

	(Timber/fuelwood/charcoal etc.)					
h.	Number/quantity of harvest per trip	Minor change	2	2	2	1
i.	Change in forest cover around stream/river (Watershed)	Minor change	1	3	3	5
j.	Change in access regimes (rules, enforcement etc.) to natural resources	Minor change	2	3	5	4
k.	Change in the unit of sales, price	Minor change	3	4	5	5

In Kano, Katsina and Kaduna States (North-west Nigeria), changes observed in natural resource stocks depict decreasing trends for most resources over the years with high changes in the three States. The three States experienced a drastic change in the forest cover as a result of population explosion and herdsmen cutting the trees to feed their herds. In Buruku site of Kaduna state, the depletion was massive upon the forest cover because of the massive fuelwood extraction that is going on there. The fuelwood is not readily available in Kano and Katsina, and they have resulted in the use of corn stalks as a source of energy.

The severity of Change: The level/severity of the change also shows that the change is high for most of the resources utilized by the community for livelihoods in the North West Zone of Nigeria (table 6.6).

Table 6.6: Weighted Matrix table on change severity in resource stock through time in the North-west Zone

Possible criteria	Resource component					
	Timber	Fuelwood	NTFPs	Honey	Snails/ Bush Meat	Aquatic Resources
Quantity	5	5	3	3	2	3
Quality	3	2	1	3	1	2
Frequency	4	4	4	2	2	3
Distance	5	5	3	2	4	4
Cost of Sale	5	5	3	4	4	3

1 (not severe) to 5 (Very severe)

Change in natural resource stock in Rivers and Akwa Ibom (South-south) Nigeria is presented below

Table 6.7: Change in natural resource stock in South-south Zone

Specific Resources	50years	25 years	10 years	5 years	Now
Change in forest cover	Minor change	1	4	4	5
Change in the stock of NTFPs	No change	Minor change	1	3	3
i. Size of harvest per unit area	Minor change	4	4	2	2
ii. Number/quantity of harvest per trip	Minor change	4	3	3	2
iii. Change in the stock of aquatic resources	Minor change	1	3	5	2
iv. Size of harvest per unit area	Minor change	2	2	2	2

v.	Change in the stock of forest resources (Timber/fuelwood/charcoal etc.)	Minor change	1	2	4	5
vi.	Number/quantity of harvest per trip	Minor change	2	2	2	1
vii.	Change in forest cover around stream/river (Watershed)	Minor change	1	3	3	5
viii.	Change in access regimes (rules, enforcement etc.) to natural resources	Minor change	2	3	5	4
ix.	Change in the unit of sales, price	Minor change	3	4	5	5

1=low; 5= high

The severity of Change: The level/severity of the change also shows that the change is high for most of the resources utilized by the community for livelihoods

Table 6.8. Weighted Matrix table on change severity in resource stock through time in South-south zone.

Possible criteria	Resource component					
	Timber	Fuelwood	NTFPs	Herbs	Bushmeat	Aquatic Resources
Quantity	5	4	4	5	4	4
Quality	2	2	1	2	4	4
Frequency	3	2	4	2	2	3
Distance	5	4	3	2	4	4
Cost of Sale	5	3	3	4	4	3

The changes in natural resource stock from the study indicated that significant changes had taken place in the last ten years. For instance 50 years in Ntak Inyang, the high forest was less than one kilometer away from the village.

Table 6.9 Change in Natural Resource Context in communities around Stubbs creek (Ntak Inyang) forest reserve

Specific Resources		50years	25 years	10 years	5 years	Now
i.	Change in forest cover	No change	1	4	4	4
ii.	Change in stock of NTFPs	No change	1	1	3	3
iii.	Size of harvest per unit area	Insignificant	1	2	4	4
iv.	Number/quantity of harvest per trip	Insignificant	1	3	3	4
v.	Change in the stock of aquatic resources	Insignificant	1	3	5	4
vi.	Size of harvest per unit area	Insignificant	2	2	2	3
vii.	Change in stock of forest resources (Timber/fuel wood/charcoal etc.)	Insignificant	1	2	4	4
viii.	Number/quantity of harvest per trip	Insignificant	2	2	2	5
ix.	Change in forest cover around stream/river (Watershed)	No change	1	3	3	5

x.	Change in access regimes (rules, enforcement etc.) to natural resources	No change	2	3	5	4
xi.	Change in the unit of sales, price	Insignificant	3	4	5	5

1=low; 5= high

Table 6.10: Change in Natural Resource context in communities around Ogu Itu (Akpayak) forest reserve

Specific Resources		50years	25 years	10 years	5 years	Now
i.	Change in forest cover	1	1	2	3	3
ii.	Change in stock of NTFPs	1	1	2	3	4
iii.	Size of harvest per unit area	1	1	2	3	4
iv.	Number/quantity of harvest per trip	1	1	3	3	4
v.	Change in the stock of aquatic resources	Insignificant	1	3	3	4
vi.	Size of harvest per unit area	Insignificant	2	2	2	3
vii.	Change in stock of forest resources (Timber/fuel wood/charcoal etc.)	Insignificant	1	2	4	4
viii.	Number/quantity of harvest per trip	Insignificant	2	2	2	3
ix.	Change in forest cover around stream/river (Watershed)	No change	1	3	3	3
x.	Change in access regimes (rules, enforcement etc.) to natural resources	No change	2	3	4	4
xi.	Change in unit of sales, price	Insignificant	3	4	4	4

1=low; 5= high

The severity of Change: The level/severity of the change also shows that the change is high for most of the resources utilized by the community for livelihoods

Table 6.11: Weighted matrix table on change severity in resource stock through time in Stubbs creeks.

Possible criteria	Resource component					
	Timber	Fuelwood	NTFPs	Herbs	Bushmeat	Aquatic Resources
Quantity	5	4	4	5	4	3
Quality	4	2	1	2	4	3
Frequency	3	2	4	2	2	3
Distance	5	4	3	2	4	4
Cost of Sale	5	3	3	4	4	3

1 (not severe) to 5 (Very severe)

Table 6.12 Weighted matrix table on change severity in resource stock through time in Ogu Itu

Possible criteria	Resource component					
	Timber	Fuelwood	NTFPs	Herbs	Bushmeat	Aquatic

						Resources
Quantity	4	3	3	3	4	3
Quality	3	2	1	2	2	3
Frequency	3	2	3	2	2	3
Distance	3	3	2	2	3	4
Cost of Sale	3	3	3	2	4	3

1 (not severe) to 5 (Very severe)

In Anambra State (South-east Nigeria), there are changes in forest cover with an evident degradation every year. There is a terrible change in the stock of NTFPs; the quantity available for pick up ten years ago is no longer the same. There are also changes in the stock of aquatic resources such that fishes are no longer in some of the rivers around Uzzo communities. There are also changes in the available stock of forest resources. However, there are no changes in access regimes (rules and enforcement) to these natural resources, the forest officer has been there always to ensure proper access.

Table 6.13:Change in natural resource stocks in South-east zone, (Anambra State).

Specific Resources	50years	25 years	10 years	5 years	Now
i. Change in forest cover	Minor Change	1/10	3/10	5/10	6/10
ii. Change in the stock of NTFPs	Minor Change	2/10	4/10	4/10	Stock decrease by half
iii. Size of harvest per unit area	Minor Change	2/10	4/10	6/10	Large area for a small harvest. Poor soil fertility
iv. Number/quantity of harvest per trip	Unnoticed change				Small harvest per trip
v. Change in the stock of aquatic resources	Minor Change	2/10	5/10	7/10	Some streams are have dried up while some have no fishes in them any longer
vi. Size of harvest per unit area	Minor Change				Large area for a small harvest. Poor soil fertility
vii. Change in the stock of forest resources (Timber/ fuelwood/ charcoal etc.)	Minor Change				A drastic reduction in available quantity
viii. Number/quantity of harvest per trip	Minor Change				
ix. Change in forest cover around stream/river (Watershed)	Minor Change				Some of them house monkeys, but no animal is found there now
x. Change in access regimes (rules, enforcement etc.) to natural resources	Minor Change				Same till now.
xi. Change in the unit of sales, price	Minor Change				A change due to market forces and reduction in the purchasing power of money

In Taraba State, (North-east Nigeria) The changes in natural resource stock from the study indicated that significant changes had taken place in the last ten years. This is due to access regime, where open access regime is obtained.

Table 6.13: Change in natural resource stocks in North-east zone, (Taraba State).

Specific Resources	50years	25 years	10 years	5 years	Now
i. Change in forest cover	Insignificant	1	4	4	4
ii. Change in stock of NTFPs	Insignificant	1	1	3	4
iii. Size of harvest per unit area	Insignificant	1	2	4	4
iv. Number/quantity of harvest per trip	Insignificant	1	3	3	4
v. Change in the stock of aquatic resources	Insignificant	1	3	5	4
vi. Size of harvest per unit area	Insignificant	2	2	2	3
vii. Change in stock of forest resources (Timber/fuel wood/charcoal etc.)	Insignificant	1	2	4	4
viii. Number/quantity of harvest per trip	Insignificant	2	2	2	3
ix. Change in forest cover around stream/river (Watershed)	Insignificant	1	3	3	3

x.	Change in access regimes (rules, enforcement etc.) to natural resources	Insignificant	2	3	5	3
xi.	Change in unit of sales, price	Insignificant	3	4	5	5

1=low; 5= high

The severity of Change: The level/severity of the change also shows that the change is high for most of the resources utilized by the community for livelihoods.

7.0 COST BENEFITS ANALYSIS OF REDD+ STRATEGY OPTIONS

One of the significant issues in this 21st century is regarding sustainable production, of how to use resources to optimize present people satisfaction/welfare without jeopardizing future users of the same resources. Agriculture plays a fundamental role through its various institutions to achieve this objective. However, in doing so, it creates severe externalities, which affect not only climate but the entire ecosystem. Some of the negative impacts are in the areas of forest degradation, through the various farming systems and tenure arrangements. Also, the types of human activities such as firewood harvesting, charcoal production, lumbering, add severe restrictions on the environment. This implies that, if these activities are not controlled or minimized, future generations stand a severe risk of global denudation.

This is why the concern of reducing the harmful effects of emission from deforestation and forest degradation has become a global challenge. What is of primary interest now is to find ways and means of reducing/controlling environmental effect through mitigating climate changes caused by forest loss from human activities.

The REDD+ program has generally been accepted as the means of reducing these negative externalities. Its overall strategy is designed to minimize risks of environmental externalities through applying resources in production and maximizing the benefits when the REDD+ strategies are implemented. The essence, therefore, is to find ways of avoiding the adverse effect (impact) of resource use and at the same time advancing a broad-based stakeholders' support for the REDD+ strategies. To do this, REDD+ has to convince stakeholders on the efficacy of these strategies, through significant dilution of the risk involved in their strategies and what actions to take in the face of many mitigation options.

To be able to mobilize financial resources for socio-economic development, particularly for countries that still have forest resources, one must be able to show that the benefits of injecting funds outweigh their costs. Convincing countries which have a forest to conserve/reduce their deforestation, the Forest Carbon Partnership Facility (FCPF) has been put in place by the World Bank Group (WBG), consisting of 50 donor and forest country participants.

Nigeria, fortunately, is a participant in the FCPF program of WBG of the REDD+ project. This is because of the current high levels of deforestation taking place in them. Within Nigeria, Cross River State has already conducted its pilot study. Ondo and Nasarawa states have started the process of conducting a full-scale analysis/assessment of the would-be impact of these REDD+ strategies on the two states. A critical part of the project is to assess the cost-benefit analysis of the six REDD+ strategy options, searching for case studies involving the opportunity costs of different land uses and assessing the extent to which the six strategy options address the environmental and social priorities.

The FCPF proposed support has four components. These are:

1. Strengthening national and state level readiness management arrangements
2. Develop REDD+ strategies and conduct SESA.
3. Developing reference emission levels, and
4. Enhancing stakeholder engagement, communication, consultation and feedback for REDD+ readiness process. For effective strengthening of the REDD+ strategies based on the four components above, strategic environmental and social assessment (SESA) is a desideratum because it leads to sustainable programs and policies as this avoids the diseconomies of production. It provides a basis for analyzing the various policy impacts of the REDD+ program. The financial analysis framework is dependent on the theory of benefit-cost analysis. The theory attempts to uncover costs of the projects and compares them to the various benefits connected to the project/program. This is why the difference in different approach will be used for the assessment.

7.1 Opportunity costs of different land use

The cost-benefit analysis(CBA) of SESA pilot study in REDD+ strategy options considered were energy sources(firewood and charcoal production), commercial logging and agriculture which fundamentally facilitates emissions of Green House Gases(GHG) for Nasarawa and Ondo States. In line with REDD+ strategic options, therefore, as per the CBA, aspects to be considered in parallel are in two folds:

a. The potential scale of land area implementation to be covered and included in REDD+ activities
b. The opportunity cost of the land user as an indication for the level of effort required to change from firewood (fuelwood) harvesting, charcoal production (which require clearing of the ground and upper storey biomass), commercial logging operations and agriculture (which in most cases may be shifting cultivation practices, rather than permanent cultivation in degraded areas) in order to reduce emissions.

Economic benefits and comparisons were based on the net-present value (NPV) for one year, costs and revenues were discounted using a rate of 18%, reflecting the high costs of capital in Nigeria and understandably adjusted to inflation.

The potential scale of land area implementation to be covered and included in REDD+ is presented in **Table 7.1**. From available data, the most extensive land use in terms of forest cover with significant carbon stock is forest with an area of 4,858,167.70M^2, accounting for 31.30% for Ondo State(**Table 7.2**) while in Nasarawa State; it constitutes about 16.40% of forest cover (3,643,249.20M^2) (**Table 7.3**) between 2010 – 2018 from the satellite imagery information (2018) (**Tables 7.2 – 7.3**). Thisis followed by areas used extensively for agriculture, especially for Nasarawa State with 21.10% (7,071,944.10 M^2) while in the case of Ondo State, 4873926.30 M^2 are covered with grassland-constituting 31.40% of the land use area(**Table 7.2**). Based on these statistics, the two pilot States undertaken for the REDD+ assessment are severely threatened by deforestation and forest degradation.

Table 7.1: Land uses under BAU

S/N	Land use	Business as usual(BAU)	REDD+ strategy options
1	Commercial Logging	Logging in areas under concession by the government and sometimes by land areas under the community control. Note also that control of land differs from community to community with a sociological difference. Logging methods in concession and community land areas are not in conformity with *international best practices.*	The REDD+ should formalize commercial areas in concession areas, advise companies to adjust volume harvested per hectare and comply with the global policy of planting three tree

		Firewood harvesting, commercial logging, wood burning for charcoal production and land cultivation under shifting and permanent cultivation in degraded areas are some of the practices that facilitate emissions to an unimaginable proportion. These practices are unregulated in most cases. Poor logging methodologies cause significant damage to residual stands, and the quantity of timber harvested exceeds the rate of regrowth/replanting. Consequently, forests are severely degraded and eventually converted to other land uses such as permanent agriculture (cocoa, rubber, oil palm plantations, for instance).	crops for every one harvested, *ab initio.*
2	Charcoal production	Charcoal production is logically linked to clearing land for agriculture and replanting of arable crops or tree crops under different agricultural systems, some of which are primary income generating ventures and which is/are accompanied by severe forest degradation. Charcoal production is an income generating activity, especially in Nasarawa State and few in Ondo where charcoal is assembled and sold along roadsides at varying prices per unit of measure. Thus, consumption of charcoal will continue to grow as long as there is persistence in population.	REDD+ activities in this direction should seek to limit the impact of charcoal production on remaining forests by politely regulating access linking community forest. In the alternative, cheap energy sources should be made available to the people.
3	Shifting cultivation	Some farmers despite the unhindered population growth rates, still engage in shifting cultivation even though it has been obsolete in modern agricultural practices. This practice is evident in areas where there are abundant land resources with untapped forest resources. This practice is quite worrisome as it damages the ecological settings, thereby leading to emissions as a consequence of degradation, loss of biodiversity (flora species).	The REDD+ should strongly advocate a shift to permanent agriculture, adopting better practices and inputs, raising yield and income, thereby reducing the need to expand agriculture to forested zones. The REDD+ policy should be to reduce deforestation remarkably.
4	Permanent agriculture(e.g., arable crops such as cassava, yam, rice, groundnuts, etc)	Crops should be cultivated by taking advantage of the agro-ecological needs for such crops on a sustainable basis and in a permanent area consistent with international best practices on the reductionof emissions. For instance, the swamps could be used to cultivate several hectares of rice on a sustainable basis, groundnuts and other grains could be cultivated too on the two different agro-ecological zones. This practice is capable of providing incomes to the farmers on a sustainable basis.	REDD+, in this case, should advocate for intensification of the existing cropping systems to enhance yield and income per unit of land area cultivated. Thiswill ultimately reduce the need for shifting cultivation and avoid as much as possible the issue of deforestation, thereby reducing emissions

Source: LULC Change for SESA, (2018)

Table 7.2: Landuse Cover Change (LUCC) for SESA Study in REDD+ Pilot Site, Ondo State

Land Use	1990-1999 square meters	Percent	2000-2009 square meters	Percent	2010-2018 square meters	Percent
water	59,292.60	0.38	129,930.00	0.80	28,998.50	0.20
settlement	1,709,042.74	11.03	2,008,212.10	13.00	2,793,068.70	18.0
forest	6,599,485.54	42.58	5,285,500.00	34.10	4,858,167.70	31.30
cropland	502,829.38	3.24	1,711,262.70	11.00	2,192,011.90	14.10

grassland	3,912,781.15	25.24	4,614,213.80	29.80	4,873,926.30	31.40
watershed	390,983.41	2.52	380,876.60	2.50	348,492.70	2.20
other lands	2,325,585.17	15.00	1,376,667.80	8.90	405,334.30	2.60

Source: Satellite Imagery (2018)

Table 7.3: Landuse Cover Change (LUCC) for SESA Study in REDD+ Pilot Site, Nasarawa State

Land Use	1990-1999 Square meters	Percent	2000-2010 Square meters	Percent	2010-2018 Square meters	Percent
water	268,458.30	1.00	325,404	1.20	199,572.30	0.70
settlement	1,730,672.09	6.40	2,467,647	9.10	5,355,697.00	19.80
forest	10,711,215	39.50	8,623,206	31.80	3,643,249.20	16.40
grassland	7,755,462	28.60	7,972,398	29.40	8,263,110.30	30.50
cropland	1,708,371	6.30	3,525,210	13.00	7,071,944.10	21.10
wetland	1,762,605	6.50	2,006,658	7.40	155,235.50	3.60
other lands	3,172,689	11.70	2,196,477	8.10	2,428,191.50	8.00

The opportunity cost for the four land use changes/avoided land use changes which result in the eliminations,or emission removals are presented and discussed in this report. Thus, the opportunity cost of emissions avoided or GHG sequestered is an indication of the level of effort required to change energy sources (firewood harvesting, charcoal production), commercial logging and agricultural production (crops), avoidance of shifting cultivation to more permanent sites with the overriding objective of reducing emissions.

7.2 REDD+ opportunity cost

The REDD+ opportunity cost is the cost to the land user of forsaking/forgoing the change from the current land use to another that leads to a change of GHG emissions and economic performance of the land. Understandably, opportunity costs are relevant for the design of the REDD+ strategy as they are used to indicate the economic incentive to the land user required to encourage a change of land use practices in support of forest protection. In this situation, if current land use changes (practices) are very profitable, the opportunity costs of forgoing that profit will be high, and land users will require relatively large incentives to be persuaded to change their practice.

The profitability of land uses related to the four target strategies was calculated for the business as usual (BAU) scenario for one year. Thus, a comparison of profitability, which is expressed as net-present-value(NPV) over one year for BAU is presented beginning with Ondo State for the four strategies.

7.3 Valuation of Potential benefits to selected REDD+ Sites

7.3.1 Ondo State

Firewood Harvest, Charcoal Production, Commercial Logging and Agriculture (Crop):

Firewood harvest, charcoal production, commercial logging,and agriculture all contribute to emissions. The costs and revenues for firewood harvest, charcoal production, commercial logging, and agriculture have been presented in Table 7.4 **(**Appendix 1). From the results, the opportunity costs of emissions avoided or GHG sequestered for firewood harvest, charcoal production, commercial logging and agriculture for Ondo State are **55,528.20; 1,131,434.535; 135,913,969.10** and **11, 678,049.98₦**/tCO_2 respectively (Table 7.4). Based on these results, the level of commercial logging in the state is unprecedented, and this has severe implications for carbon emission to the environment. Thus, urgent and practical steps must be taken in the area of legislation, bye-laws and the interventions of REDD+ to arrest this trend quickly. These results

are quite informative, as it reveals the economic benefit to the land user, which is alternative land uses with the overriding goal of emissions reduction on a sustainable basis.

7.3.2 Nasarawa State

Firewood Harvest, Charcoal Production, Commercial Logging and Agriculture (Crop)

Firewood harvest, charcoal production, commercial logging,and agriculture all contribute to emissions. The costs and revenues for firewood harvest, charcoal production, commercial logging, and agriculture have been presented and discussed in Table 7.5 (Appendix II). From the results of the analysis, the opportunity costs of emissions reduction/avoided or GHG sequestered for firewood harvest, charcoal production, commercial logging and agriculture(crops) for Nasarawa State are **551,061.50; 6,912,925.30; 630,195.50** and **26,028,165.80₦**/tCO_2 respectively (**Table 5**). These results are quite informative, as it reveals the economic benefit to the land user, which is alternative land uses with the overriding goal of emissions reduction on a sustainable basis. From the results presented, charcoal production and agriculture are quite high, following its net present value (NPV) at the pilot site of the state. Thus, REDD+ strategy in reducing emissions, forest deforestation, and reforestation of degraded areas should be pursued in line with its strategic priority options for Nigeria.

Table 7.4:Costs and benefit of firewood, charcoal and agriculture (crop) of SESA in REDD+ strategy options for Ondo State

S/N	Parameter	Unit	BAU	REDD+
1.0	Costs and revenue	₦/ha per annum		
1.1	Cost of firewood production	₦/ha per annum	171,000.00	
1.2	Revenue of firewood production	₦/ha per annum	236,520.00	-
1.3	Cost of charcoal production	₦/ha per annum	1,265,674.00	-
1.4	Revenue of charcoal production	₦/ha per annum	2,600,700.00	-
1.5	Cost of commercial logging	₦/ha per annum	1,348,000.00	-
1.6	Revenue of commercial logging	₦/ha per annum	161,718,465	-
1.7	Cost of agriculture(crop)	₦/ha per annum	8,606,590.00	-
1.8	Revenue from agriculture(crop)	₦/ha per annum	22,386,000.00	-
2.0	Economic benefit		CBR	NPV[1](₦/tCO_2)
2.1	Firewood	₦/ bundle	1.38	55,528.20
2.2	Charcoal	₦/ 100kg	2.05	1,131,434,54
2.3	Commercial logging	₦/ log	119.97	135,913,969.10
2.4	Agriculture(crop)[+]	₦/ ha	2.60	11,678,049.98

Notes: 1= the discount rate is 18% and the values are inflation adjusted; + = Subsistence/peasant crop production/under permanent site; - = No intervention; CBR = Costs-Benefit Ratio; NPV = Net Present Value; BAU = Business as usual; tco_2 = Tonnes of carbon

Source: SESA Pilot REDD+ Field Survey (2018)

Table 7.5:Costs and benefit of Firewood, Charcoal and Agriculture (crop) of SESA in REDD+ Strategy Options for Nasarawa State

S/N	Parameter	Unit	BAU	REDD+
1.0	Costs and revenue	₦/ha per annum		
1.1	Cost of firewood production	₦/ha per annum	90,300.00	-
1.2	Revenue of firewood production	₦/ha per annum	740,520.00	-

1.3	Cost of charcoal production	₦/ha per annum	873,156.00	-
1.4	Revenue of charcoal production	₦/ha per annum	9,030,000.00	-
1.5	Cost of commercial logging	₦/ha per annum	327,140.00	-
1.6	Revenue of commercial logging	₦/ha per annum	1,070,733.50	-
1.7	Cost of agriculture(crop)	₦/ha per annum	3,154,200.00	-
1.8	Revenue from agriculture(crop)	₦/ha per annum	33,865,900.00	-
2.0	Economic benefit		CBR	NPV[1](₦/tCO_2)
2.1	Firewood	₦/ bundle	8.20	551,061.50
2.2	Charcoal	₦/ 100kg	10.34	6,912,925.30
2.3	Commercial logging	₦/ log	3.27	630,195,50
2.4	Agriculture(crop)[+]	₦/ ha	10.74	26,028,165.80

Notes: 1= the discount rate is 18% and the values are inflation adjusted;+ = Subsistence/peasant crop production/under permanent site; - = No intervention; CBR = Costs-Benefit Ratio; NPV = Net Present Value; BAU = Business as usual; tco_2 = Tonnes of carbon
Source: SESA Pilot REDD+ Field Survey (2018)

8.0 ENVIRONMENTAL AND SOCIAL CHARACTERISTICS IN FORESTRY AND NATURAL RESOURCE SECTORS

8.1 Environmental and social Situations in REDD+ Pilot Site

Nigeria REDD+ programme adopts a nested approach and a unique framework for a REDD+ mechanism in the country. A model analytical work for the pilot will help the formulation and direction of an effective plan for REDD+.Building on the evidence and results of the pilot through different steps and stages will guarantee the operations of REDD+ in the country, taking into consideration the related sectorial characteristics which arekey to planning and implementation of activities.

8.1.1 Characteristics of the REDD+ Pilot Site

One unique aspect of the REDD+ intervention is understanding the conditions that may influence the sustainable management of natural resources. Environmental and social characteristics in the pilot sites matters in the planning and implementation of activities.
Table 8.1a and 8.1b present the locational characteristics of the pilots' sites in Nasarawa and Ondo states. One unique attribute of the pilot sites is their location within the forest reserves and other protected area. In Nasarawa states the three pilots sites are within the state forest reserves. For Ondo states, there are two REDD+ pilot sites, s however, the arrangement for the third pilot site (mangrove pilot site) is still on-going.

Table 8.1a: location and characteristics of REDD+ pilot site

S/N	Pilot Site	Location	Contiguous Natural resource	Characteristics
1	Marhai pilot site	Marhai forest reserve in Wamba LGA in Northern Zone	Forest Reserve	Major livelihood include: Farming, Lumbering, Fuelwood,and Charcoal business
2	Obi pilot site	Obi forest reserve in Obi LGA of Southern Zone	Forest reserve	Farming (Mostly grains), Fuelwood and Charcoal business
3	Zono Pilot Site	Zono pilot site of Toto LGA of Western Zone	Forest reserve	Farming (Mostly grains), Fuelwood and Charcoal business, clay bricks production

Table 8.1b: location and characteristics of REDD+ pilot site

S/N	Pilot Site	Location	Contiguous Natural resource	Characteristics
1	Akure	Oke-Owena	Forest Reserve	Major livelihood include: Farming, Lumbering, and hunting
2	Osse River Park	Ondo North Senatorial District	Forest Reserve	Farming, lumbering, and fishing on a low scale

8.1.2 Level of Involvement in Lumbering activities in the Pilot Site:

As described in Figure 8.1, the economic activities in the pilot sites are quite similar,and this will form the level of involvement in activities that have direct impacts on the forest. Figure 8.1 presents the involvement of the community in lumbering activities. The proportion of those that shows involvement relative to the different study states indicates that more people are involved in lumbering in Nasarawa and Ondo indicated by 62.82% and 23.08% of the respondents that indicated involvement in lumbering. This implies that a high involvement on numbering either influenced by domestic or international demand is likely to drive deforestation.

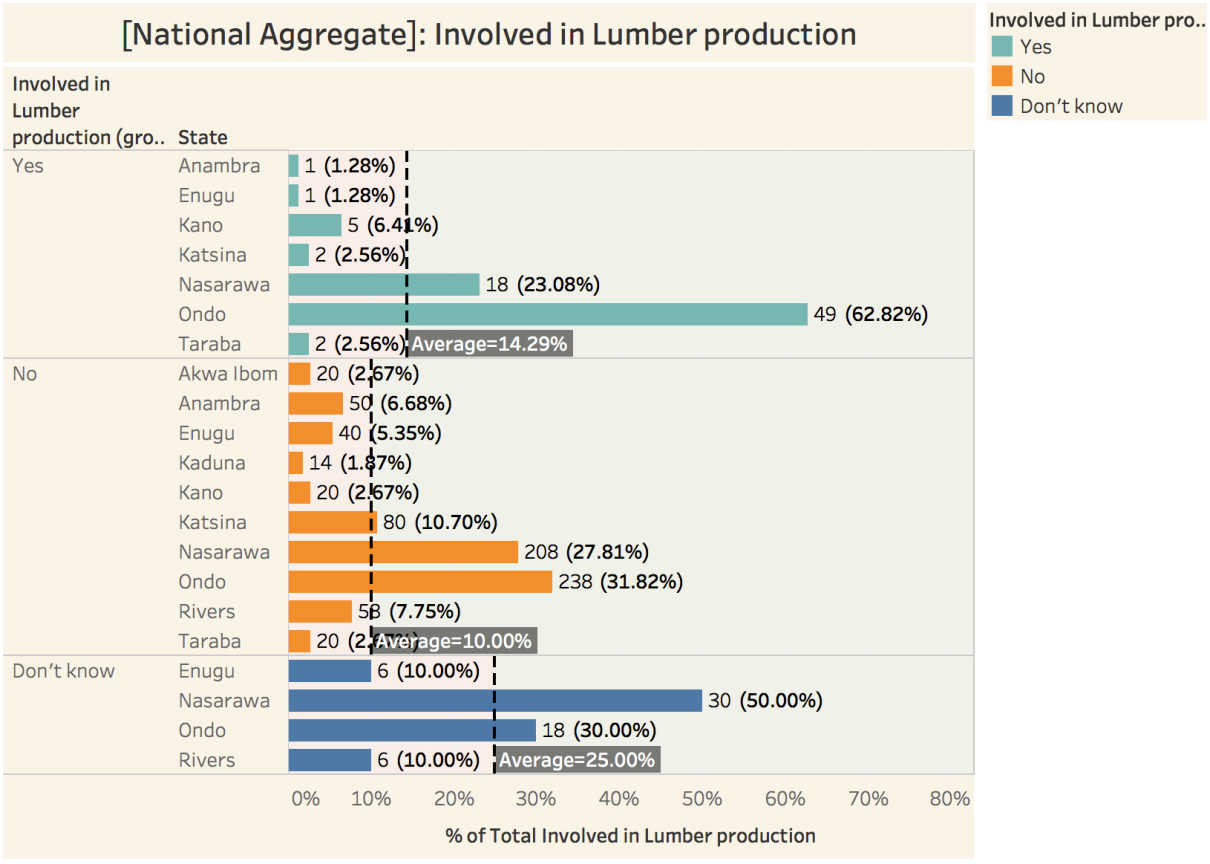


Figure 8.1: Involvement in Lumbering Activities

8.2 Community Land Tenure System and Effect on Access and Rights to Land and Forest

Land is one of the most important resources and assets in Nigeria. Land can be acquired through various tenure systems.

8.2.1 Land Ownership status across livelihood groups

Figure 8.2 shows land ownership status aggregated by occupation. The responses indicate farmers as the majorland owners among the livelihood groups with 78.59% indicating a positive response. However, relative to other occupation, farming activities also indicated a high proportion of people without land. This shows high vulnerability of farming activities and poses a risk of deforestation and forest degradation if land is not available for farming. This effective land tenure system to favor productive sector such as farming in the rural areas.

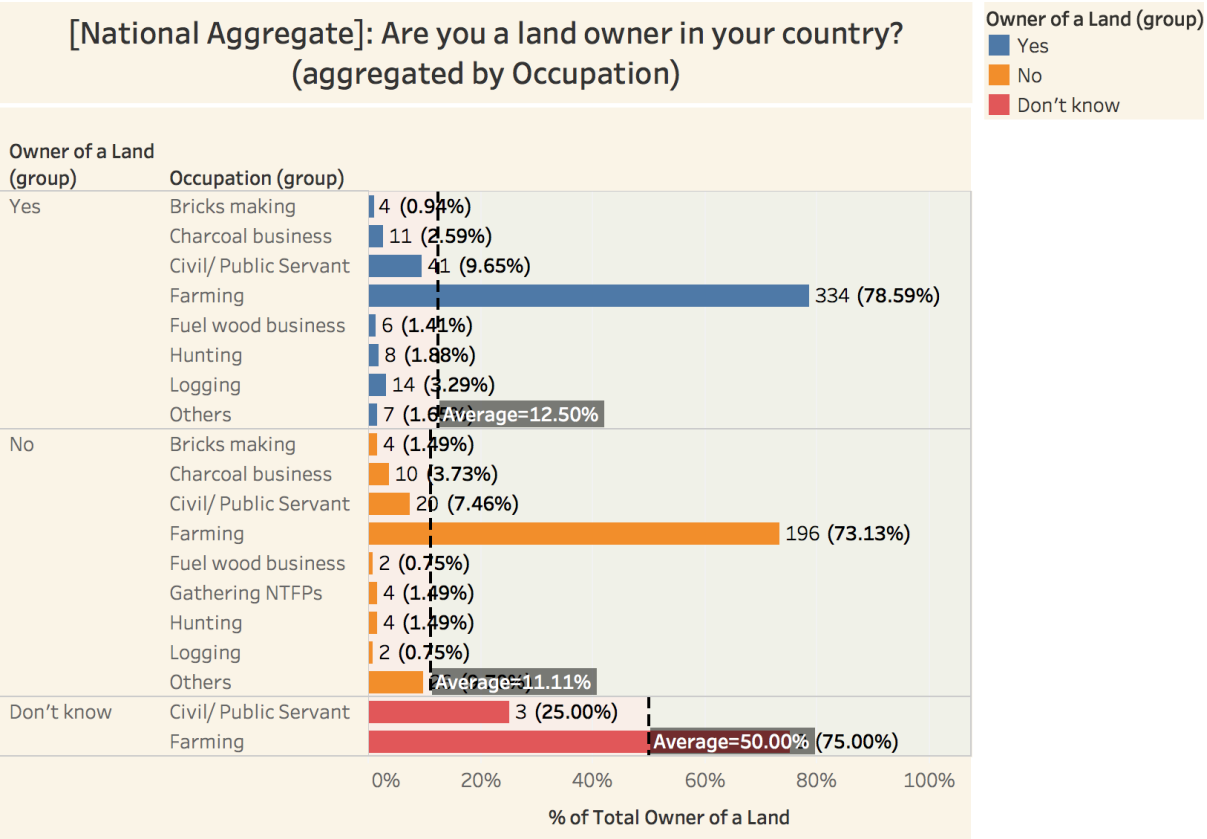


Figure 8.2: Land ownership status across livelihood groups

8.2.2 Land Tenure and Gender:

Gender differences in land tenure indicatethe status of vulnerable groups particularly women in land ownership. Figure 8.3 shows land ownership aggregated by gender. In the REDD+ pilot states, and other communities studied, fewer women own land in comparison with their male counterparts. However, the reverse is the case among male folks, those with land are more. These portends high vulnerability of women to access land and engage in productive ventures such as farming. Likely, increase in forest activities such as extraction of NTFPs may increase.

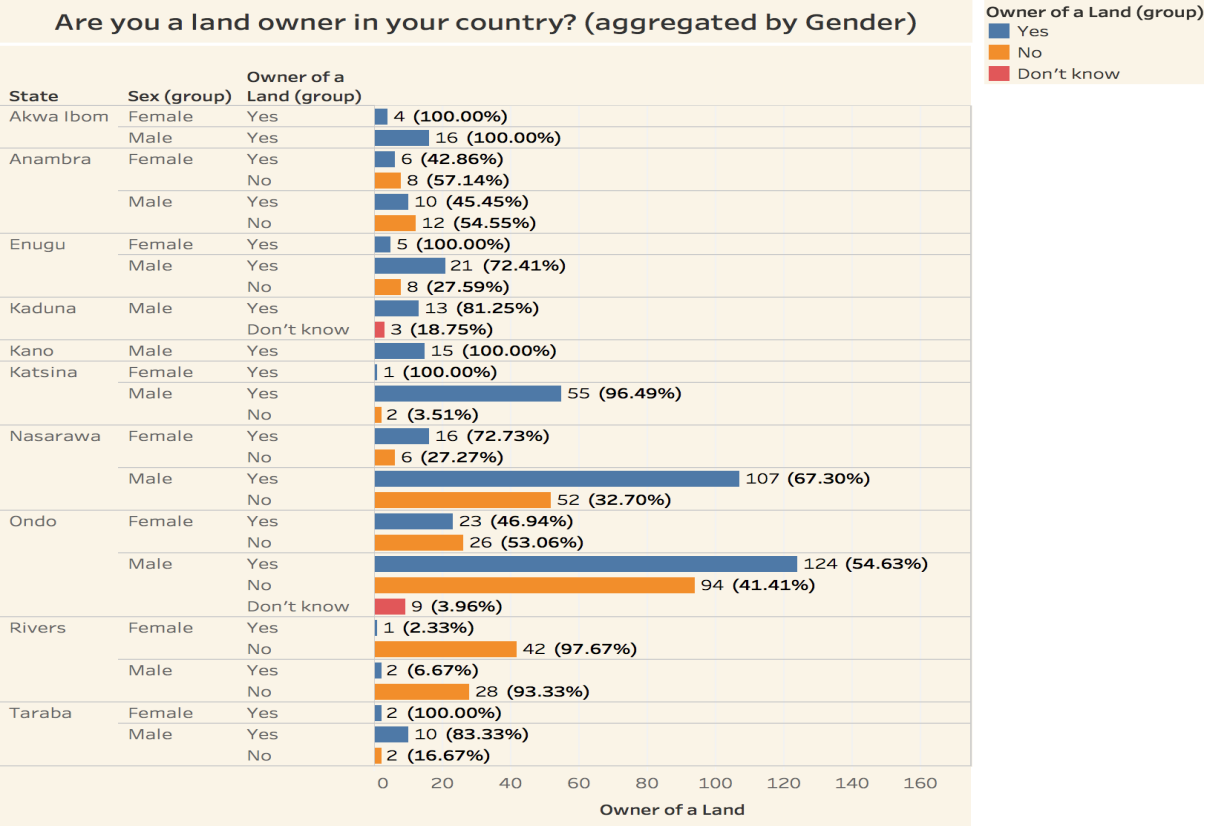


Figure 8.3: land ownership status by gender

8.3 Land Acquisition

Means of land acquisition differ across gender and occupation. Figure 8.4 shows national aggregate of means of land acquisition. Land acquisition by inheritance and purchase are the commonest means of land acquisition with 29.99% and 24.24% respectively.

In the REDD+ state the means of acquisition of land differ between genders. In Nasarawa state, male mostly acquire land through inheritance indicated by 48.54% (Figure 8.4b). In Ondo state, a significant proportion of both male and female acquire land through purchase. Figure 8.4c shows the differences in means of acquisition of land for different activities in the two REDD+ pilot states. Land for farming as the major land use activity is mostly though government allocation in Nasarawa as shown by 47.42%, whereas in Ondo state land for farming is mostly acquired through purchase. Scarcity of land has resulted in conflicts in the availability land especially community and family land. Therefore interventions in agricultural sector need to consider land tenure and accessibility to enhance productivity.

Generally in figure 8.5, Farming ranks highest among other occupations in all means of land acquisition.

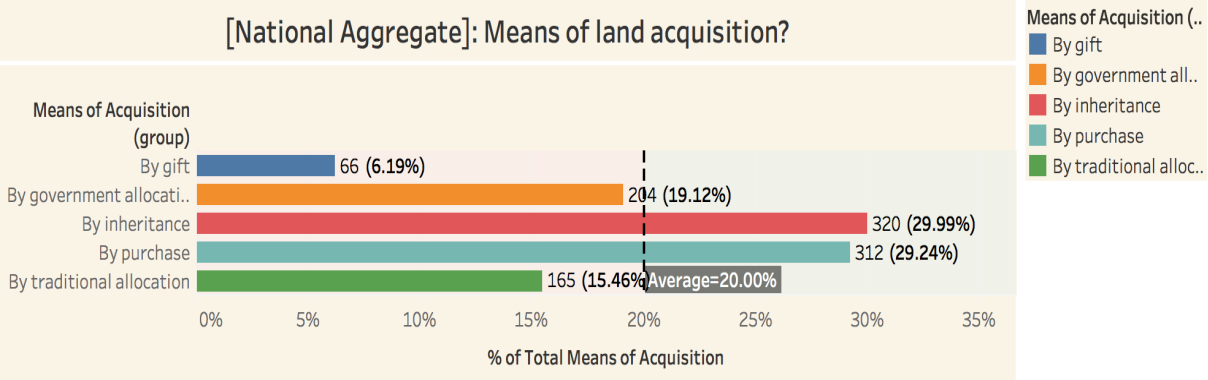


Figure 8.4a: Means of Land acquisition

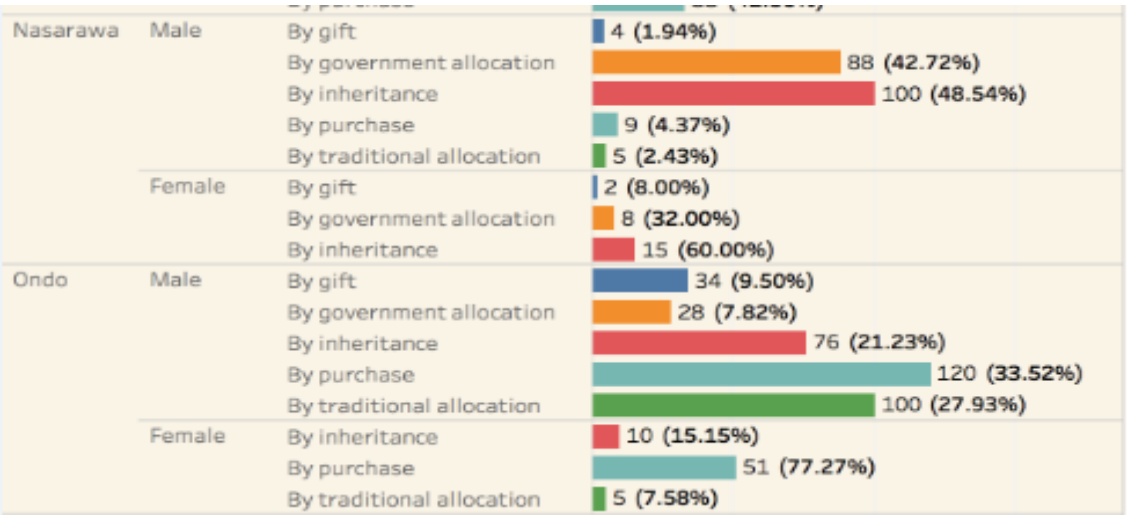


Figure 8.4b: Means of land acquisition by gender in the REDD+ States

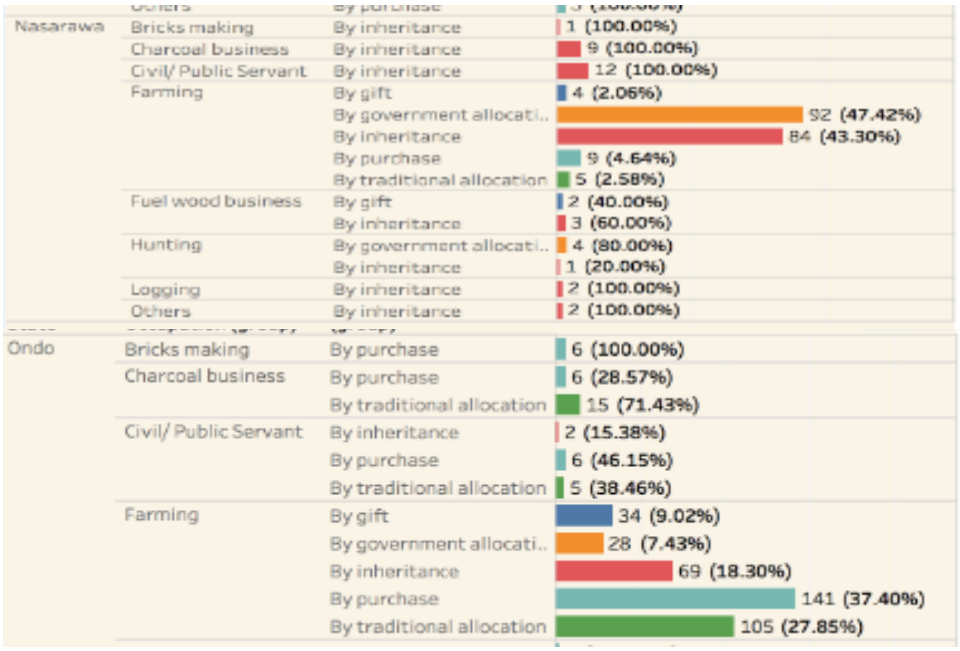


Figure 8.4c: Means of land acquisition by occupation in the REDD+ States

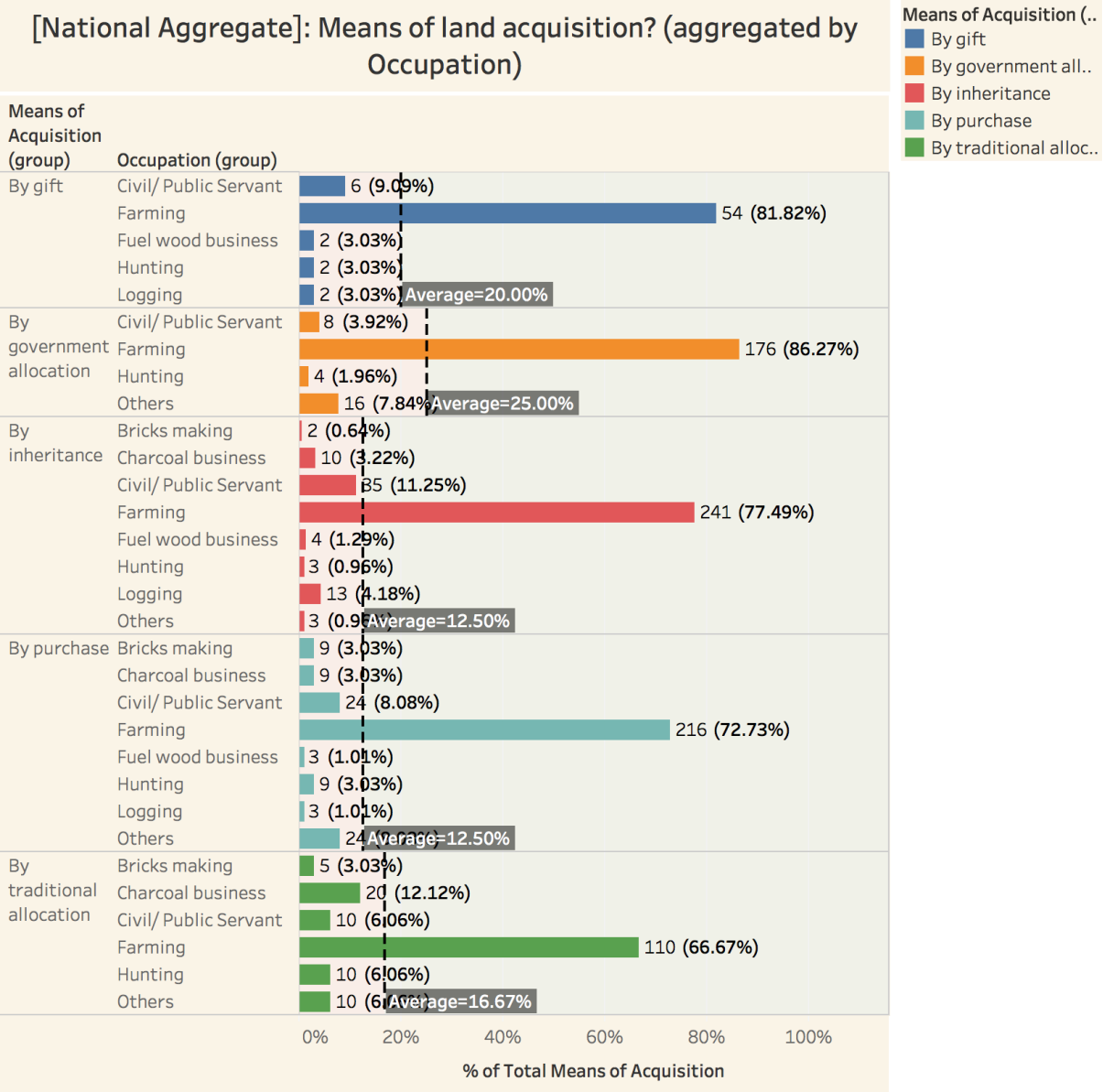


Figure 8.5: Means of land acquisition across occupations

8.4 Rights to forest resources

Access to forest resources is determined by rights. This determines access to livelihood options in the communities. Figure 8.8 presents' responses to rights of members of community to forest resources. Approximately where 75% of the respondents were uncertain of the existence of rights for members of the community to forest resources. A low proportion of respondents in Nasarawa and Ondo (23.25% and 38.26% respectively) are aware of their rights and access to forest resources (Figure 8.6). Lack of access and rights to forest resources and a disproportionate access others have at the detriment of some other groups may result in conflict. Rights need to be defined to enhance sustainability of livelihood.

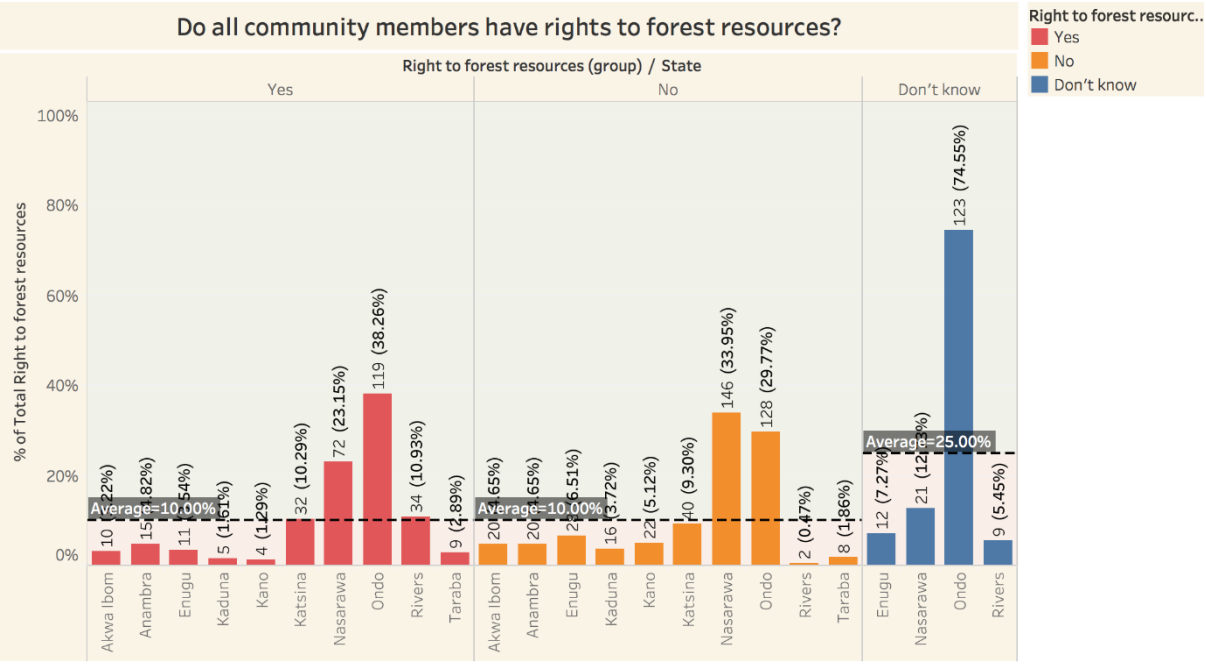


Figure 8.6: community rights to forest resources

8.5 Land tenure and Private Sector activities

Figure 8.7 presents responses to the awareness of company activities around the various communities. While a good percentage (55.17%) were uncertain, Nasarawa and Ondo states recorded 27.27% each of people who admitted that companies carry out activities close to their various communities. The operation of the private sector and their access to forest resources often result in encroachment into community forests. However, the private sector need to be engaged in sustainable investment to enhance economic growth particularly in the non-forest sector.

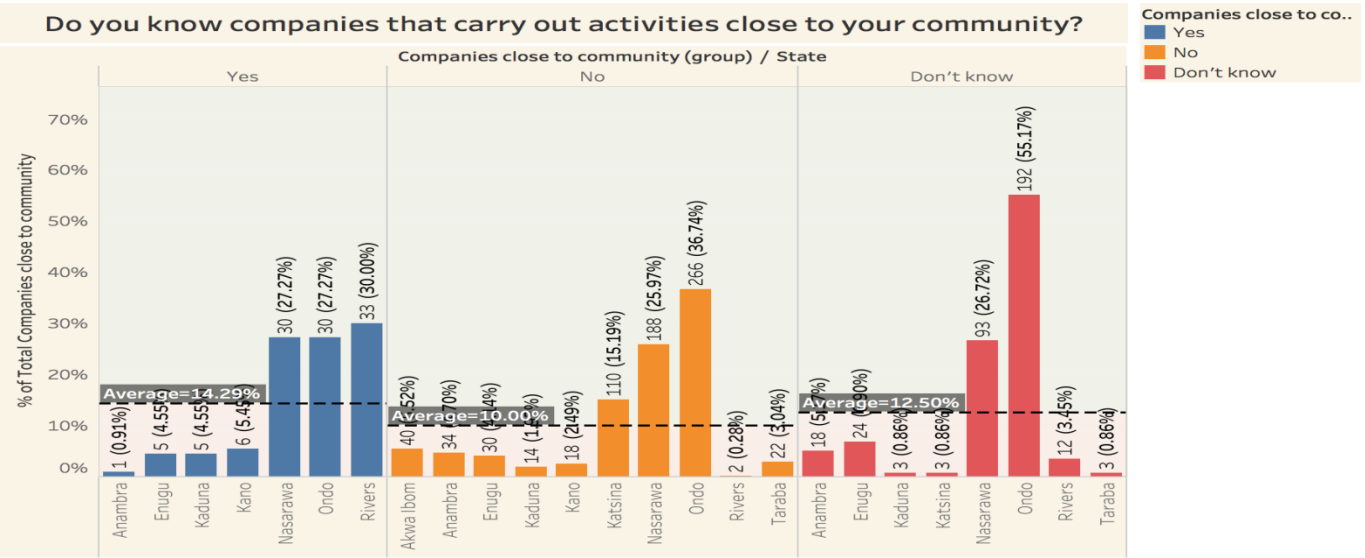


Figure 8.7: Private sector activities in forest communities

8.6: Type of forest management activities

Figure 8.8 shows the forest management interventions carried out in the communities. With respect to absolute numbers, forest regeneration activities as tree planting are the most common interventions, followed by forest management plans, and livelihood intervention activities.

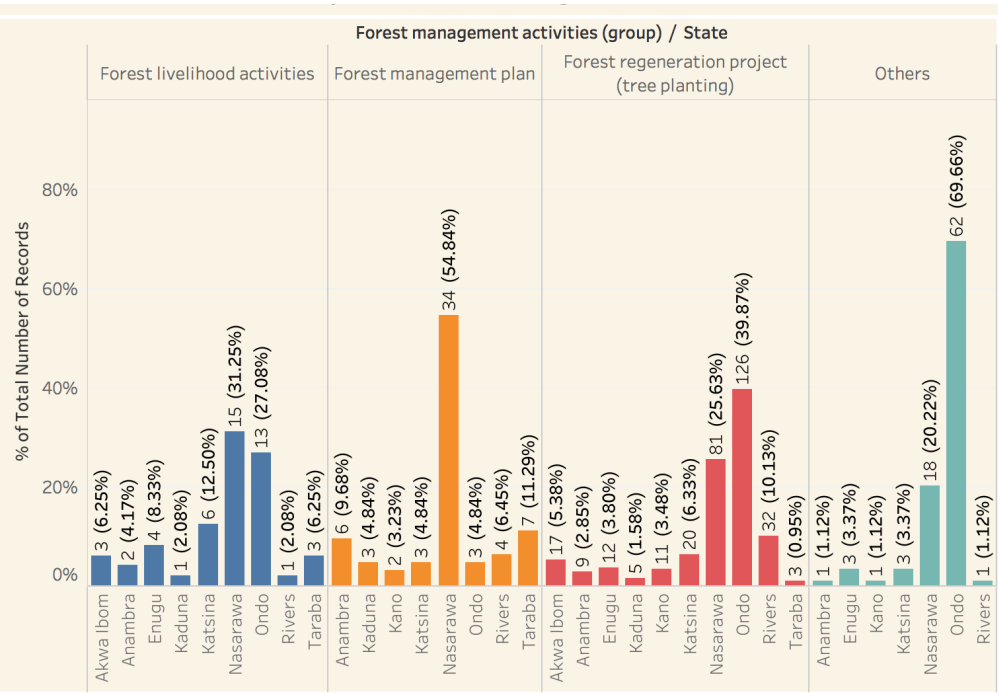


Figure 8.8: Types of forest management interventions

8.6.1 Ownership Status of forest:

Forest in the communities are categorized based on ownership and this determine access to the forest resources. Figure 8.9 presents the status of the forest ownership across the different states. Forest reserves and community forests are the more prevalent types of forest ownership status across the states. Access to forest reserve areas largely prohibited. Figure 8.11 indicate the awareness of communities across the different states to the prohibition made by the government to tackle deforestation in forest reserves. The number of people who are aware is high especially in the REDD+ states. In terms of gender, Nasarawa and Ondo states rank highest in male awareness with 29.43% and 32.33% respectively. However, with a generally low awareness of the female gender across the states, Nasarawa and Ondo states still rank highest with 24.24% and 37.88% respectively.

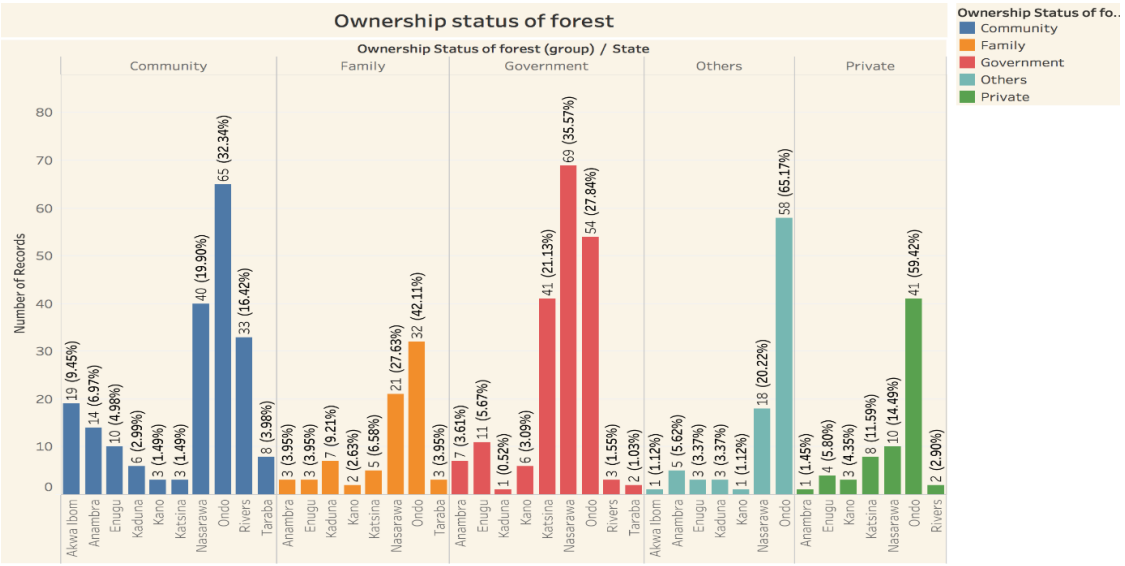


Figure 8.9: Ownership status of forest

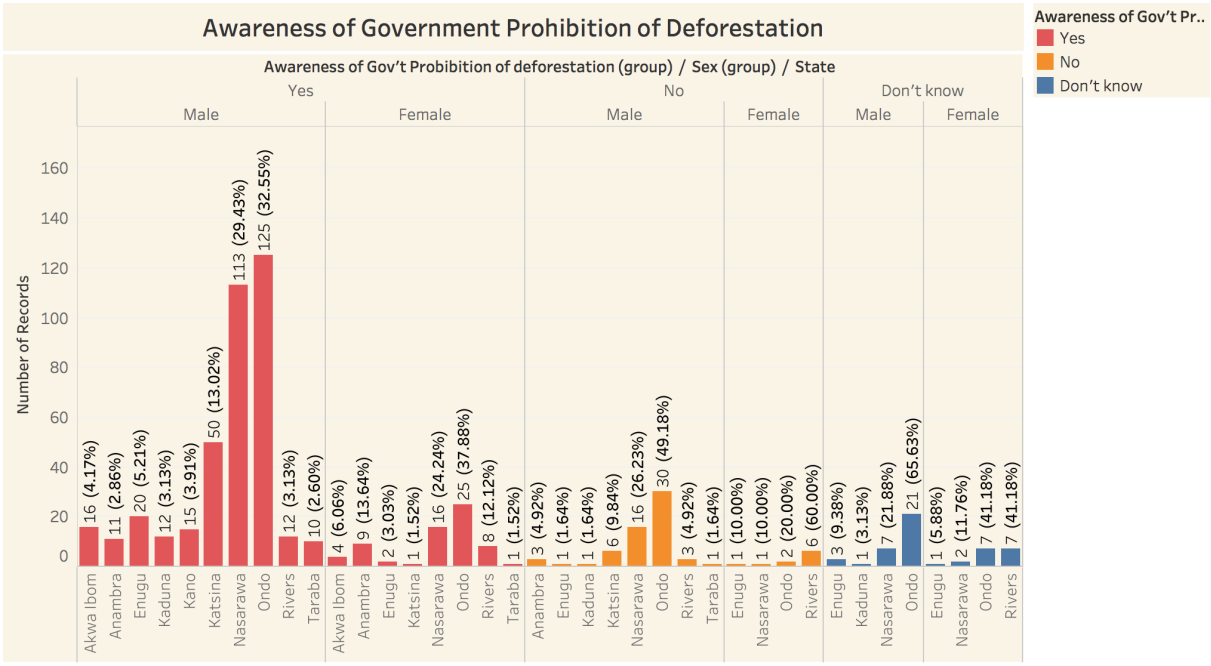


Figure 8.10 Awareness to government prohibition on deforestation

8.6.2 Land Rents

Payment of rents is usually paid when a forest/land is utilized especially by a person that has no right to the forest particularly non-indigenes. Figure 8.11 shows the remission of annual rents by forest users. Receipt of rents by Local Government and Traditional Heads rank highest amongst the states. Nasarawa state records the highest percentage of remittance to Local Government with 73.97%.However, Ondo state records the highest percentage of remittance to Traditional Heads with 47.95%.

Figure 8.12 indicates place of farming across the sampled states. Nasarawa state accounts for 79.88% of farming activity carried out in open areas. In Ondo state, private lands account for 40.37% of farming activity which is the highest in the category. This shows the trend in payment of rent especially utilizing private or government land

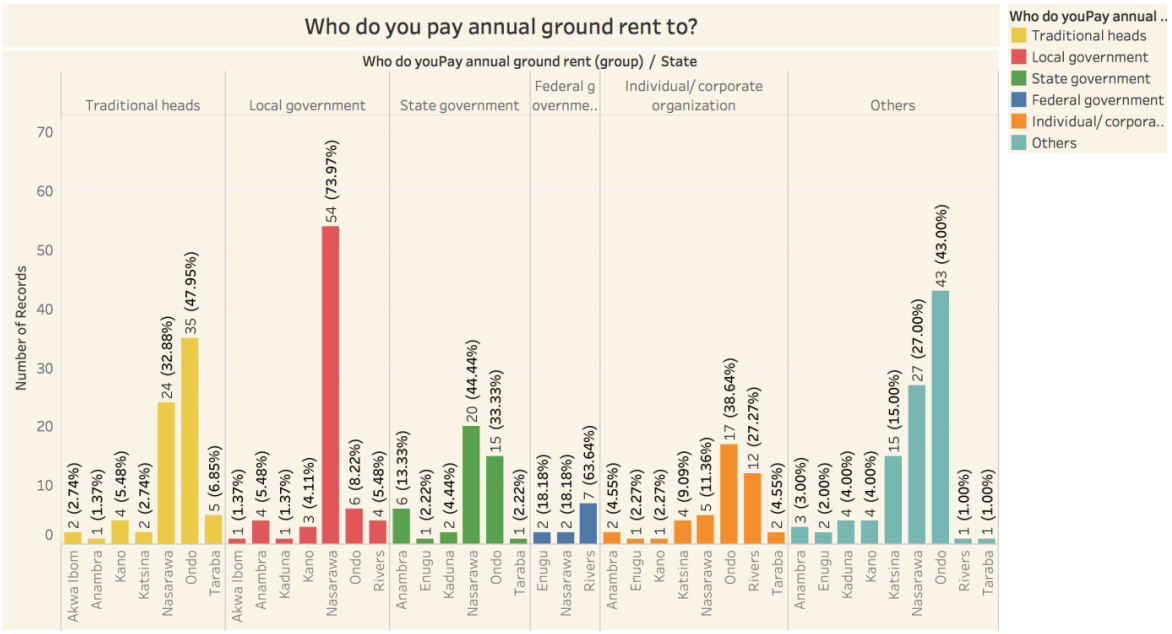


Figure 8.11: Payment of Rents

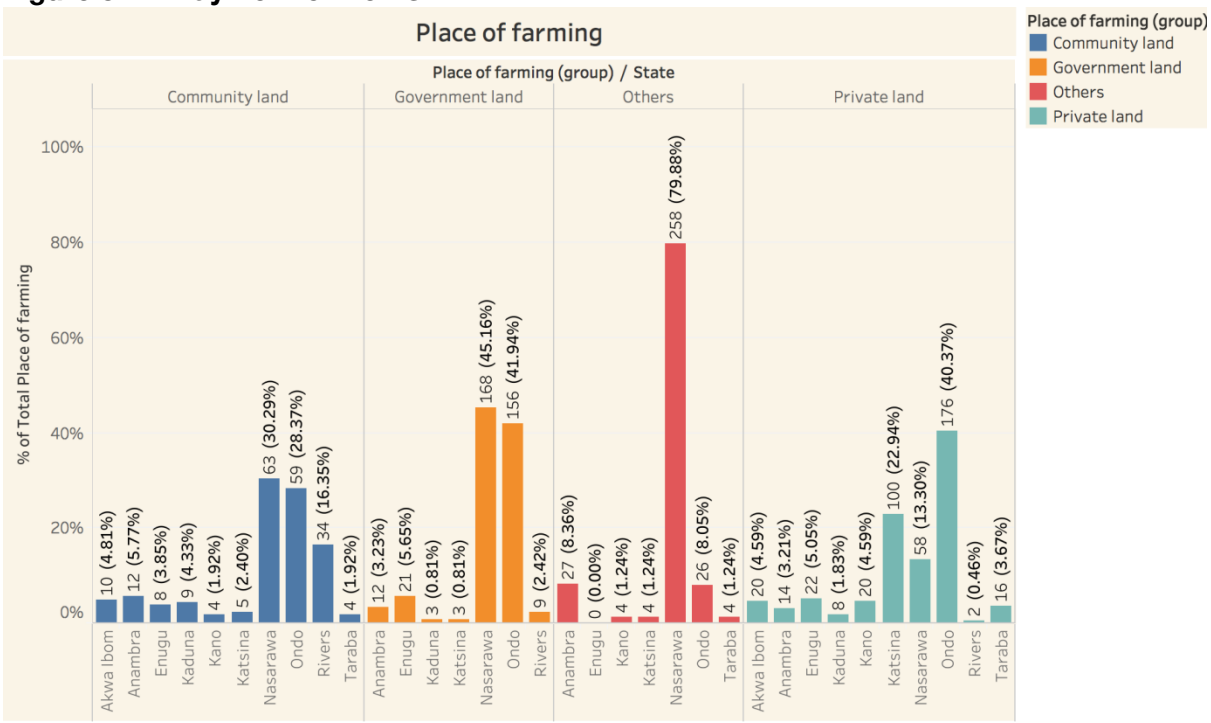


Figure 8.12: Areas highly utilized for farming

8.7 Case Study: Land tenure system

Land is one of the most important resources and asset in Nigeria. Land can be acquired through various tenure systems. In most communities, land is becoming scarce and land acquisition is positively skewed in favor of men, while women are disadvantaged irrespective of the fact that they are food providers and need land to carry out farming activities. The different land tenure system within the area of study includes:

Inheritance: People acquire land through inheritance. However, women don't share in Land inherited from parents in Atabula community in Obi LGA of Nasarawa state whether married or still single. Women can only farm on the land inherited by their son. Hence land inheritance is exclusive rights of male children.

Purchase: Purchase of land is free for all, irrespective of sex. Purchase operates under two regimes. One as an outright purchase, where one can completely by off land. It can also be hire purchase where land is used by the buyer for a particular period before handing over.

Other characteristics of land tenure system include:

a. Right to land/forest resources differ with gender and the type of resource-Fuel wood is extracted by women, honey and palm fruits by men, and herbs by both sexes.
b. No rights to non-indigenes on forest resources except with permission and payment of entry fees
c. No shift in tenure and customary right over the years, and it is respected by all community members.
d. The communities Elders and Youth Leaders control land and forest resources and their allocation to individuals
e. Expectation from REDD+ in terms of community forest is sustainable forest management that will enhance conservation and their livelihoods
f. Fear of REDD+ is that restricted access could lead to hardship and conflict
g. Solution to Risks: Provision of alternative livelihood, empowerment and enabling environment for business

Recommendations on land tenure from the women:

1. Customary land reform is critical and requested to ensure equity.
2. Women should be given rights to land as they are the house keepers.

8.8 Land Use and Land Use Plan

Currently, land use plan is practiced in some communities and respected by every member of the community. For instance there is an open area which is free for all. There are also restricted areas such as the forest reserves. Permission must first be obtained in the later before entry is allowed for collection of seeds and leaves. In Atabla, for instance, large area of their land is in the reserves. In Nasarawa state used as a case study, Kulere has a land-use plan being implemented and effective over the past 20 years. Massenge community has a forest management plan, developed in 1952. This defines land tenure and land rights, conflict resolution mechanisms, and equitable distribution of benefits including benefits for the resource owners and other indirect and co benefits.Community customary governance institutions for land acquisition also exist.

8.8.1 Place of farming

Figure 8.13 shows place of farming on a national scale. Most farming activities are carried out on private land holding and this accounts for the highest value of 32.54%. The government forest reserves rank next as place of farming with about 28% of responses, whilecommunity lands are

the least used for farming activities accounting for 27.76% of the responses. Figure 8.14 shows a national aggregate for the current use of land disaggregated by occupation. From all the land use categories, farming accounts for the highest land category. Land is mostly used for Agricultural purposes, specifically; farming which accounts for the highest percentage of 81.20%. Disaggregated by gender**,** Figure 8.15 shows the current land uses. Land use for agricultural purposes account for 29.10% and 37.31% respectively for males in Nasarawa and Ondo. Land use for agricultural purposes by females rank highest in Nasarawa and Ondo states (22.98% and 42.86% respectively). Generally, males are more involved in land use than females hence, recommendation is gender equality in land tenure system.

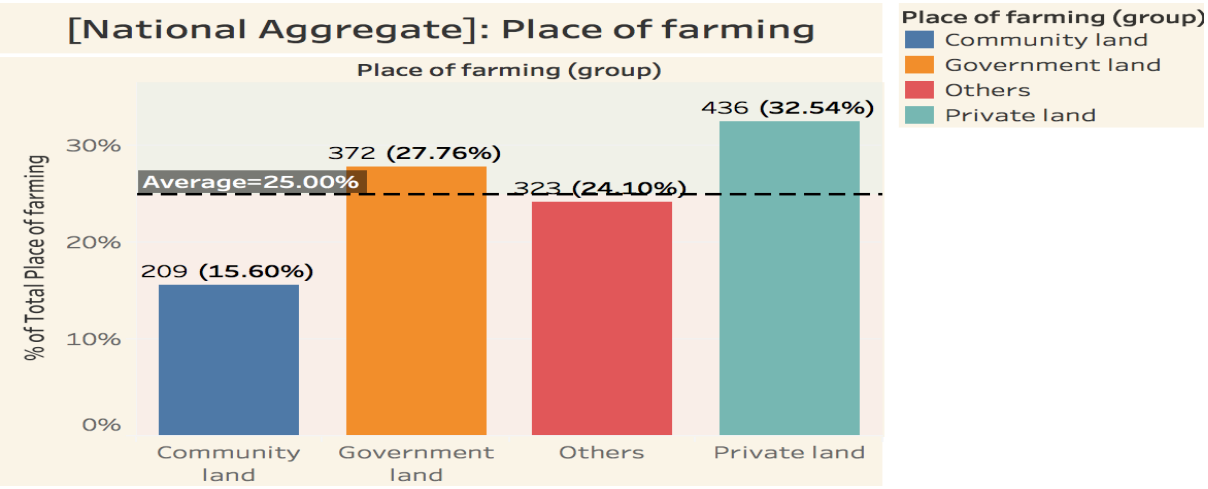


Figure 8.13: Place of farming.

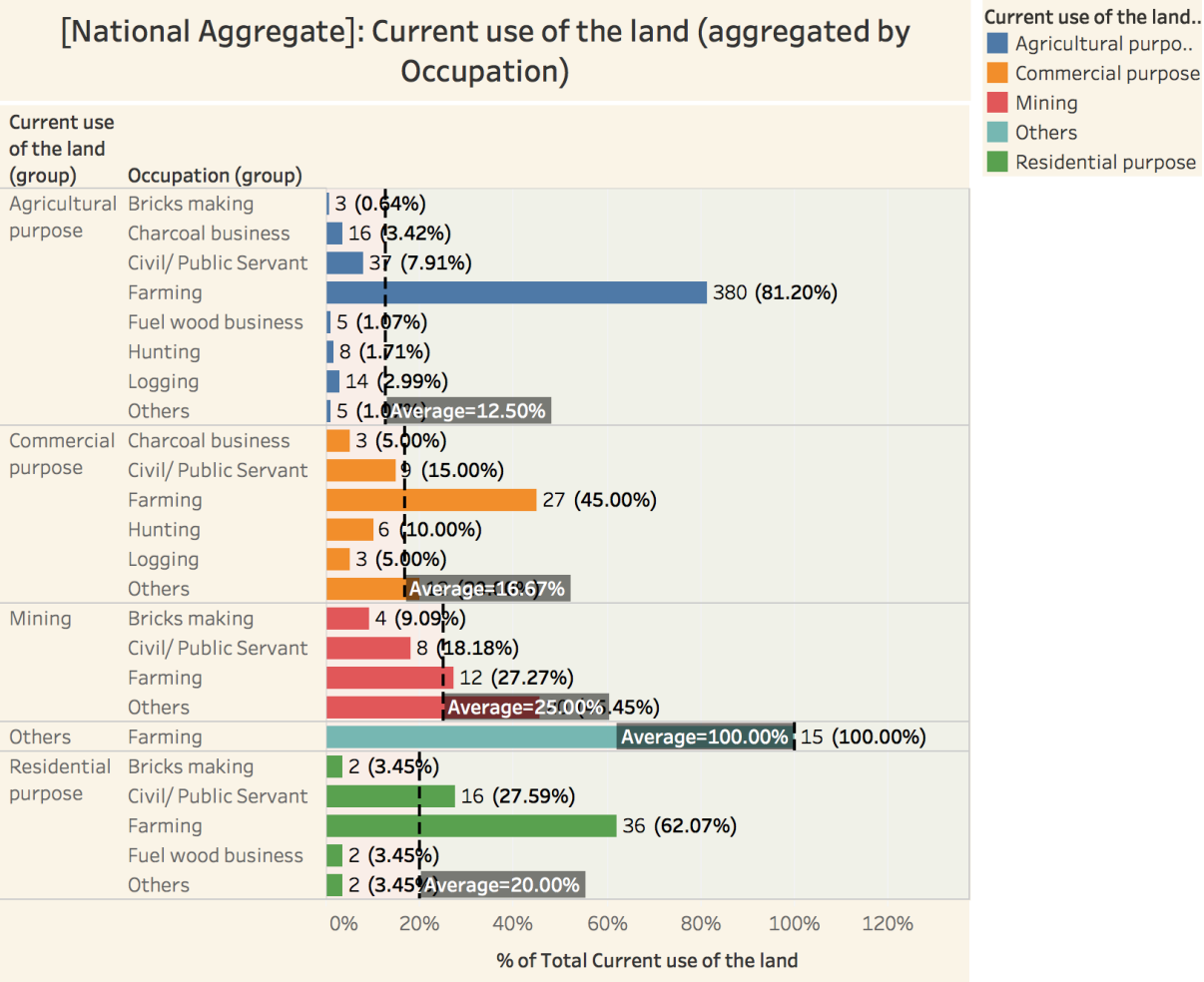


Figure 8.14: Current land use

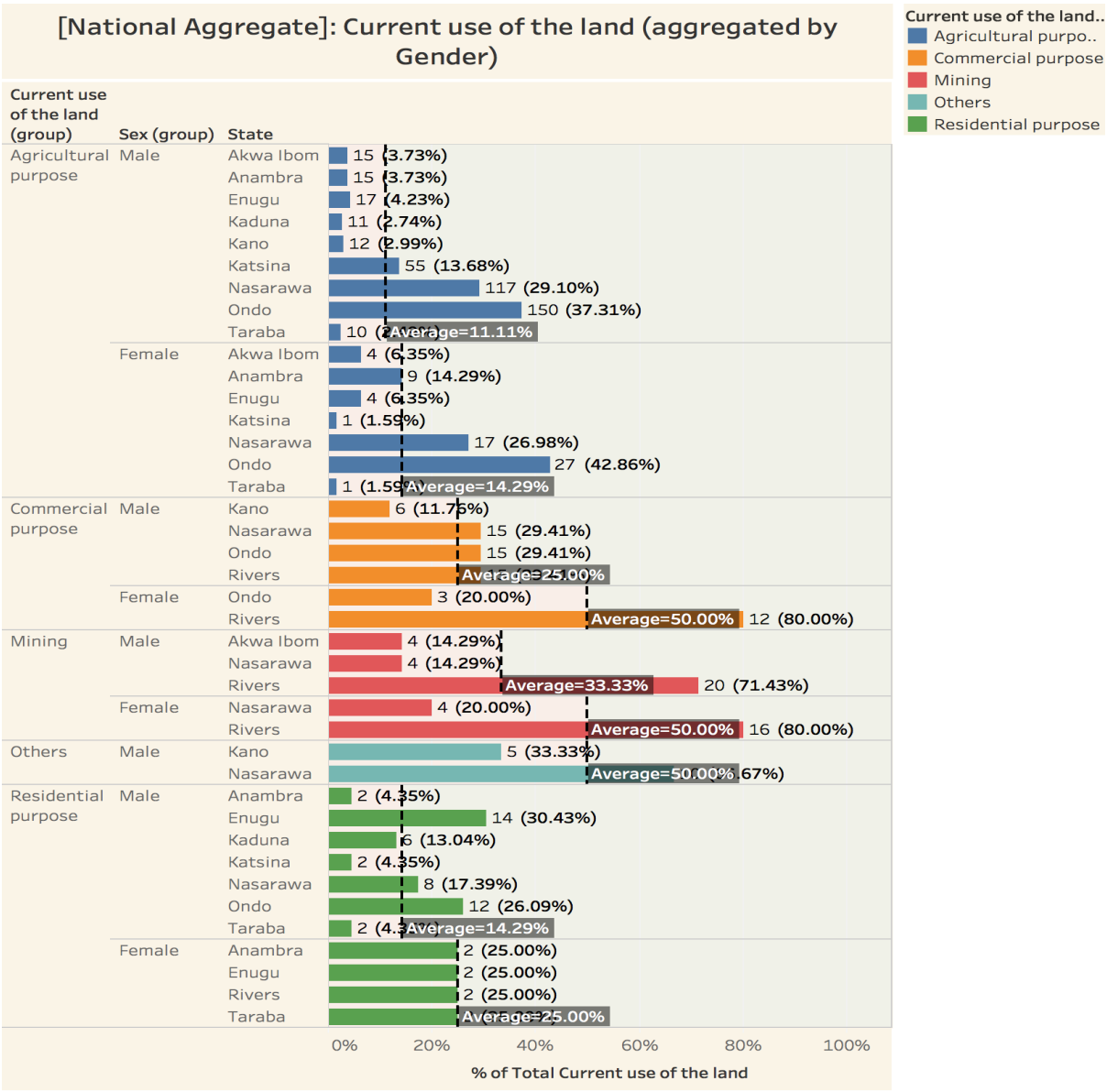


Figure 8.15: Current Land use by gender

8.8.2: Duration of land Use

Figure 8.16 indicates the duration of land use, land has been utilized mostly between 11 – 20 years which constitute 46.08%. Figure 8.17 shows the duration of land use by gender. In Nasarawa, both males and females use land over a duration of 40 years accounting for (67.16% and 50% respectively). In Ondo, males land use duration of between 31 – 40 years.

Figure 8.18 shows land use duration by occupation which differs according to occupation. Figure 8.19 provides responses for duration of land use disaggregated by gender. There is also differences in terms of gender. The males use land longer time than females in most states.

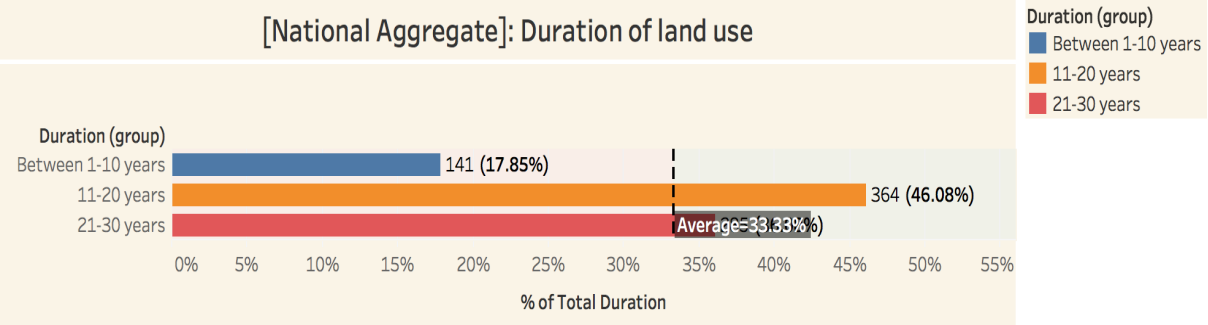


Figure 8.16: duration of land use

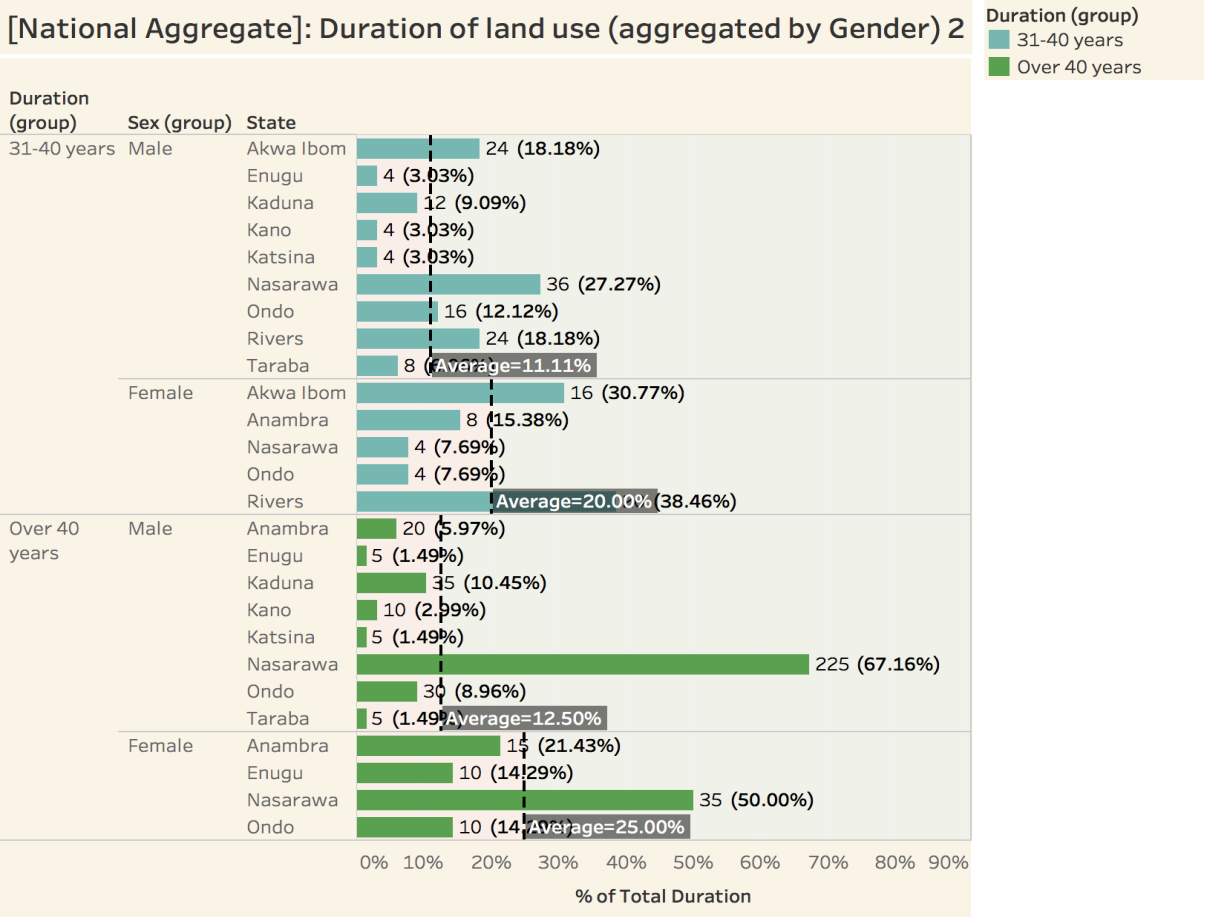


Figure 8.17: Duration of land use by gender

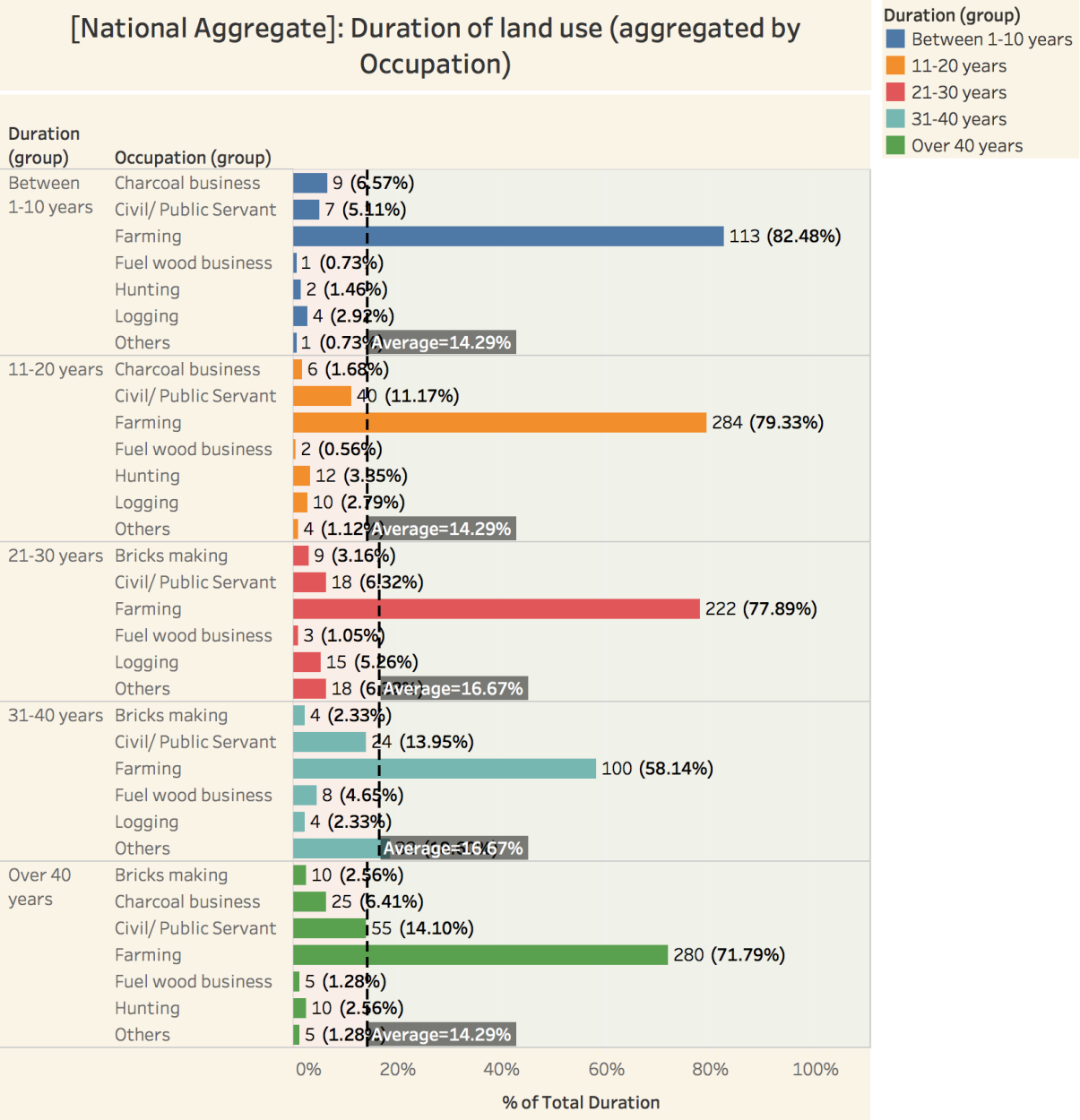


Figure 8.18: land use duration aggregated by occupation

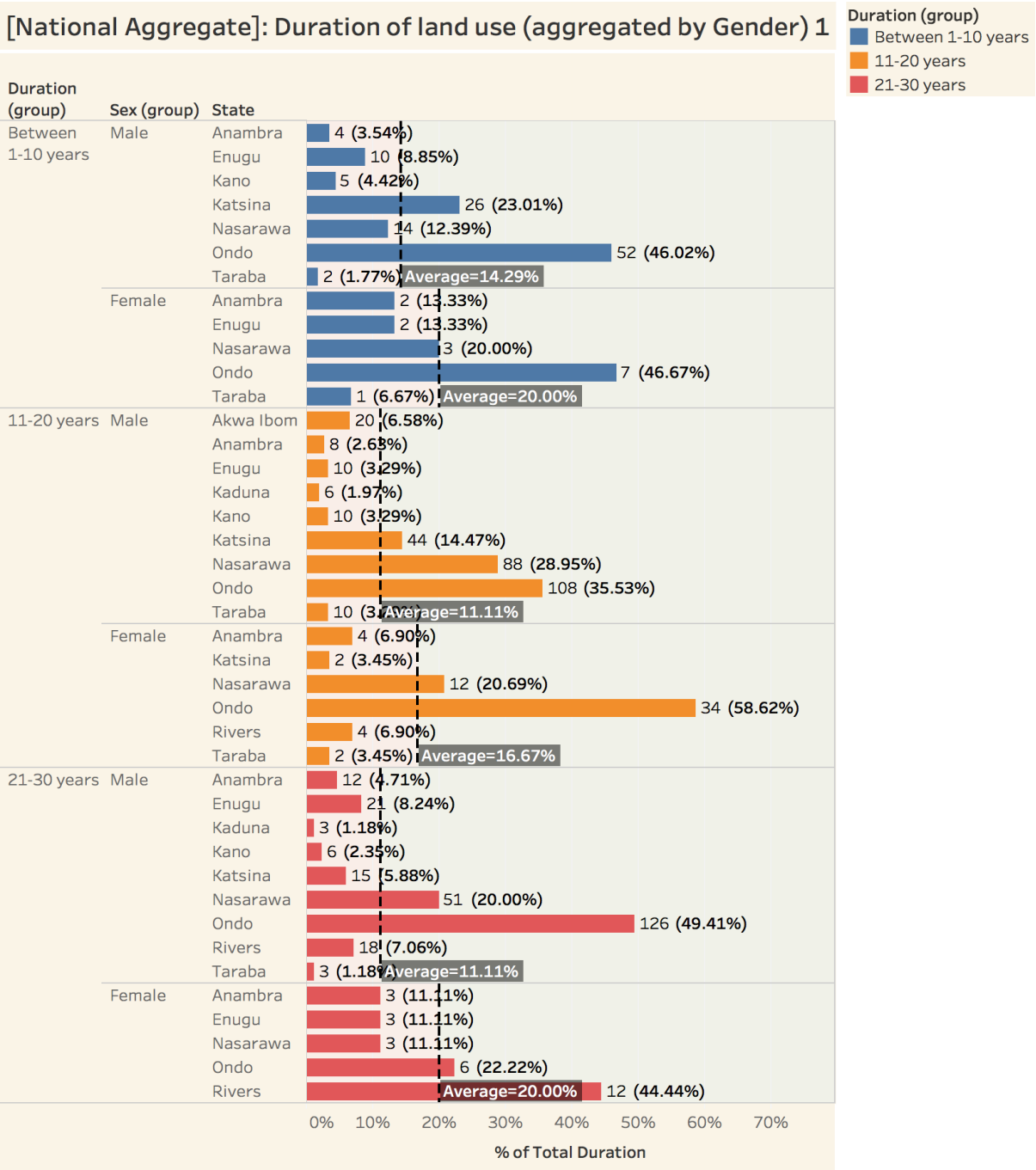


Figure 8.19: Duration of Land use by gender

8.8.3 Previous Land use

Figure 8.20 shows the previous land use. Responses show that land use was primarily for cultivation of crops represented by 53.54%. Figure 8.21 responses provided for previous land use aggregated by gender shows that more females from Ondo engaged in forestry; represented by 85.71% whereas males from Nasarawa were engaged in tree related activities represented by 46.10%.Figure 8.22 shows that previous land use was mainly for farming as indicated by high percentage values of farming for each land use category. Responses on Figure 8.23 on which

land is mostly utilized. Government land is indicated as the most utilized and accounts for 49.96%. However, community land is most underutilized accounting for 17.58%.

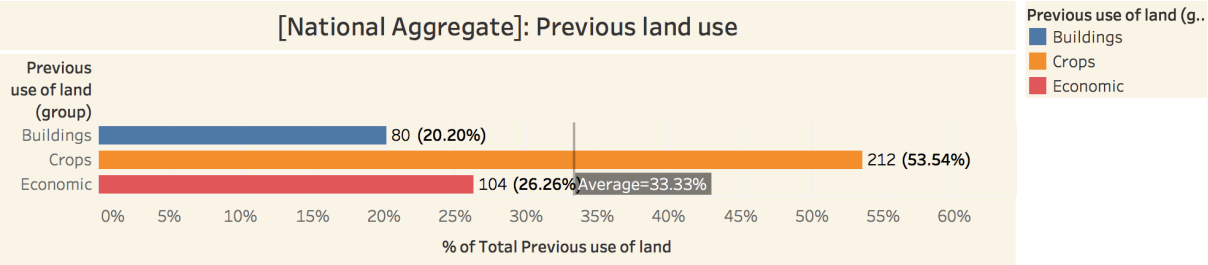


Figure 8.20: Previous land use

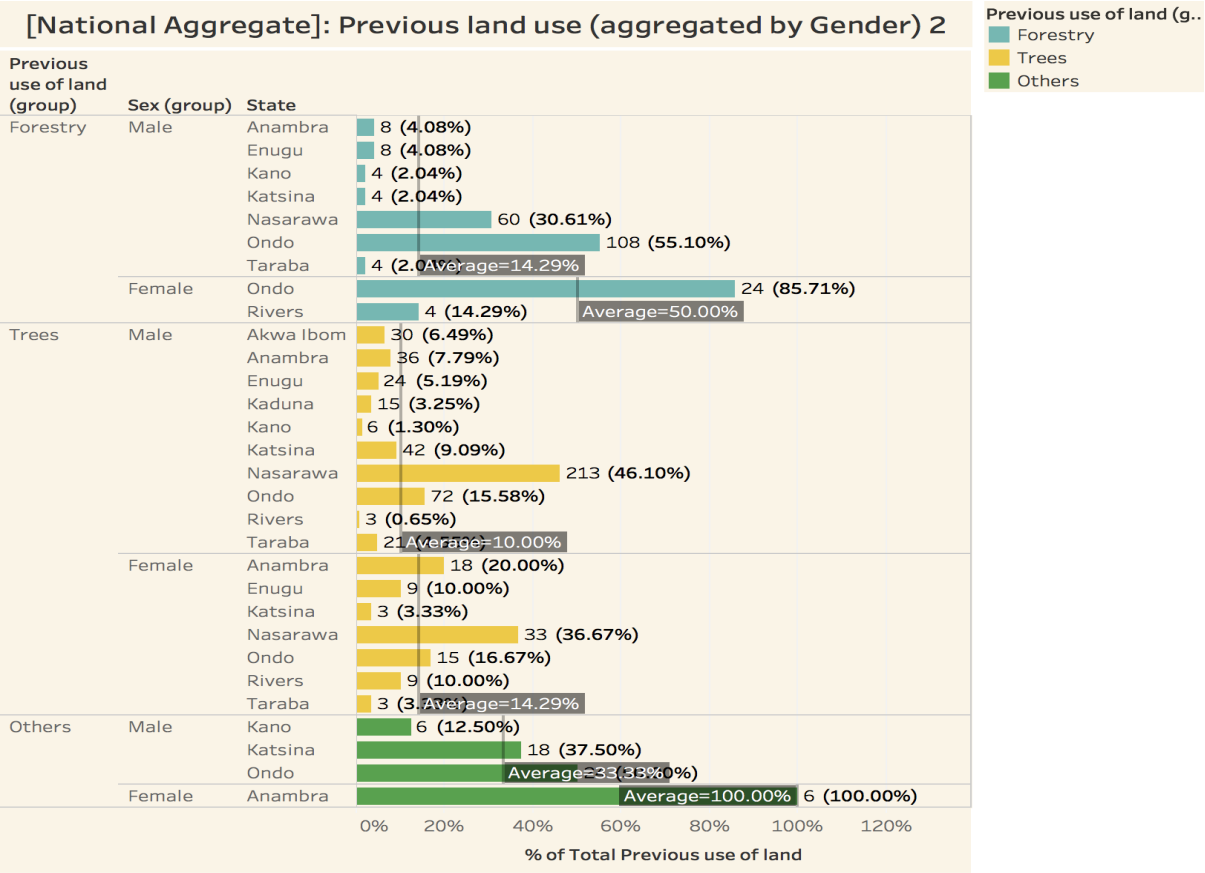


Figure 8.21: Previous land use by gender

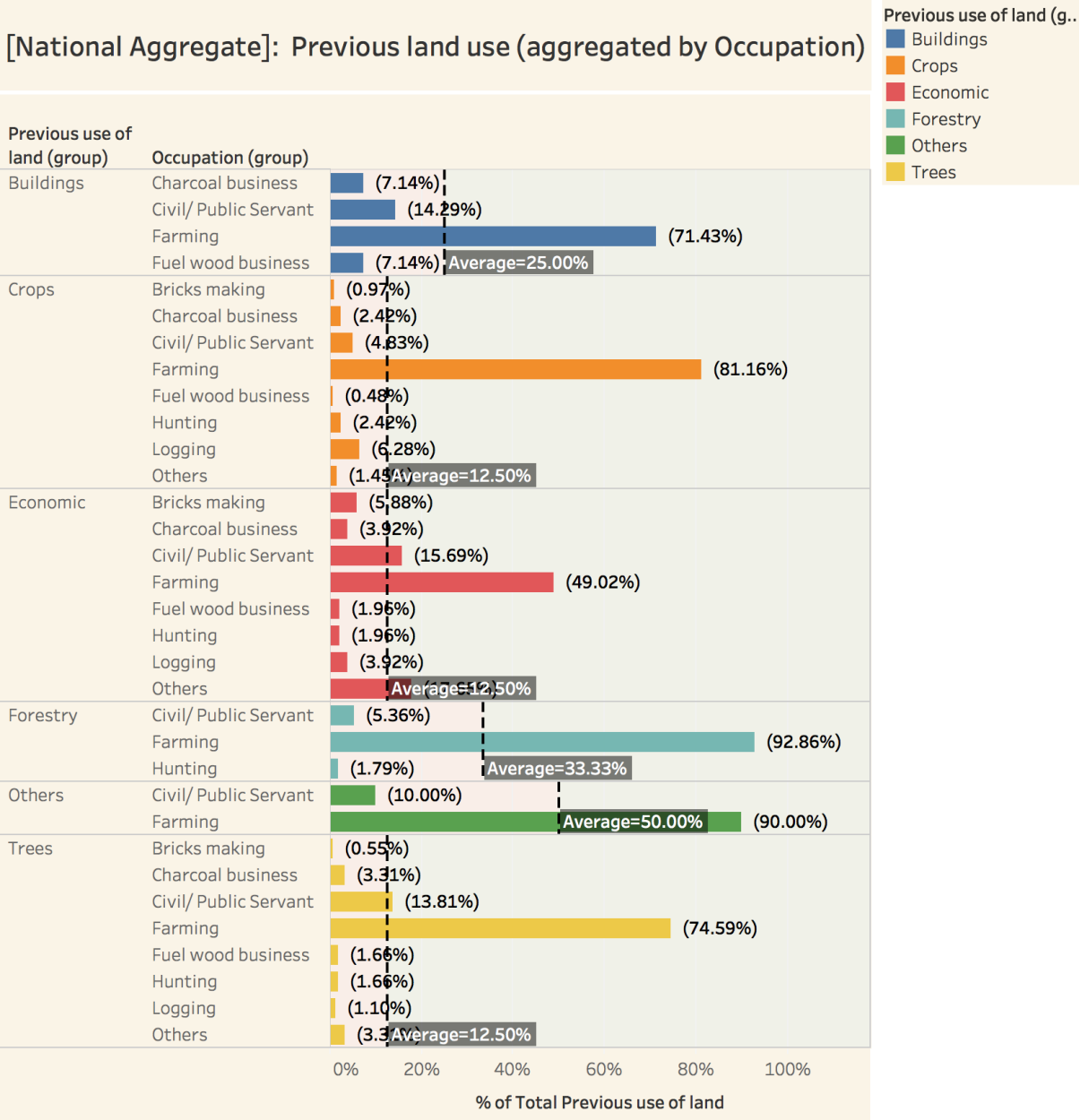


Figure 8.22: Previous land use by occupation

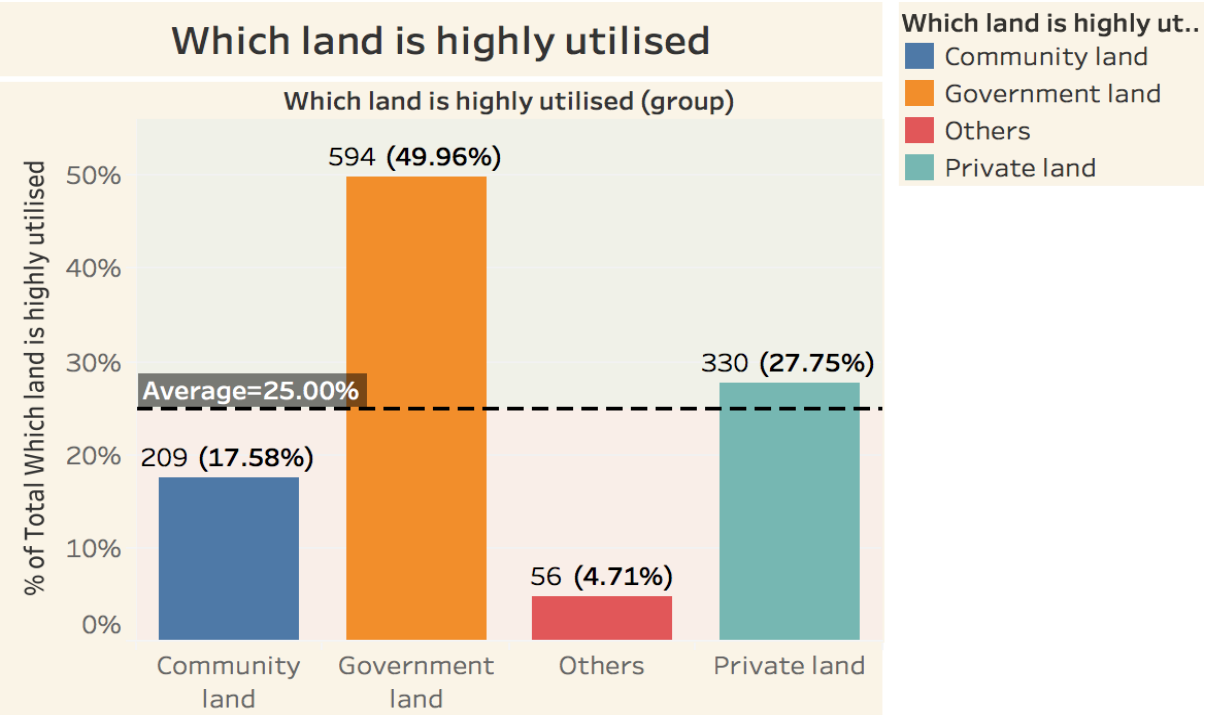


Figure 23: Land highly utilized

8.8.4 Satisfaction with forest resource management.

Satisfaction with management approach is presented in Figure 8.24 indicating various responses to the satisfaction by government in sustaining land resources aggregated by gender. This shows that majority of males and females from Nasarawa are satisfied with government; accounting for 34.98% and 27.27% respectively. However, most males from Ondo are not satisfied accounting for 42.07% while a greater number of females are satisfied, corresponding to 49.09%.Figure 8.25 indicates that most farmers are satisfied with government in sustaining land resources. This accounts for 78.19%. However, a great number of farmers (75.00%) expressed dissatisfaction.

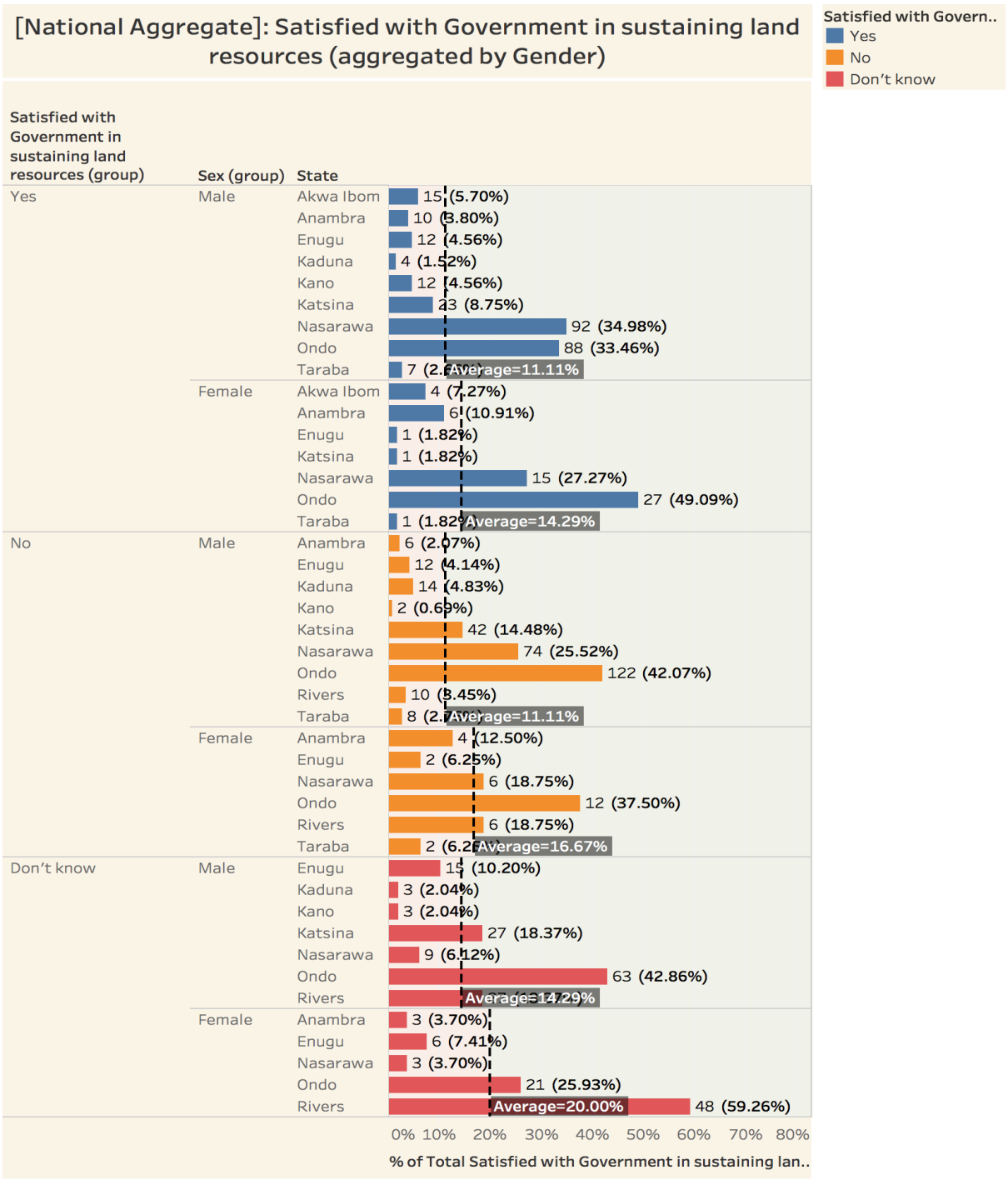


Figure 8.24: Satisfaction with forest resource management approach by gender

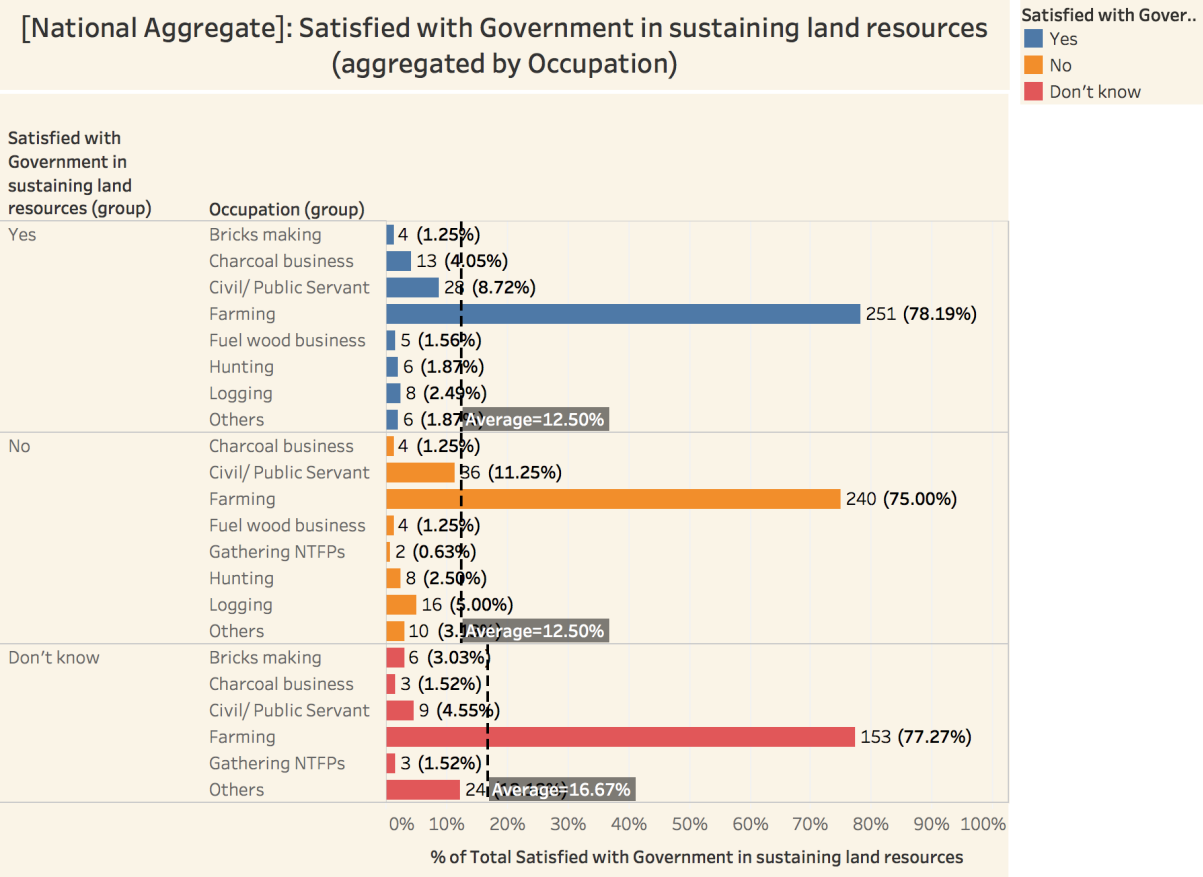


Figure 8.25: Satisfaction with forest resource management approach by occupation

9.0 GRIEVANCES AND REDRESS MECHANISM

9.1 Impact of REDD+ on Land tenure/forest governance system

This section presents the perceived impact of REDD+ on land tenure/forest governance system. Figure 9.1 shows that along gender lines, 31.8% of females from Ondo state expressed concerns about a possible negative impact of REDD+ while 29.30% of males indicated same. However, 35.59% of the males said there will not be any impact of REDD+ while 12.50% of the females indicated same. In Nasarawa State, 30.86% of males indicated likelihood of impact of REDD+, 18.84% of females indicate same. However, 87.50% indicated there will not be any impact of REDD+. On the basis of occupation as indicated on figure 9.2, 71.47% of the respondents who are farmers indicated an impact of REDD+ while 81.48% where of the opinion that there will not be any impact of REDD+ on land tenure/forest management, on the other hand, 87.38% who are predominantly farmers said they don't know if there will be any impact.

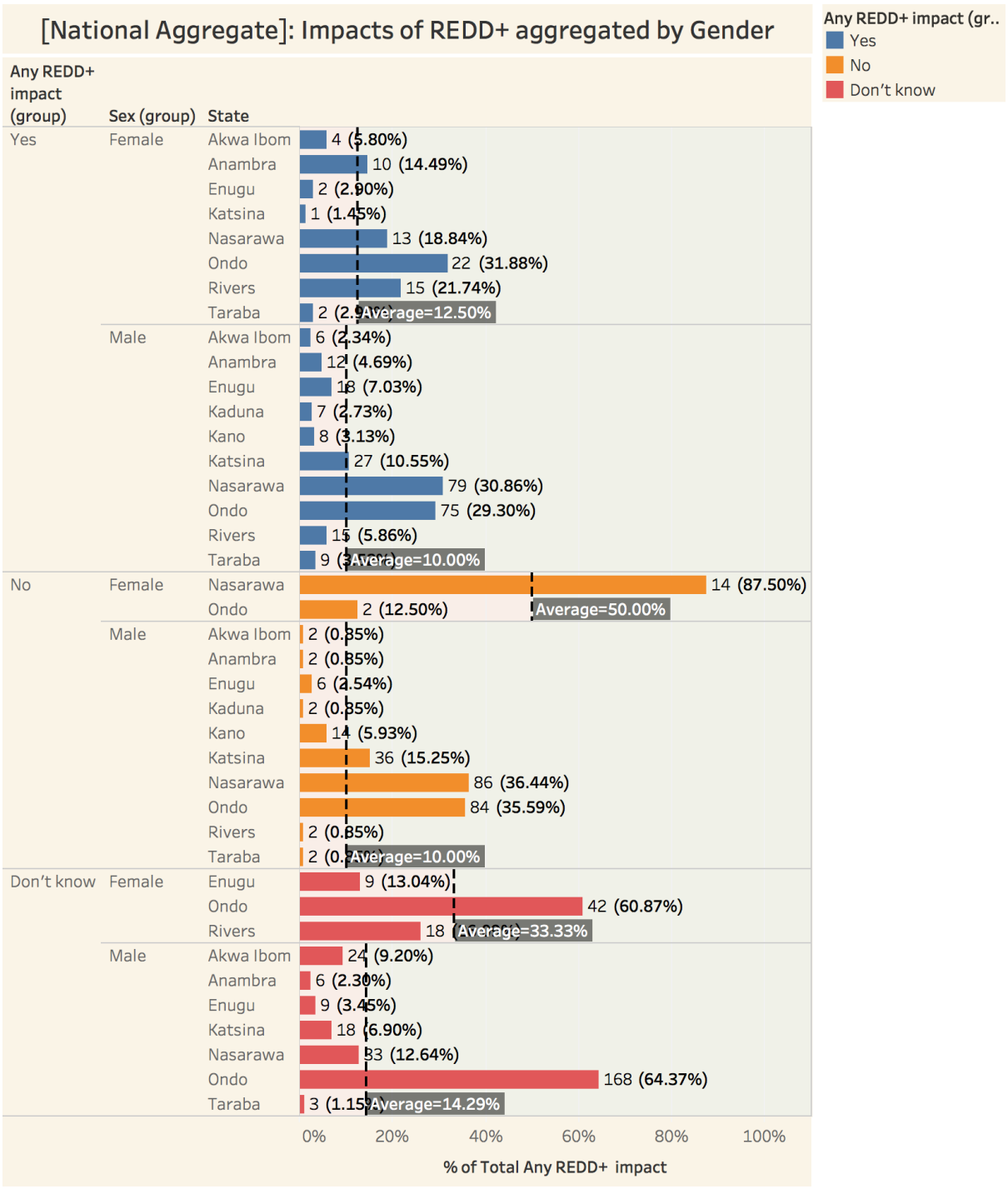


Figure 9.1: Impact of REDD+ disaggregated by gender

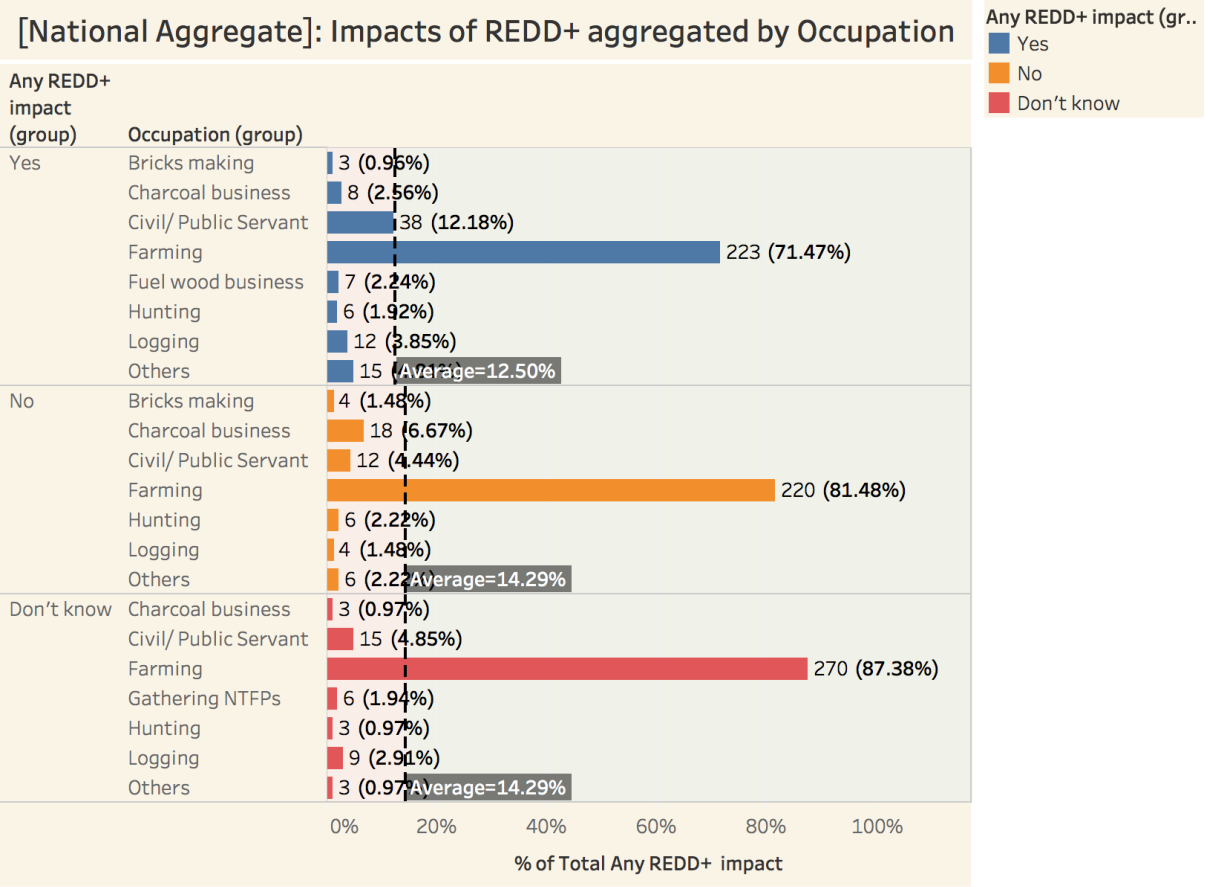


Figure 9.2: Impact of REDD+ disaggregated by occupation

9.2 Conflict flashpoints in forest and natural resources

The scenarios for conflicts are highlighted below:

a) Grazing

At all the sites visited for this study, herdsmen were found around these communities. The herdsmen are living very close to their homes and farm settlements. There are no areas demarcated for grazing. Hence, the herdsmen move around the farm and forest area to feed their herds. Most of the community men that are farmers are also rearing animals for farming activities such as; soil tillage, hauling and supplying of farm yard manure.

Couples of conflicts had cropped up between the community people and the herdsmen that had even led to loss of lives and properties, especially in Kaduna State. In Agban-Kagaro site of Kaduna State, the communities such as Gododo, Gidan wire and Tadowada witnessed herdsmen conflict with their farmers in 2011 that led to massive loss of lives and farmlands. Most of the farmers had resulted to sleeping in the farm in order to protect their farm from being invaded upon by the herdsmen. However, no farmers/ herdsmen crisis was reported in Kano and Katsina States.

The community people advocated for government intervention to provide adequate security in their communities. Also, they suggested creation of ranches and demarcation of graze land for the herdsmen.

b) Intra-Community Conflict

Intra-community conflicts are usually between families and resource user groups over natural resources. Inter-personal conflicts usually over NTFPs and forest area cleared for farming. Conflicts between households were next in frequency of occurrence. In Cross River State Council of Chiefs and Youths Council usually have problems over finances and the extraction of timber.
In Ondo State, Disputed Area include

- ✓ Eti Oni Forest Reserve
- ✓ Eba Island – 1,813 hectares

c) Inter-Community Conflict
Inter-community conflicts are common in resources along boundaries. Where one community trespass on land for logging and farming, dispute over community boundaries and unsustainable use of shared resources likely emerge.

Conflicts in Forest and natural resource
There are many stakeholders in forest sector, hence many interest which often time result in conflicts between stakeholders of the same community or between localities. These include Farmers Association, Youth Group, Town/Village Union, Faith-Based Organizations, Women Group, Forest User Group, Private Firms and Trade Association.

d) Other areas of conflicts include:

- Farmers not allowed to plant food crops on cultivated lands in the reserves while the Federal Government should bring trees for them to plant on their behalf.
- Non-provision of infrastructure such as water, roads and electricity in communities.
- Not punishing those who harvest forest products illegally using touts and police to carry out their nefarious acts.
- Fulani herdsmen that destroy their farmsis a problem presently on the rise. This may escalate to what is being experienced in Benue and other states. The community members also said that Fulani herdsmen use to attack them, maim them and cart away their goods.
- The communities generally have grievances/conflicting issues in forest management with the government through the activities of the forest guards. They listed a catalogue of general grievances to include, stopping farmers from entering the forest reserve, except on purchase of land or permission. Some people use to invade the forest reserve to harvest the timbers and village youths apprehending and challenging them.

9.3 Grievances and redress in the forestry Sector

There are myriads of factors responsible for grievances that portends to conflicts. These in descending order of magnitude include restricted access, forest encroachment; population increase and pressure on land for development. In Ondo state, the lack of access to reserves has the highest score. In Nasarawa state, the more dominant causative factor is encroachment on forest reserves while political interference, changes in government policy and encroachment of forests are the least. Also, respondents from Nasarawa did not identify leadership tussle and privatization as causes of grievances in the sector.

9.4 Conflict resolution mechanism

The major available resolution mechanism in this area include:-

- The traditional institutions. We have the Emirs, District heads etc in Nasarawa and Obas, chiefs in Ondo.

- Regular courts- These are made up of High courts, customary/area courts, sharia courts in Nasarawa. They all adjudicate in their constituted areas.
- Alternative Dispute Resolution (ADR) - Arbitration and conciliation Act 2004 cap A18 is the unified law that is applicable in all the states.

Some of the suggestions for resolving conflicts include following:
- securing the boundary of reserves through fencing;
- establishing forest management committee;
- paying compensation to land owners;
- employing youth to guard the reserves;
- providing communal facilities for the people such as schools, hospitals;
- granting access to the reserves;
- equitable sharing of benefits;
- prevention of grazing in reserves;
- consulting with community on development and management of reserves;
- promoting dialogues to resolve conflicts;
- sensitizing the community on the befits of forest conservation;
- involving community leaders and traditional council in forestry management;
- Timely resolution of grievances;
- Providing a robust feedback after resolution; and
- Quick judgment

Some of the reasons given by respondents for not expressing their grievance when they ought to include the following:
- Government will not respond as it should have done;
- To prevent situation from escalating into violence;
- Lack of trust and confidence in the resolution to be reached;
- Fear of attack by Herdsmen;
- Non-available of government officials to complain to; and tolerance and long suffering

Some of the appropriate means of receiving feedback suggested by the respondents include the following:
Mandating government agents to give prompt and timely feedback in a transparent and accountable manner;
- Improvement of communications channels between the aggrieved and the mediators of grievances.
- Involving community heads in feedback mechanism
- Involving the Divisional Forest Officer in feedback mechanism
- Publicizing the resolution of grievances in the media.
- Communicating with the aggrieved person through writing

9.4.1 Levels of griviance redress mechanism

9.4.1.1 Arbitration

In the law of the Federal republic of Nigeria, arbitration makes provisions for aggrieved parties to agree to settle disputes out of court. The parties in disputes must agree and give their consent through written agreement resort to arbitration rather than normal litigation process.

9.4.1.2 Courts of Law

Where there is no consent for arbitration, a court of competent jurisdiction may be used to resolve a dispute.

9.4.1.3 Grievance Redress Committee

Grievance Redress Committeewill be set up to handle grievance redress mechanism (GRM) to ensure community members or any stakeholders have an opportunity and means to raise their concerns or to provide suggestions regarding Project-related activities and issues. A focal persons will be nominated to receive, record and address grievances and conflict. The traditional conflict-resolution mechanism will form part of the administrative procedure. A database will be created as a management tool to monitor progress and detect potential obstacles in the Project implementation. The proposed process for GRM is presented in the table below.

Table 9.1 : Proposed GRM process

Step	Process	Description
1	Identification of grievance	Face to face; phone; letter, e-mail; recorded during public/community interaction; others
2	Grievance assessed and logged	Significance assessed and grievance recorded or logged (i.e. in a log book)
3	Grievance is acknowledged	Acknowledgement of grievance through appropriate medium
4	Development of response	-Grievance assigned to appropriate party for resolution -Response development with input from management/ relevant stakeholders
5	Response signed off	Redress action approved at appropriate levels
6	Implementation and communication of response	Redress action implemented and update of progress on resolution communicated to complainant
7	Complaints Response	Redress action recorded in grievance log book Confirm with complainant that grievance can be closed or determine what follow up is necessary
8	Close grievance	Record final sign off of grievance If grievance cannot be closed, return to step 2 or refer to sector minister or recommend third-party arbitration or resort to court of law

9.5 Awareness of right to seek redress

In assessing the citizens' right to seeks redress, figure 9.3 shows that 36.53% of respondents in Nasarawa State are aware of their right to seek redress, 31.52% are not aware while 8.3% don't even know anything about right to seek redress. In Ondo state, 37.44% indicated they are aware, 28.80% are not aware while 53.15% do not know about seeking their right to seek redress. Thus, there is a need to raise the awareness of community members around pilot sites on their right to service to seek redress with regards to forest resources management.

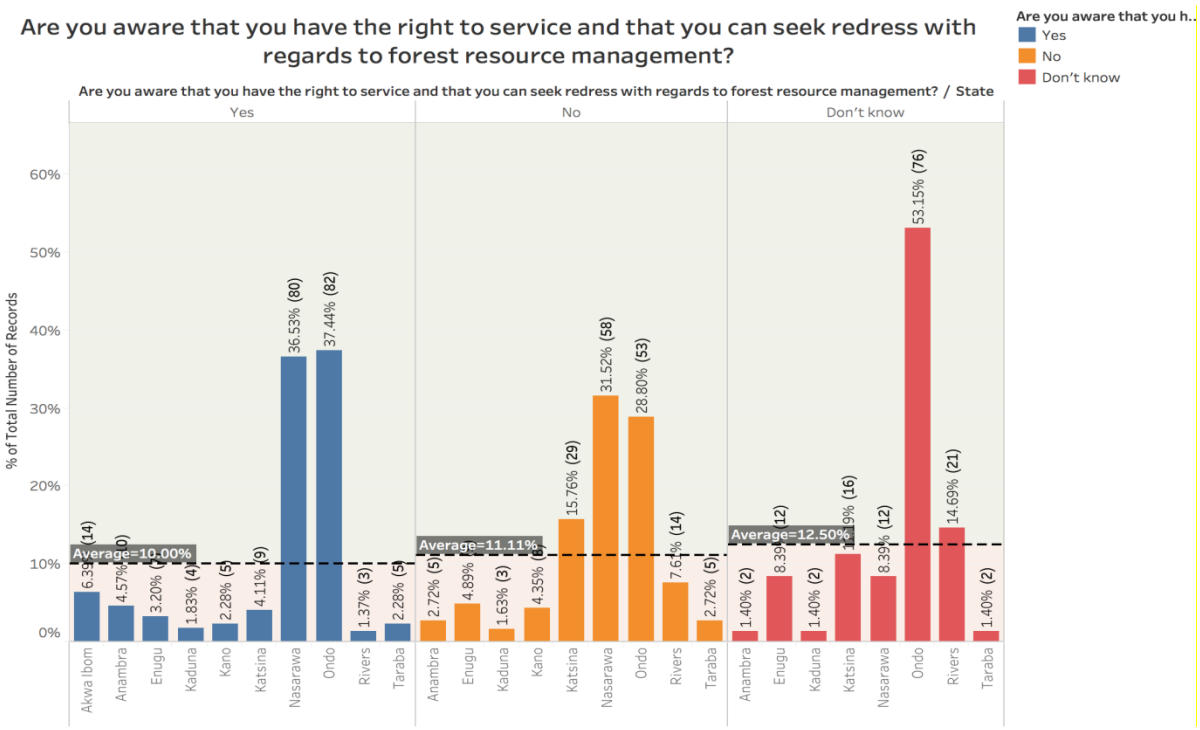


Figure 9.3: Right to seek redress

As regards receiving any service related to forest management from government institutions/non-governmental organization, figure 9.4 reveals that only 8.33% of the respondents in Ondo have received such service as against 46.67% in Nasarawa State. About 44% in Ondo state have not received such service in comparison to 25.87% who have also not received such service. On the other hand, there exist another 30.51% of the respondents in Ondo state, 22.03% in Nasarawa State and 28.81% in Rivers state who do not even know if they have ever received any service related to forest resource management. It is therefore crucial to carry out wide sensitization for services related to forest management by any organization in pilot site communities.

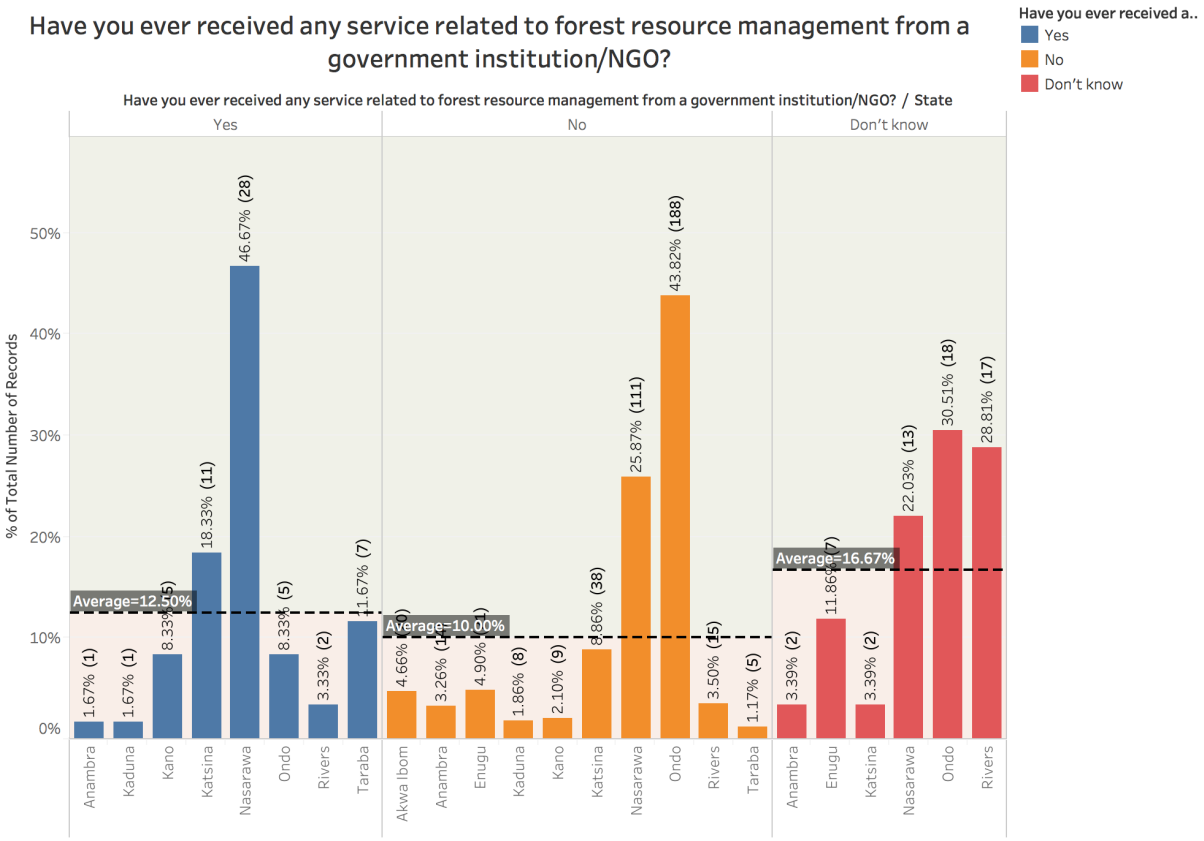


Figure 9.4: Service received in relation to forest management

Figure 9.5 further shows whether respondents have sought redress for grievances related to forest management with relevant government institutions/non-governmental organization. In Ondo and Nasarawa states, 14.89% and 42.55% respectively have sought redress while 41.84% in Ondo and 27.42% in Nassarawa have not sought redress. More so, 39.73% in Ondo and 16.44% in Nasarawa states don't know about seeking redress for grievance with any organization as regards forest management. Therefore there is a need to ensure proper orientation on seeking redress mechanism for grievance related to forest management as a tool to avoid conflict in forest management among communities in pilot sites.

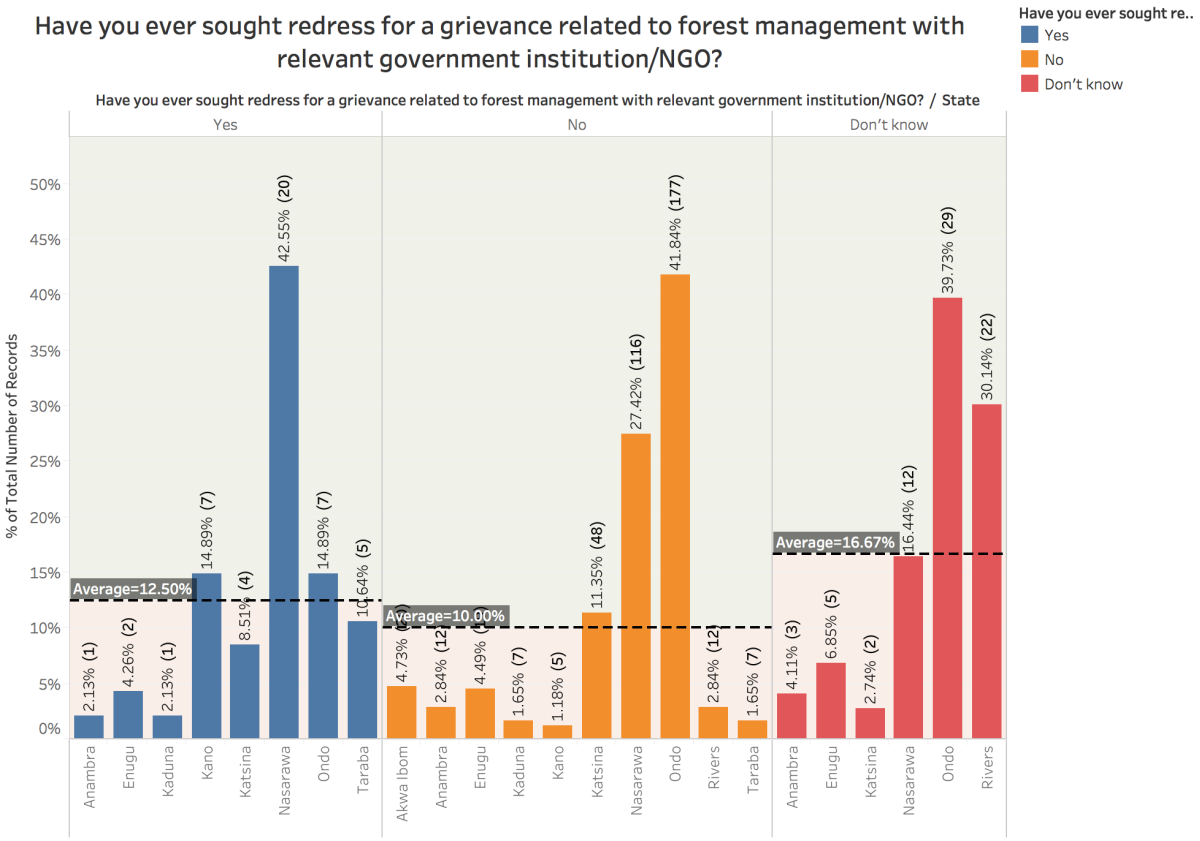


Figure 9.5: Case study on extent of seeking redress related to grievances in forest management

In order to ascertain whether respondents feel they are in a position to seek redress if aggrieved, figure 9.6 indicates 49.57% in Nasarawa, 29.91% in Ondo of the respondents are not aware they are in a position to seek redress, while 54.81% in Ondo and 25.96% in Rivers, and 10.58% Nasarawa not know at all that they are in a position to seek redress. Only 24.32% in Nasarawa, 40.07% in Ondo and 12.33% in Katsina are aware they are in the position to seek redress. This implies that awareness on seeking redress should be intensified in these pilot communities.

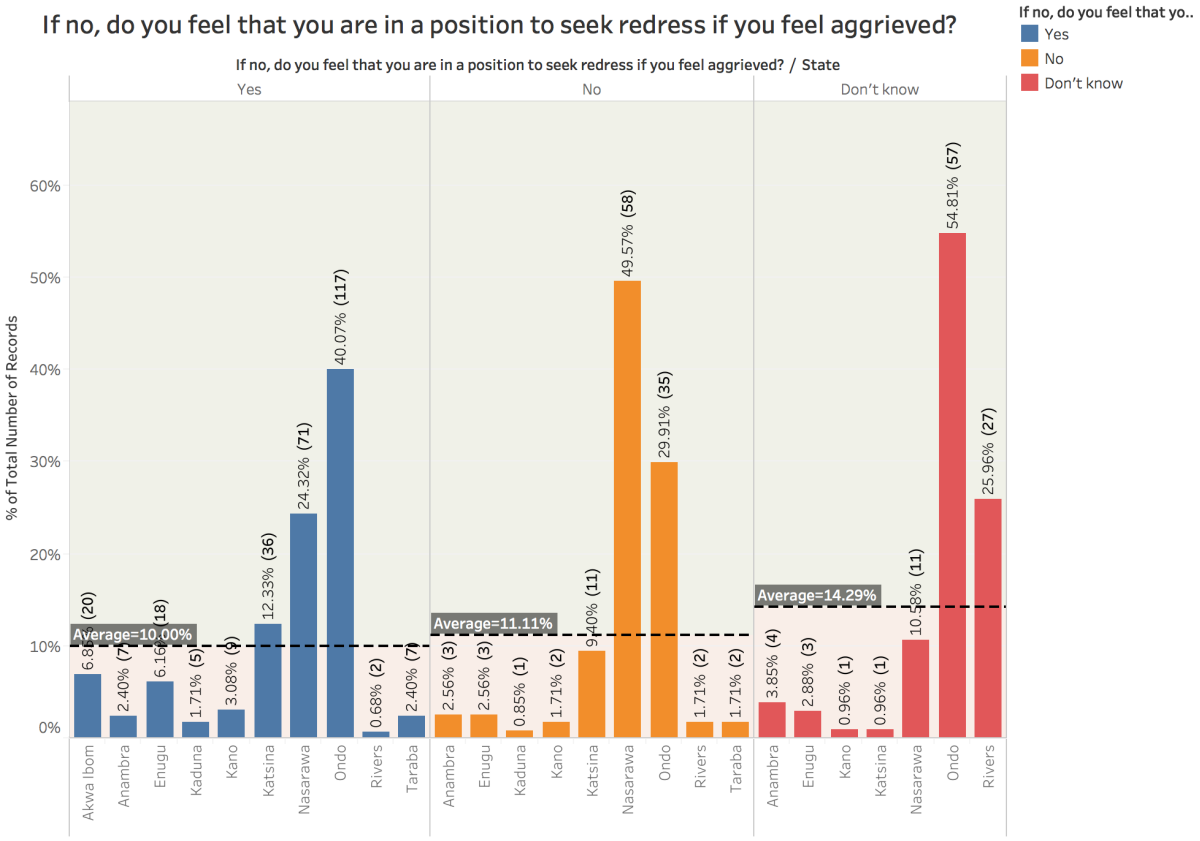


Figure 9.6: case study on awareness of rights to seek redress

9.6 Conflict resolution mechanisms and institutions

9.6.1 Awareness of complaint channels on grievances

In absolute terms, the number of persons aware of complaint channels on grievances is significantly low relative to those not aware (Figure 9.7). The low level of awareness have serious implications on capacity to resolve grievances in REDD+ pilot sites.

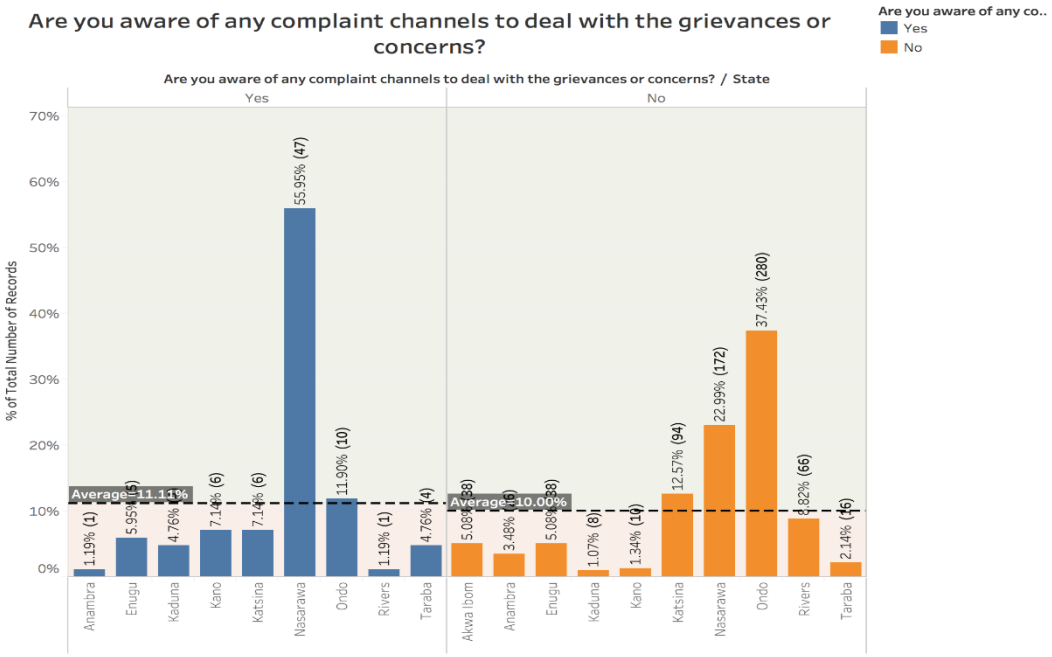


Figure 9.7: Awareness of complaint channels on grievances

9.7 Methods for Expressing Grievances

In finding out further, if respondents have made any complaints regarding natural resource issues to any agencies of government, figure 9.8 shows that in Nasarawa State, 62.20% and 7.87% in Ondo state have made complaints. However, on the other hand, 45.79% in Ondo and 18.68% in Nasarawa State have not made any formal complaints. Efforts must be intensified to raise awareness about making complaints than resorting to causing conflicts in the states concerned.

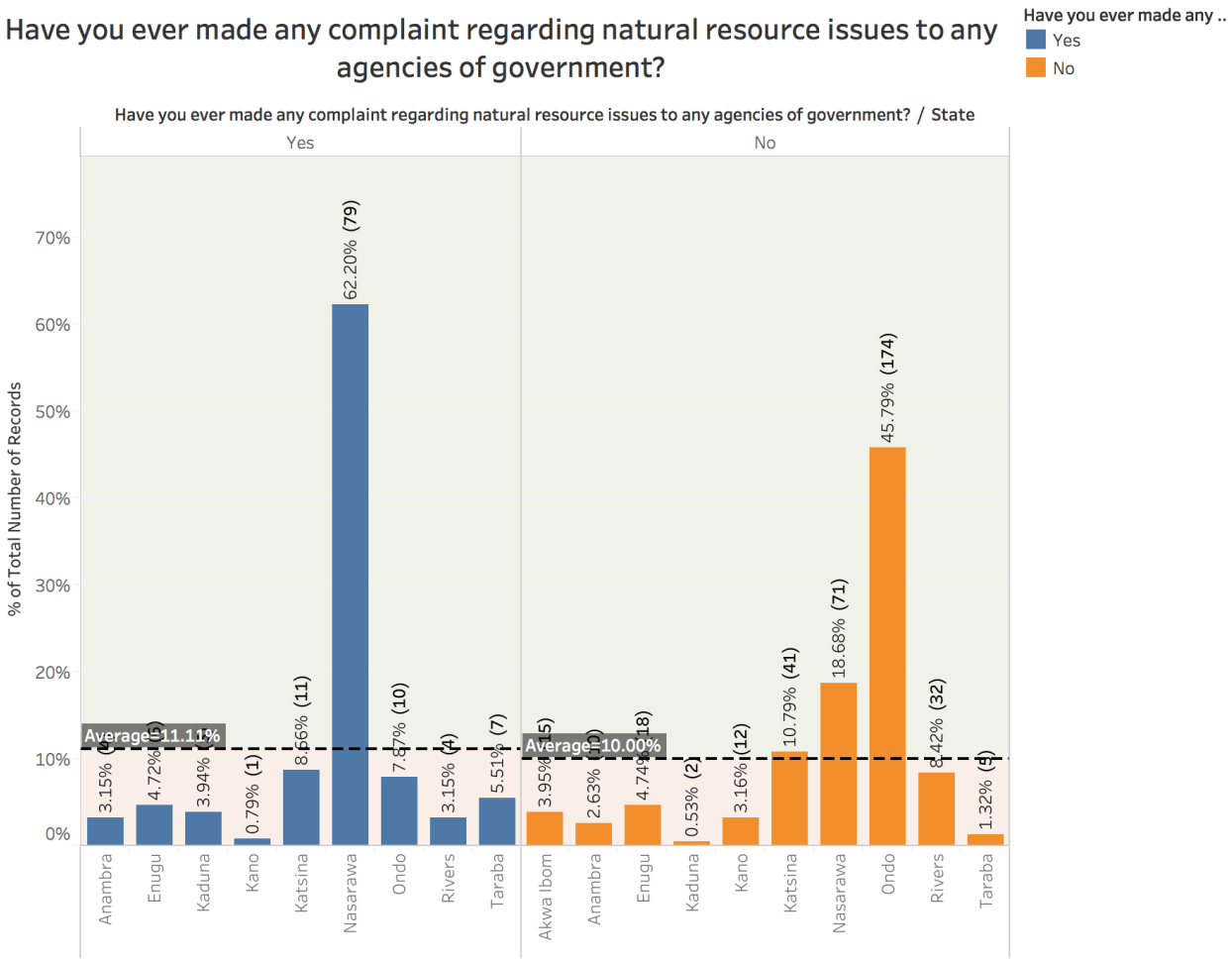


Figure 9.8: Case study on grievances to government agencies on natural resource issues

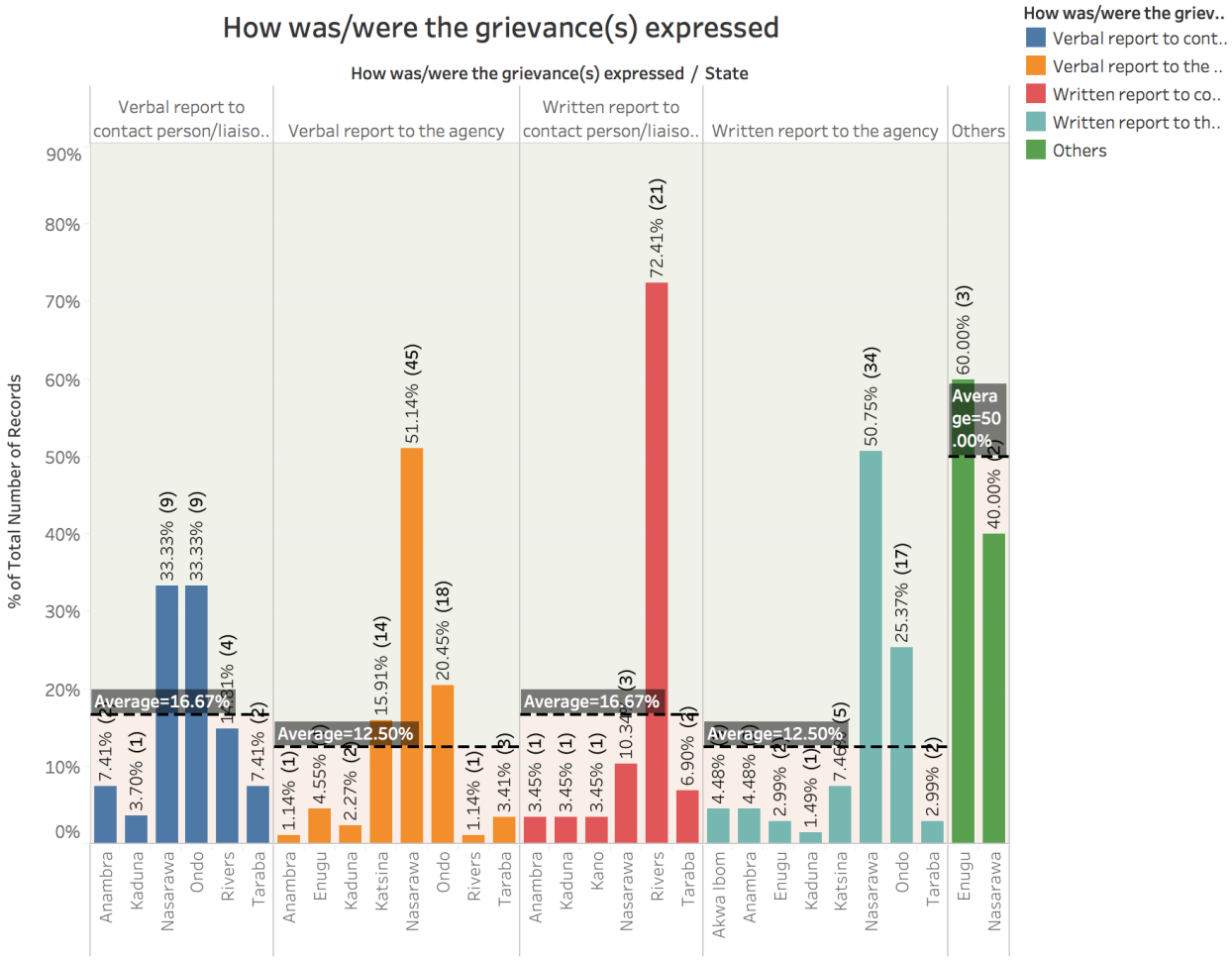


Figure 9.9 Methods of expressing grievances

Further analysis of the methods for which various grievances were expressed is further analyzed to find out the most common method. Figure 9.9 shows the proportionof the respondents from Rivers State (72.41%), Nasarawa (10.34%) who adopt writing to contact person/liaison officers. An equal proportion, 33.3% from Ondo and NasarawaStates respectively, adopt the use of contact persons. In the use of verbal report, Nasarawa State (51.14%) had the highest frequency, Ondo (20.45%) and Katsina (15.49%). A good portion of the respondents in Nasarawa State (50.75%) also adopt written report to agency while another 40% utilize other methods to express their grievances.

9.8 Use of formal and informal methods for Grievance resolution

Two methods of conflict resolution exist in the communities around the pilot site. These include

1. Formal method of writing to the police, government and her agencies. A police officer that participated in the study said that people usually come to report or complain their grievances.
2. Informal to the traditional rulers and heads of groups and organizations and family.

In the later, cases are normally reported to traditional rulers (Sarakin) because they believed that any issues that are land related should be handled by the traditional institution. At times, the inhabitants of the area reported to their family heads.

They said that reporting to the traditional head sometimes may depend on the severity of the case hence they report directly to the police if the severity of the case is high such as destruction of farms. There is certainly no feedback system for receiving feedback.

But for the traditional ruler, he has a power of delivering justice and there is feedback mechanism. But sometimes, the chiefs cannot do anything about the herdsmen invasion.

Acceptance of Grievance resolution

Participant said that the community interested in resolving grievances. They consider that conflict will not do the community any good but rather distort their livelihood activities. They referred to conflicts between them and Fulani invaders. They do not want to experience the ugly situation again hence accept Police and the traditional rulers to wade into the conflicts. However, some people were of the opinion that they will never express their grievances to police for fear of being killed by the herdsmen.

Likely Grievances/conflict from the implementation of REDD+

Grievances and conflicts likely to arise from the implementation of REDD+ Strategy include:

(a) Inequality in benefit sharing will result to conflict particularly between the youth and elders and chiefs in the community.
(b) Non-involvement of community members in the implementation of REDD+ Strategy may result in conflict
(c) Restriction in the utilization of resources such as forest without good alternative is likely source of grievance
(d) Lopsided land tenure in favor of men may result in conflict
(e) High rate of unemployment among youth without opportunity for livelihood
(f) Imposing laws on communities without involving them in decision making
(g) Corruption on the part of the institution and organization responsible for implementation.
(h) Lack of feedback mechanism
(i) Deviating from the objective of REDD+ to some other things may result in mistrust and conflict
(j) The community being represented by elites or other people other than designated community members.

Preferred grievance redresses mechanism for implementing REDD+ Strategy

Redress mechanism proposed include:

- Equity in benefit sharing were proposed.
- Liaison office between community and REDD+
- Police, traditional rulers and other security agents
- Strengthening community groups and organization
- Providing Feedback Mechanism

Currently there is no current investment and the communities only carry out exploitation of forest resources. In Ondo State (South West Nigeria)**,** there are various forms of grievances/conflicts. This includes:

Intra-communal clash: Where families and individuals have problems, this is usually resolved in the village council. Those of the women are sometimes resolved in the women meeting by women leaders.

Inter-communal clash:

(a) The first conflict is with Fulani herdsmen that destroy their farms and the problem is on increase. They lamented that Fulani herdsmen had encroached the forest and destroyed their farms.
(b) The community generally has grievances/conflicting issues with their neighbors which is Owor community over boundary for over a decade near river Uwessa.

Interest of the community in grievance resolution

Resolving grievances has been accepted by the community members in the town council. However, some others issues can be handled by the police especially concerning crimes.

Use of formal and informal methods for Grievance resolution

Two methods of conflict resolution exist in the communities around the pilot site. These include

1. Formal method of writing to the police, government and her agencies. A police officer that participated in the study said that people usually come to report or complain their grievances.
2. Informal to the traditional rulers and heads of groups and organizations and family.

In the later, cases are normally reported to traditional rulers or taken to Oba.

Participant said that the community interested in resolving grievances. They consider that conflict will not do the community any good but rather distort their livelihood activities. They referred to conflicts between them and Fulani invaders. They do not want to experience the ugly situation again hence accept Police and the traditional rulers to wade into the conflicts. However, some people were of the opinion that they will never express their grievances to police for fear of being killed by the herdsmen

Likely Grievances/conflict from the implementation of REDD+

Grievances and conflicts likely to arise from the implementation of REDD+ Strategy include:

(a) Continuous invasion of farms by Fulani herdsmen
(b) Encroachment by neighboring communities into land and forest
(c) Inequality in benefit sharing will result to conflict particularly between the youth and elders and chiefs in the community.
(d) Non-involvement of community members in the implementation of REDD+ Strategy may result in conflict
(e) Restriction in the utilization of resources such as forest without good alternative is likely source of grievance
(f) Lopsided land tenure in favour of men may result in conflict
(g) High rate of unemployment among youth without opportunity for livelihood
(h) Imposing laws on communities without involving them in decision making
(i) Corruption on the part of the institution and organization responsible for implementation.
(j) Lack of feedback mechanism
(k) Deviating from the objective of REDD+ to some other things may result in mistrust and conflict
(l) The community being represented by elites or other people other than designated community members.

Preferred grievance redresses mechanism for implementing REDD+ Strategy

Redress mechanism proposed include:

(a) Providing alternative livelihood
(b) Investment in solid mineral sector to reduce impact on forest through logging
(c) Equity in benefit sharing was proposed.

(d) Liaison office between community and REDD+
(e) Police, traditional rulers and other security agents
(f) Strengthening community groups and organization
(g) Providing Feedback Mechanism

10.0 GENDER AND NATURAL RESOURCE USE SYSTEM

There are distinct differences in gender roles, responsibilities, access and entitlements, in regards to forest/land resources. These dynamics are defined by socio-cultural factors, for instance, access to and control over resources, are functions of cultural influence where the rights is exclusive reserve of their male counterparts. Males determine what women can access. All of these lead to the different development perspectives and interests of women and men.

In Nigeria, the patriarchal system subsist which has placed women in a socio-economically subordinate/disadvantage position not only in access to and use of resources but decision making in the management of the resources.

This Differences roles and status of women and men within the community, has affected the achievement of sustainable resource management and also likely to affect the performance of REDD+ projects/interventions. Women may not contributesignificantly to decision making on issues affecting them. They may not also enhance their productivity through their livelihood activities. All legitimate stakeholders who depend on forest resources and will be affected by REDD+ projects must be engaged for REDD+ to be sustainable (USAID, 2011). Women can Contribute to long-term success in several ways:

- Women‘s knowledge of landscapes and ecosystems can help REDD+ projects succeed;
- Women can play an essential role in forest monitoring; and
- Women‘s groups have proven to be effective structures for community-based forest management and should be engaged as a mechanism for capacity building and benefit sharing for REDD+ (USAID, 2011).

Women are among vulnerable stakeholders in the forests. On the one hand, women play a key role in forest management. On the other, shortages of timber and non-timber forest products are known to particularly affect women‘s lives and livelihood, with increasing marginalization and poverty. In some traditions women are restricted from entering forest, having restricted access to land. The Government, NGOs/CSOs and other Stakeholders have been taking steps to address gender issues. This has included gender mainstreaming in development programmes. At the national and state level, the Federal Ministry of Women‘s Affairs is a key stakeholder. Same is applicable to community stakeholders. Therefore SESA will consider the following issues in relation to gender:

The REDD+ programme is committed to integrating gender equality principles through its national support activities. The programme recognizes that deforestation and forest degradation have strong socio-political dimension, also structured by gender (UN-REDD+ Programme, 2014). While women and men have unique but different knowledge, roles and contribution in forestry, they also have differential access and influence to institutions, and gain differential benefits to resources. It would be difficult for countries to make REDD+ efficient, effective and sustainable without addressing gender issues.

10.1 Gender in REDD+ context

REDD+ offers opportunity not only to mitigate climate change, but also enhance multiple benefits to communities. One area of global concern is to ensure equity in benefits sharing, not only avoiding harming women and other marginalized groups, but actively seek to address their needs and harness their strengths. Different genders and generations play different roles in value chains for products that use — or conserve — forest resources. Analyzing these value chains provides the data to improve interventions. SESA is aimed at analyzing these chains in relation to gender. While considering gender differences, there is control of resources, knowledge, decision-making structures and distribution of benefits. On the other hand, it is globally acknowledged that gender equality and women's empowerment are catalysts for reaching sustainable development, including in REDD+ (UN-REDD Program 2016).

More so, it is clear that the success of REDD+ depends on the extent to which individual land users — including women — feel incentivized to change behavior and practices. Therefore, REDD+ readiness plans will not only avoid harming women and other marginalized groups, but actively seek to address their needs and harness their strengths. Women in poor forest dependent communities often do not fully benefit from their forest conservation activities or efforts to support REDD+ action – this is especially true in countries where land and forest rights are not equitably guaranteed between women and men.
To remedy systemic discrimination related to land access, ownership and control as well as decision-making at the household, community and state levels, gender issues need to be fully integrated into REDD+ benefit-sharing schemes and/or incentive allocation systems. United Nations Development program (2016).
An appraisal of gender-responsive REDD+ at the international, national and local levels is examined with the consideration of:
Rights — to land, forests and the carbon held within standing forest
Power — to participate in decision making
Equity — an equitable share in the profits from forest-related products

From a Nigerian perspective, women eke their livelihood from forest (Shuaibu, 2005). Women practice a wide range of activities from forest. Some carry out forestry through woodlots management; others practice home gardens system of agroforestry; nursery development; boundary trees, and agriculture. The sales of the forest products; increases and improve household food security and economic stability; arrest the situation of land degradation and deforestation; increases crop yield, and develop forestry practices in the Study Area. Therefore, evaluating the involvement of women in forestry practices as a means of livelihood in the Study Area cannot be over emphasized.

10.2 Addressing the need of women example from REDD+ pilot Site

Nasarawa state
Country Women Association of Nigeria (COWAN) in Nasarawa State, North-central Nigeria has registered a total of 516 women cooperative groups in the state from 1997-2009. They women were provided with a micro-credit scheme for agricultural produce marketing, agro processing crop farming and livestock production.
This is an apex rural women non-governmental organization (NGO) for the recognition and advancement of rural women in agricultural production, food processing, local crafts, agricultural marketing, and other socio economic activities aimed at poverty reduction.

Ondo State:

In Ondo State, Owombo, (2014) examined gender analysis in farmer's adaptation to climate change across gender in Ondo State. Women farmers adapt to climate change adaptation practices for the purposes of increasing yields for better livelihood and food security. These practices include mulching and irrigation.

10.3 Gender based organizations

Strengthening gender based organizations can enable them to negotiate the terms of their engagement within environmental programs. When women's groups were linked by an NGO in Cambodia to form networks, they were able to increase their power to negotiate prices, arrange transport to markets, set up and run community rice mill cooperatives to increase productivity and earnings, and influence decisions at all levels of governance. Women's Environment & Development Organization (WEDO) is a global women's advocacy organization working towards a just world that promotes and protects human rights, gender equality and the integrity of the environment. WEDO works on a range of cross-cutting issues-from climate change and natural resource management, to global governance and finance and UN reform-within three interlinked areas: women's leadership, sustainable development and global governance. WEDO's mission is to ensure that women's rights; social, economic and environmental justice; and sustainable development principles-as well as the linkages between them– are at the heart of global and national policies, programs and practices.

10.4 Gender inequality in access and rights

Women generally have less access to land than men, trade in timber related to forest products (lumber and charcoal) tend to be dominated by men folk. In Ondo state women folk are involved in gathering NTFPs for their livelihoods. The women group were unhappy with the rate of logging in which *Irvingia gabonensis* (*Bush mango*) is sawn by male loggers and has affected their means of livelihood. This is because logging has reduced the availability of the bush mango and the income of women.

According to Aguilar, Araujo, and Quesada-Aguilar (2007) Men and women often have different roles with regard to forest resource management. They play different parts in planting, protecting or caring for seedlings and small trees, as well as in planting and maintaining homestead woodlots and plantations on public lands. Men are more likely to be involved in extracting timber and non-timber forest products (NTFPs) for commercial purposes. Women typically gather forest products for fuel, fencing, food for the family, fodder for livestock and raw materials to produce natural medicines, all of which help to increase family income.

To integrate gender, REDD+ can build upon key lessons obtained through considerable body of experience, knowledge and best practices, particularly from natural resource management.Weah (2012)

Figure 10.1 shows response to gender equity in forests and land rights. The reponses indicates lack of awareness torights of women. In Nasarawa, majority represented by 30.16% do not think there is gender equity in forest and land rights. However, majority of respondents in Ondo represented by 46.99% believe that women have equal rights as men in forest and land resources.

Figure 10.2 shows response to women involvement in decision making. A high proportion of respondents are not aware especially in Nasarawa state. There are variations in views as touching the involvementin decision making by women.

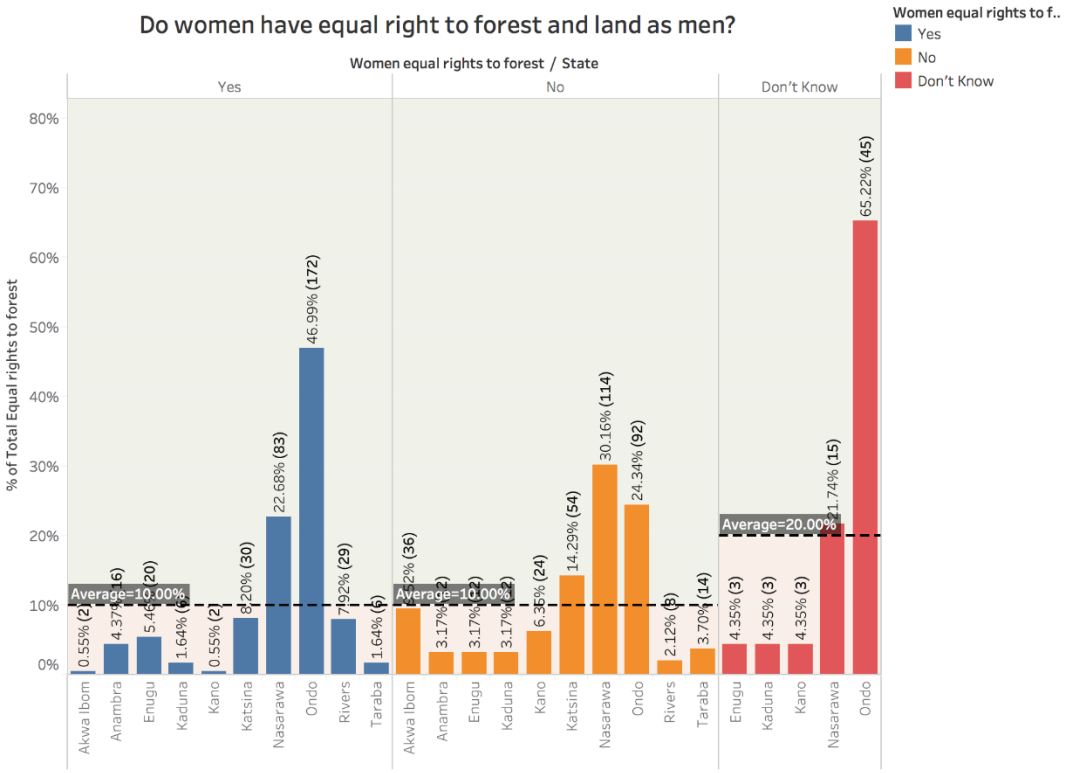


Figure 10.1: Women rights to forest/land resources

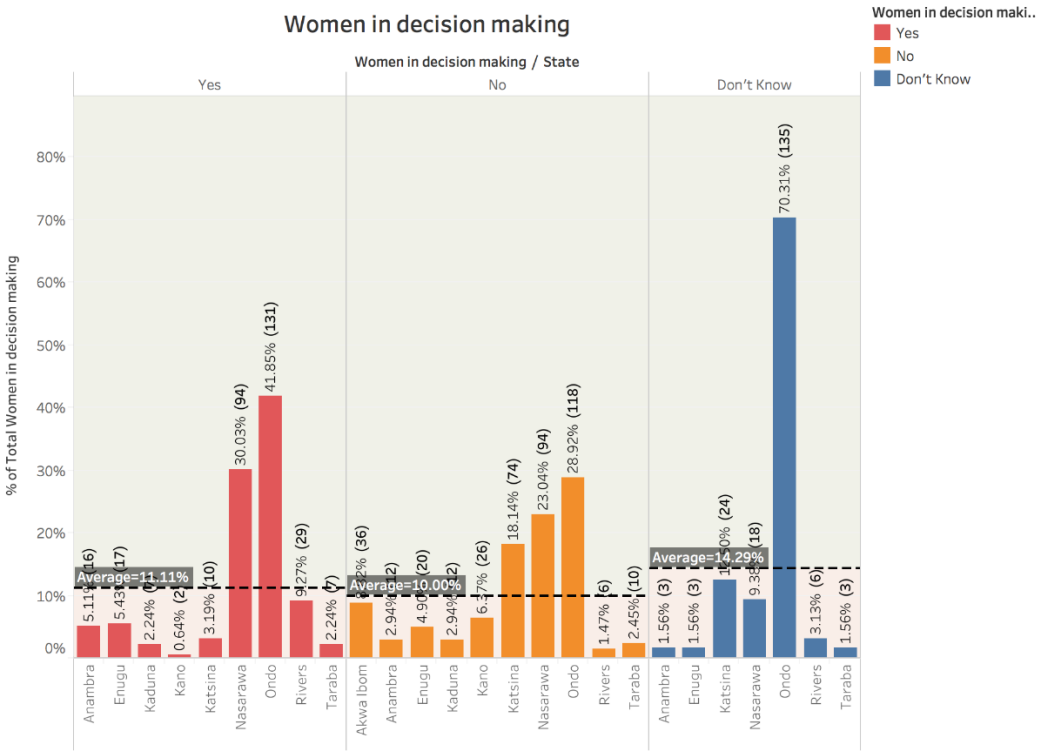


Figure 10.2: Women involvement in decision making

10.4.1 Case Study of gender inequality and access rights.

Gender and agriculture:
Women are involved in agriculture through the cultivation of vegetables, domestication of NTFPs, homestead garden and other food crops. Women play a key role in food production and their close attachment to nature coupled with their role in food production put them in advantageous position to the possession of indigenous knowledge in biodiversity cultivation, domestication of NTFPs which have sustained livelihood across different ecosystems. From the FGD in Ondo and Nasarawa, women are involved in the cultivation of crops such as root and tubers including cassava and yam; grains such as millet, maize, guinea corn, sesame seed, melon. Some women are also involved in rice cultivation. The production of these crops has contributed to food security. However, women lack access to basic inputs such as land, credit facilities and capacity. Women for instance cannot inherit land and it's constitute a major challenge to them.

Gender and land rights:
Women are sometimes the bread winners for their family providing food and other services. Moreover they take part in food production. However access to land is positively skewed in favor of men. In some communities women cannot acquire land through inheritance but can only purchase from others. Only few women have the capacity to do that.
Women are also affected where there is potential conflicts between communities; the need for an equitable benefit-sharing mechanism; land tenure issues, especially with respect to the inadequacy of current laws to formally recognize community tenure and issues of gender and ownership of land.

Gender and access to forest resources:
Women play various roles in the household as providers of resources which make them dependent on forest resources. For direct household consumption needs for drinking water, fuel wood, medicinal herbs and plants, fruits and berries. In many communities there is free access to forest by all groups. However, some are denied access except when in company of their husband who have free access. They are only granted access as a helper for their husbandSince socio-cultural beliefs may impede the streamlining of gender in forest resource governance within forest, REDD+ need to consider women rights and access.

Women Cooperative and economic activities:
In all communities in which the FGD was conducted, women have organized themselves into associations and groups with the potential to contribute effectively to natural resource management, particularly with respect to non-timber forest products and empowerment of women on livelihood. For example, the women's group is also responsible for regulating access to resources and markets, supporting management of forest resources**,** Promoting law and order among women andContribution to community development. In Nasarawa and Ondo, women over the years have used cooperatives in providing their basic needs. They have received interventions and capacity building programmes and loans as well as other incentives to enhance their livelihoods. In Nasarawa women were engaged in the Fadama projects where their capacity was built in rice cultivation. In Ondo women obtain World Bank interventions for empowerment. However, seizure of the opportunity by male counterpart has been a major challenge if few communities. Women also face,financial problems, loans and credit facility, Improve seedlings and method of farming, Tools and equipment etc.

Women groups have the following functions:

- For networking to assist members
- Contribute to decision making in favor of women group.
- Control in resource governance
- Impose fine on extraction of NTFPs.

Figure 10.3 shows the participation of people in capacity building for alternative livelihood. Relatively, those not involved are more in proportion to those involved. In Figure 10.4, the response on participation in training for forest conservation varies across the different states. A large proportion is not aware particularly in the REDD+ states with 50.0% and 30.7% respectively.

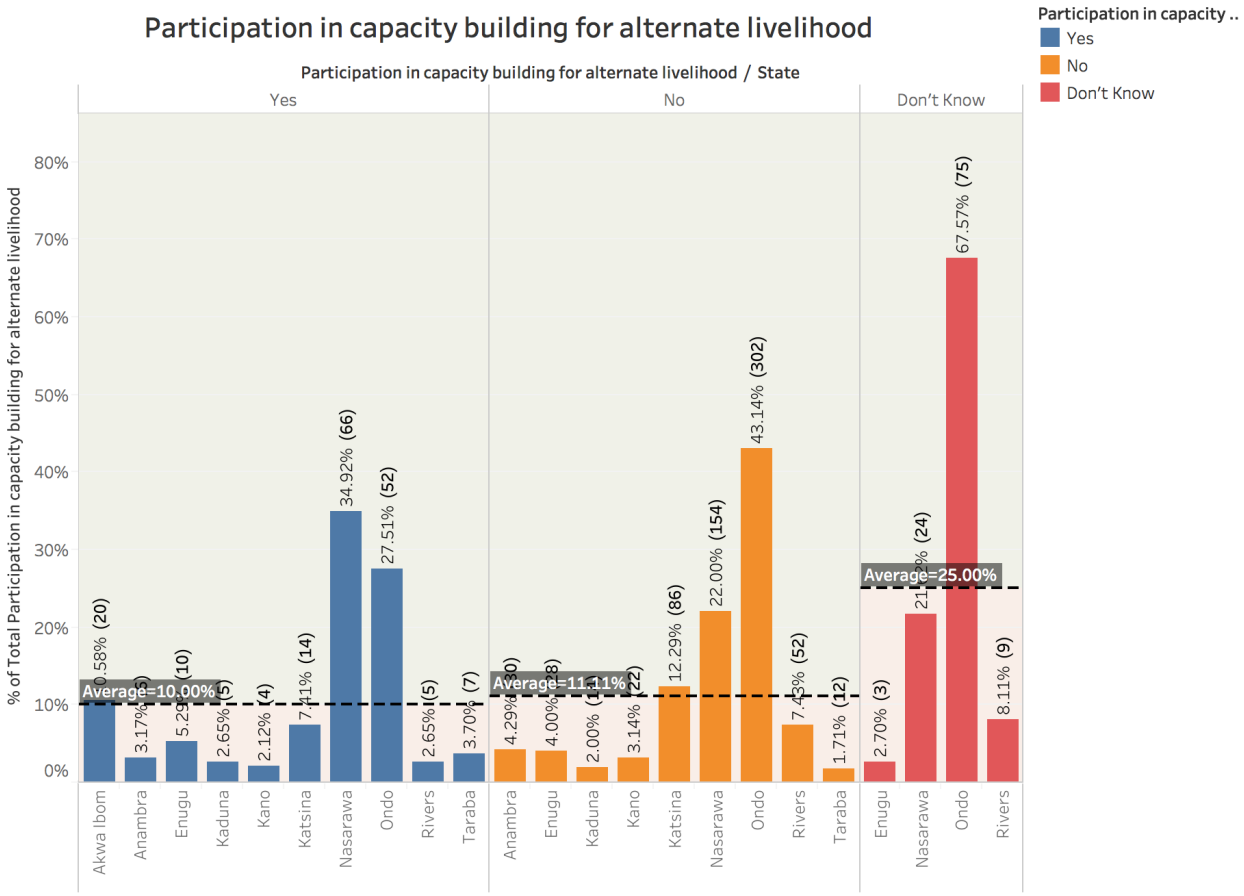


Figure 10.3: Participation in alternative livelihood

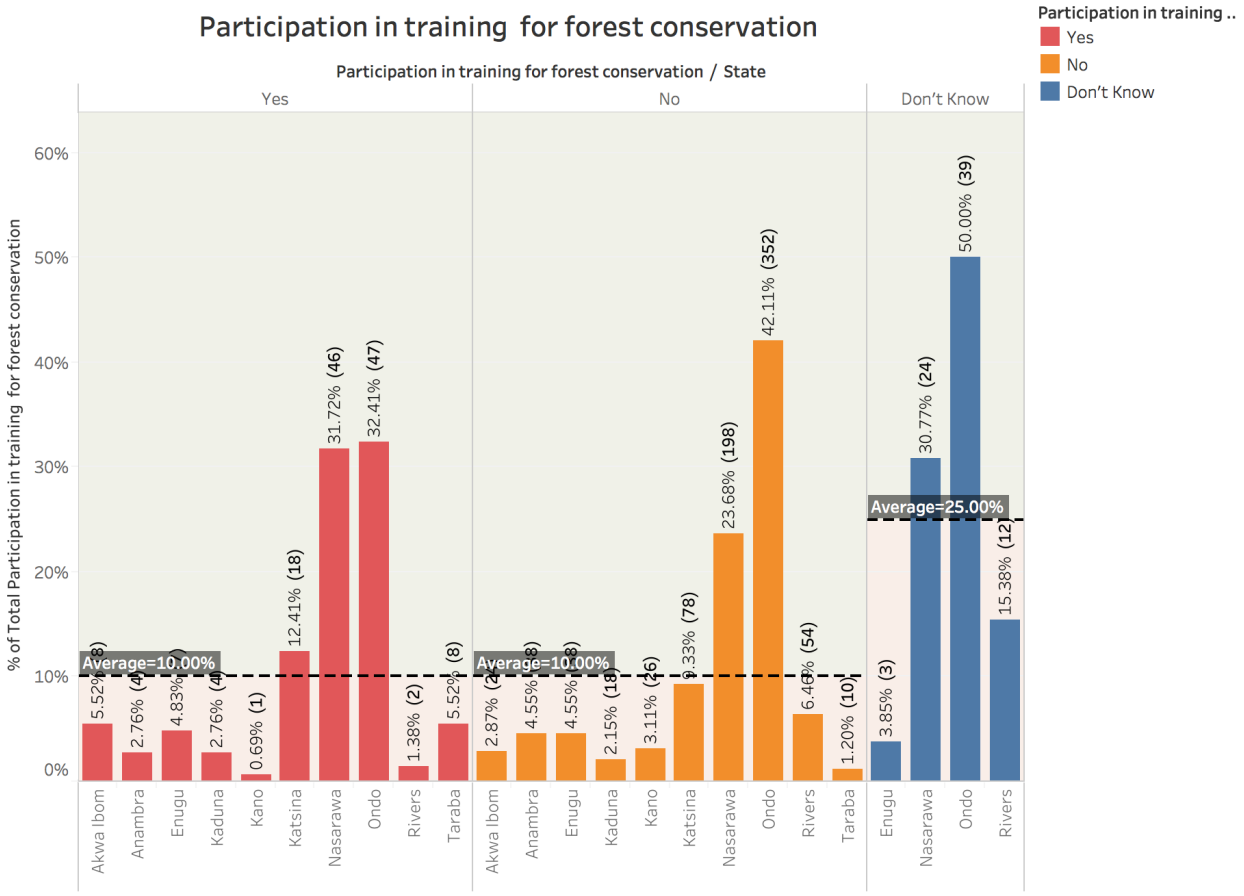


Figure 10.4: Participation in training for forest conservation

Benefit Sharing:

Equitable benefit sharing is imperative if REDD+ is to build on sustainable forest resource conservation, realize substantial benefits for forest communities, and avoid making vulnerable people worse off. Benefit sharing is, in other words, an ethical obligation that helps make REDD+ effective, equitable, sustainable, and accepted. (Campese 2011).

A critical component of REDD+ benefit sharing to avoid conflict between communities is thorough definition of rules that govern how benefits are shared between actors, and therefore cross-cut the two elements of benefit. These elements can be diverse and are likely to vary significantly between different approaches to REDD+. However these rules can be formal (e.., defined in laws, policies or contracts linked to revenue distribution or forest management) or informal (e.g., defined by customary systems or traditions). These frequently overlap in countries where REDD+ will be implemented, meaning that actors will have different interpretations of how benefits should be shared, which could lead to conflict (Cotula and Mayer, 2009). Where specific benefit sharing rules have not been defined in laws or policies, they will need to be constructed, for example through contracts— standard instruments have been developed for managing these in existing forest carbon market based systems'.

Figure 10.5 shows specific actions to address the need of women which shows significant response among women in Ondo and Nasarawa. On the receipt of loan and credit facilities from governments, a high proportion are not aware of such facility. The benefits of sharing from natural

resource stock shows 38.9% in Nasarawa receiving such incentive (Figure 10.6). This trend is applicable to rights to natural resource where lack of awareness is still high even in REDD+ states (Figure 10.7). From figure 10.8, the low awareness is extended to entitlement to natural resources. Figure 10.9 shows women rights to own land, in Nasarawa 26.4% know their right to own land, while 46.4% in ondo accepted to have right to own land. Figure 10.10 depicts the rights to share in resources. Thus without clear tenure and use rights, sustainable forest management will be impossible and carbon finance may increase social conflicts Peskett and Harkin (2007),

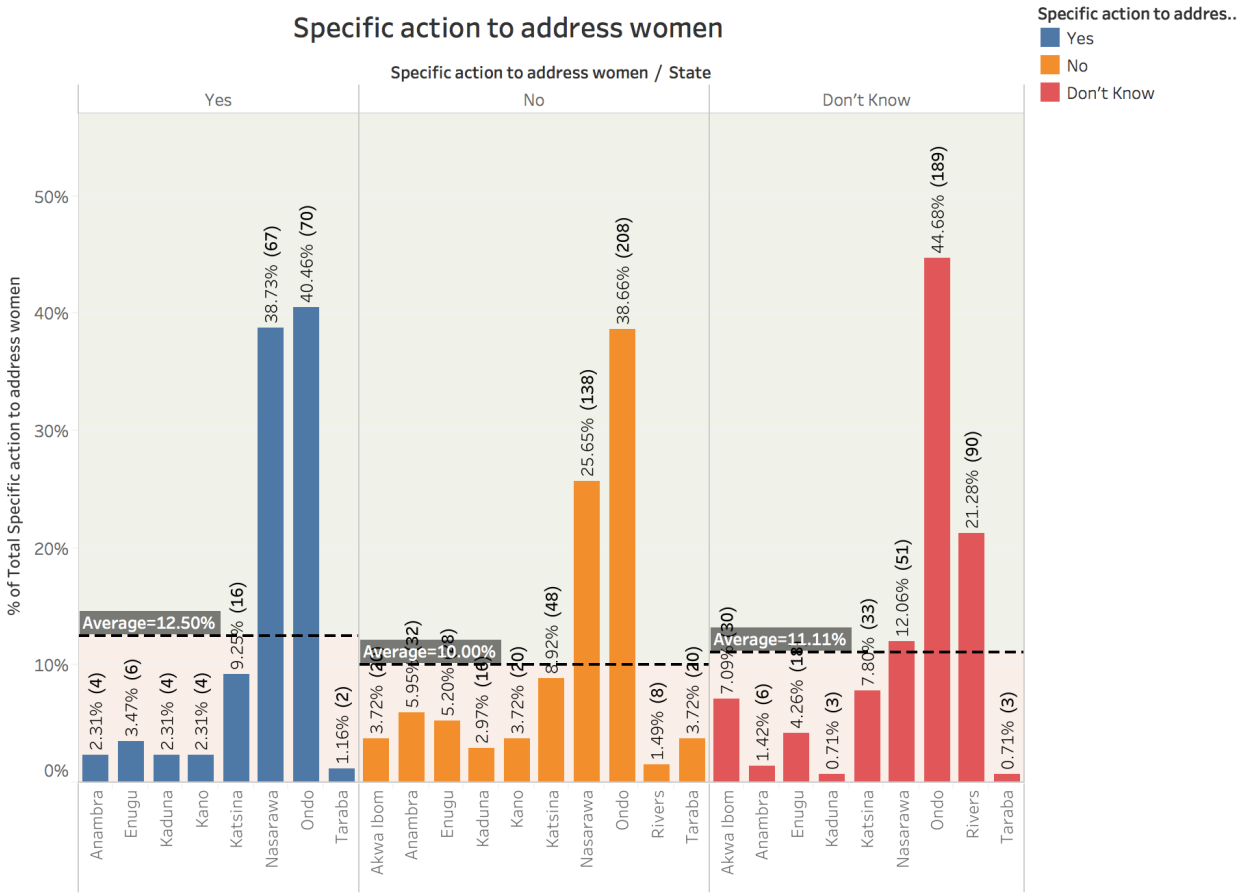


Figure 10.5: Specific action to address the need of women.

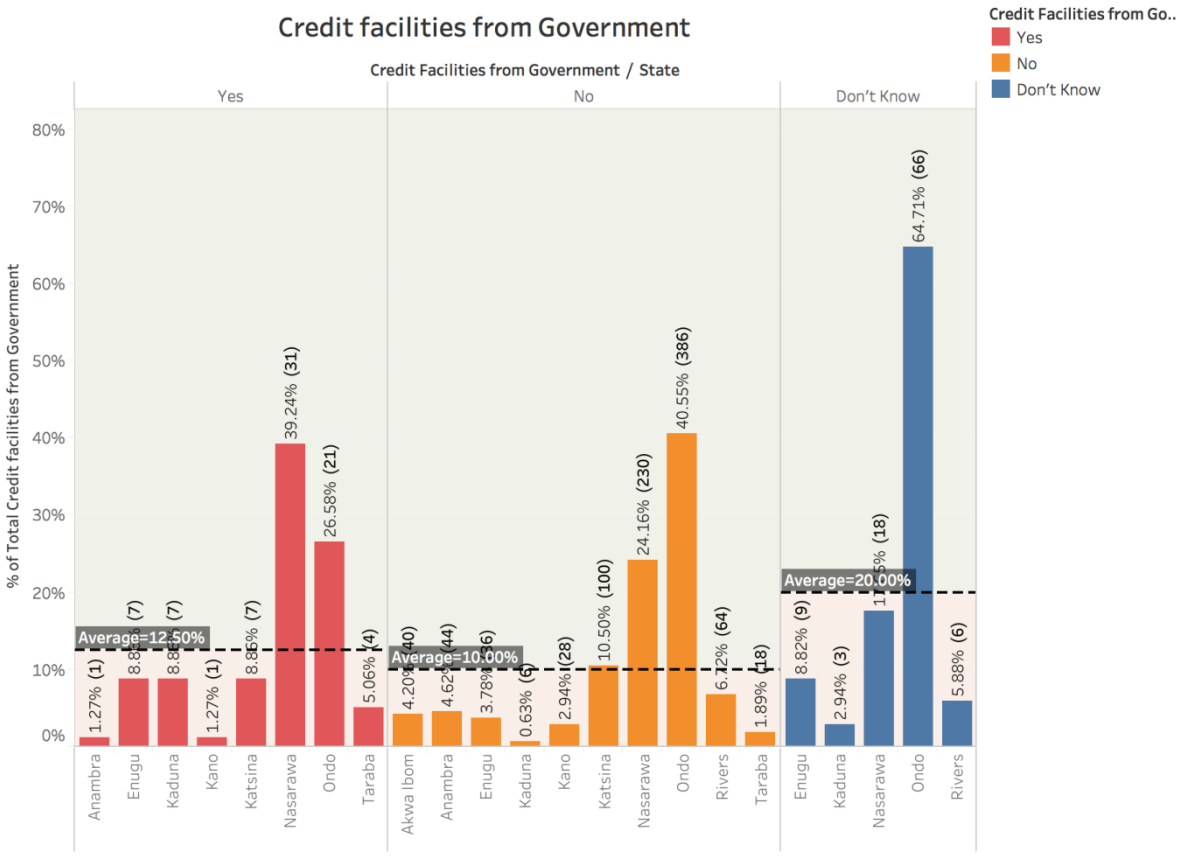


Figure 10.6: Benefits of credit facilities from government

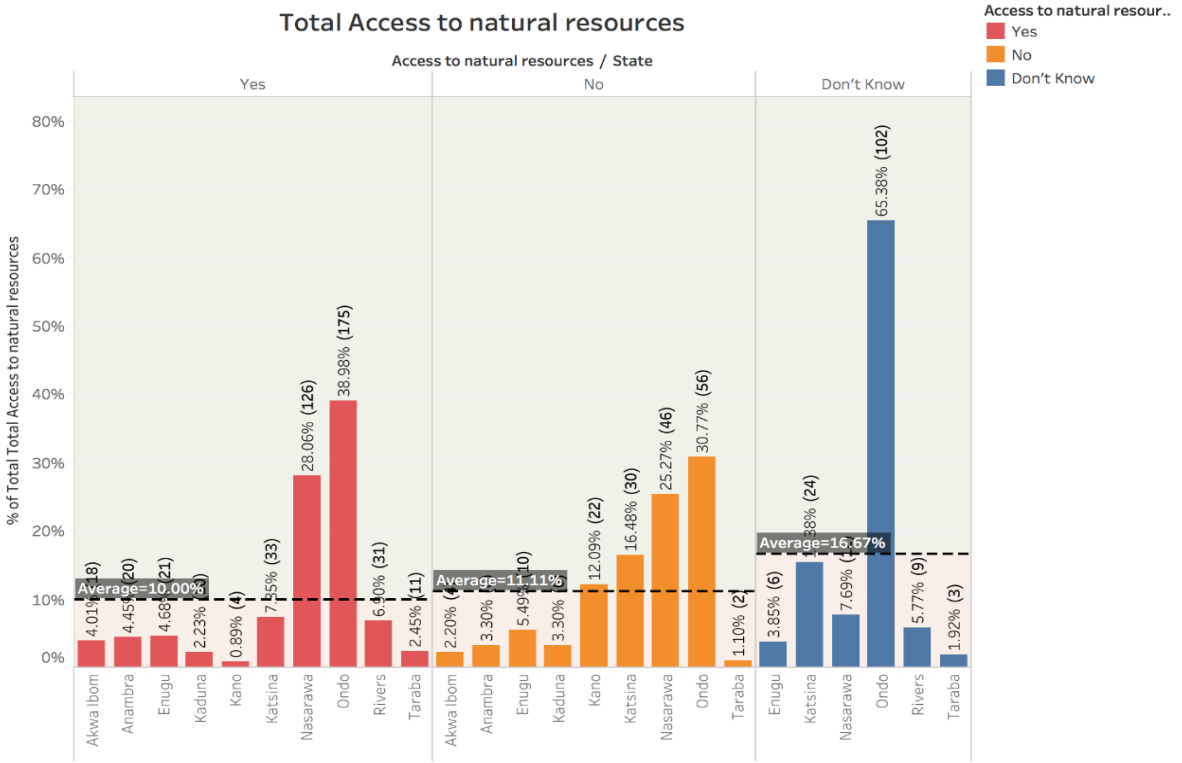


Figure 10.7: Access to natural resources

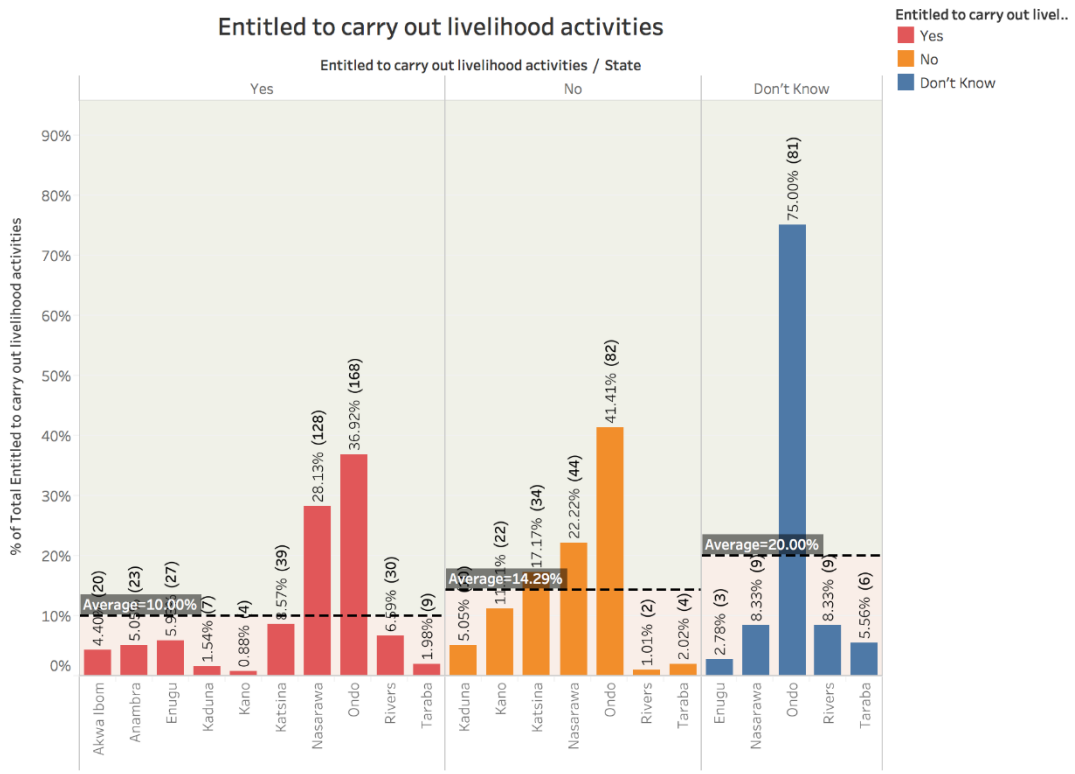


Figure 10.8: entitlement to natural resource

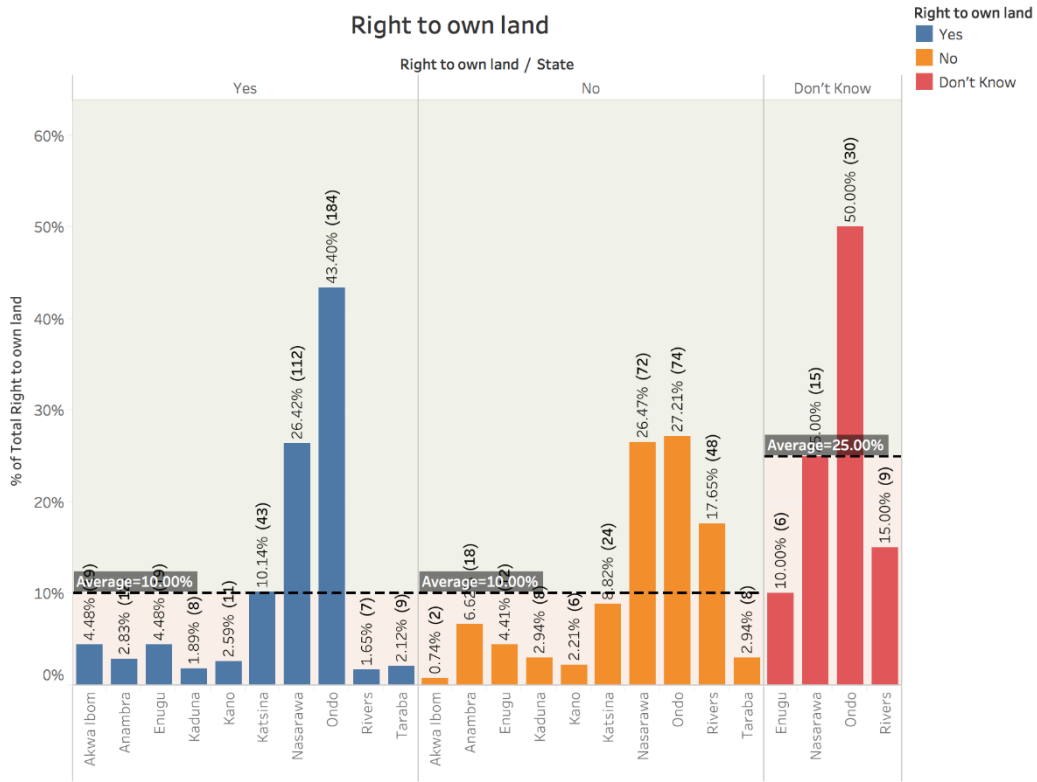


Figure 10.9: rights to own land

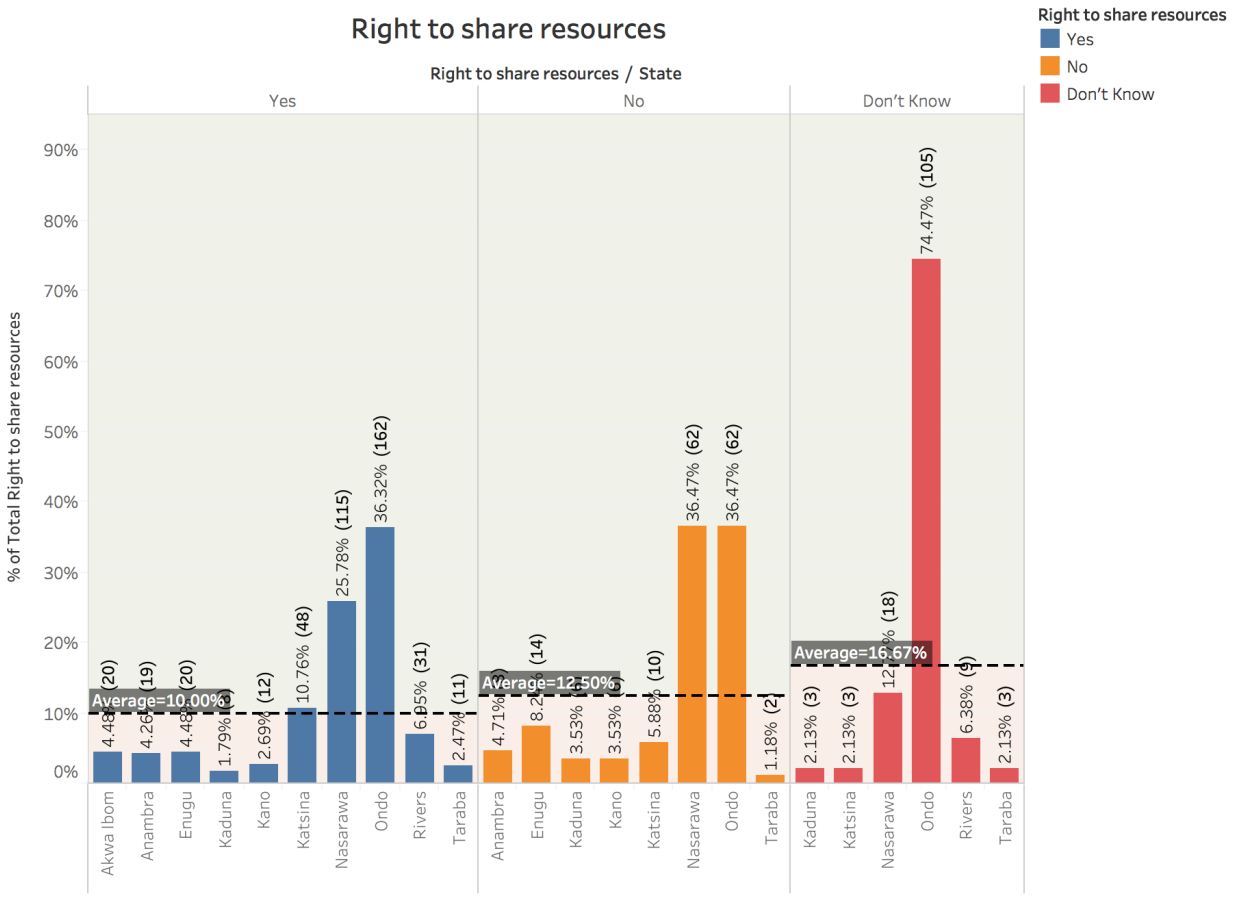


Figure 10.10: Right to share resources

10.5 Disability and natural resource utilization

Social inequality exists in resource utilization and in no doubt affects mostly people with disabilities (PWDs).The level of resource use and management decision is characterised by the existence of unequal opportunities for different social statuses within the societies. The United Nations (UN) report estimates around 10% of the world's population, more than 650 million people, live with disabilities (as at 2006). About 80% of them are in developing countries. Also around 85% of the total PWDs population in the world are among the world's poorest people.

Consultations and participation in decision making is structured and recurrent patterns of unequal distributions of goods and opportunities.

PWDs are not visible particularly those that cannot communicate, those with hearing impairement as well as those with psychiatric disability. They are excluded from economic activities such as marketing of NTFPs. In terms of benefits sharing, the mechanism often exclude the isabled. PWDs, especially disabled women, cannot become a part of the country's productive labour force. Unemployment among the disabled is as high as 80% in some countries. These statistics also show that PWDs are exclude from economy or our society. Making them among the poorest. Their income generation is limited by the lack of wage driven and self-employment opportunities. Employment opportunities are in turn restricted by poor access to resources, skills development (vocational training). However, they take part in extraction of NTFPs, farming and other activitie but with minimal interaction with people.

11.0 PRIORITY ENVIRONMENTAL AND SOCIAL ISSUES

Critical environmental issues in Nigeria were identified from the R-PP document, CRS REDD+ strategy document and Participatory rural appraisal at the community level. *These issues are categorizedinto two Viz: environmental and social issues*.

11.1 Positive environmental and social issues

The five pillars of the REDD+ mechanism are to reduce deforestation, reduce forest degradation, sustainable management of forests, forest conservation, and enhancing carbon stocks. There are positive environmental issues which REDD+ can leverage to achieve the objectives of REDD+. The SESA study, therefore, identified some of these positive environmental impacts that need to be addressed to minimize adverse environmental/social impacts during REDD+ project implementation. These include

11.1.1 Natural Resource Issues

11.1.1.1 Agricultural practices

Agroforestry and Taunya system:

The practice of agroforestry by the local communities enhances the opportunity for conservation and enhancement of carbon stocks. In the degraded forest, enrichment planting to restock the degraded areas especially with Bush mango (Irvingia gabonensis) to provide livelihood source for women and enhancing carbon stocks is still being practiced at the local level. Agroforestry practices provide enabling environment for REDD+. Other trees such as cashew, locust beans, mango, etc. are being conserved in farms to produce forest products for consumption.

Taunya system is also practiced in forest reserve by communities where they buy the reserve from the government for farming but not to carry out slash and burn system. Obi forest reserve in Nasarawa state particularly encouragestaunya system where tree crops are allowed to grow with food crops. A tree such as *Parkia* is being utilized as a spice and is cultivated with food crops. In Zono the land at the buffer zone of the forest reserve is used for farming.

11.1.1.2 Watershed Protection

Some communities protectforest aroundwatersheds. Strict Sanctions are imposed to implement this, and this also enhances conservation and SFM as well as enhancement off carbon around the watershed. Some communities develop buffer zones around some streams to protect the aquatic organisms for the continuous supply of ecosystem services. Farming is not allowed close to the streams and rivers. However, in Nasarawa state there is an exception; forest around watersheds havebeen cleared that require ecological restoration.

11.1.1.3 Soil fertility management

The use of organic materials to improve soil conditions has been long-standingindigenous soil conservation system. The practice of agroforestry provides organic manure for food crops and protects the soil from erosion and drought.

11.1.1.4 Tree plantation and woodlots

In the Savannah zones, tree plantations have been carried out. While this is often government initiative, some communities, however, plant *Tectona grandis* (Teak), *Gmelina*, mango, orange and other tree crops around their homes. Tree crop plantations are found chiefly in the Transition zone to farmland and forest for demarcation. The purpose sometimes is for multiple purposes of providing food and woodlots especially in the Savannah areas of Nasarawa, Kaduna, Kano, and Taraba.

11.1.1.5 Community forest reserve.

Besides government reserve, communities also have reserves with restricted access. The open areas are free for all, while reserves are for conservation purpose and sometimes for cultural purposes as sacred groves. This help to maintain the sacred areas for posterity increasing the sacred values of the area and protecting the rights of local people.This practice enhances the achievement of REDD+.

11.1.1.6 Community organizations and Cooperatives

Non-formal and formal organizations relevant to natural resource management exist in many communities of SESA study. In most of the SESA study communities organizational structure was found to be similar as well as the mode of operation, and level of influence. There exist tenure regimes, access to resources, gender considerations, resource management and community organization. Several well-established institutions and norms guiding natural resource management were identified. As with organizations, several institutions guiding natural resource management exist. With proper coordination and support, the existing community organizations and institutions could become very useful in driving community natural resource management and REDD+.

11.1.1.7 Benefit sharing Mechanism

Benefits-sharing in the communities follows the traditional practice. Here, benefits are shared among the leading community groups – Council of Chiefs, Women, and Youths. The chief and Elders take the larger share, followed by the women, then the youth. In some communities, benefits are shared using the age grade system. Benefits shared with the different age grades; the chief usually directs sharing of benefits through group leaders who share same to its members. Some communities reported that benefits are shared using sub-village groupings and households or family heads.

11.1.1.8 Financial management.

Though this may not be effective, communities generate revenue and manage same. Thishelps them to carry out micro projects. The money is held by treasurer while the financial secretary keeps the account record.

11.1.1.9 Community laws

Community by-laws exist in both written and unwritten forms. The written bylaws are formalized,and interestingly some communities assert that they are recognized in the court of law.

In all SESA study communities, it was gathered that cases of violation of norms or rules guiding management of natural resources or other issues in the communities are dealt with mainly through a system of fines and punishment or non-participation in benefits.

11.1.1.10 Conflict resolution

Two categories of conflict over natural resources were identified: intra- and inter-community conflict. Access and control over land under private or communal tenure regimes was identifiedas the principal object of conflicts that were explored. Intra and inter-community conflicts are yearly occurrences, particularly during farming season. Specific instances of different forms of conflicts identified were highlighted. In all communities, the Council of Chiefs and Elders was reported as the central organization responsible for resolving conflicts. Others mechanism include police and law courts.

11.2 Negative environmental and social issues

Existing challenges in the forestry sector may hinder the successful implementation of REDD+ strategy options. The implementation of the strategy options should take into consideration the need to override social and environmental challenges in the forestry sector while harnessing some beneficial environmental and social impacts.

Nigeria is threatened with myriads of environmental challenges. These problems in the context of forestry and natural resource sectors include flood, erosion, industrial/oil pollution, deforestation, forest and marine degradation, loss of biodiversity, watershed destruction, and invasive species encroachment, among others.

Deforestation

Deforestation in Nigeria is driven by various factors which have been earlier discussed. Utilization of forest resources is driven by human factors such as population growth and expansion in human needs. Smallholder agriculture, including NTFP extraction by women and youths, and mining has been increasing due to high demand. This has resulted in deforestation from increased forest utilization contributing to GHG emission**.**

Restriction to livelihood sources.

The protected area system (PAS) of parks, reserves, sanctuaries etc. for the conservation and protection of forest and other natural resources restrict peoples' access to livelihood sources. This has been a major source of conflict and concern over the years. In doing so, it creates severe externalities, which affect the people and their livelihood. The local economy is affected as it depends on these activities such as agriculture, forestry, and extractive industries. However, some of the negative impacts are in the areas of forest degradation, through the various farming systems and tenure arrangements. Also, the types of human activities such as firewood harvesting, charcoal production, lumbering, add severe impacts on the environment. This implies that, if these activities are not controlled or minimized, REDD+ programme may not be effective. Hence restricted access may still create problem without equal or better alternative. SESA with other framework sucg as ESMP, RPF and PF is prepared to address social impacts of REDD+ projects which may result to acquisition of land, involuntary resettlement, loss of property or disruption that affect livelihoods and restriction of access to forest resources. It will as a result gaurantee that potential adverse effects of proposed REDD+ project activities are addressed through appropriate mitigation measures.

The SESA field study indicates that fuelwood and charcoal production are the significant drivers of deforestation after farming. In Nasarawa state, 20% of the population mostly women are involved in the charcoal production. It is one of the primaryproducers of charcoal in Nigeria the markets are available in Lafia, Abuja, and Lagos as well as other cities. This makes the charcoal production a lucrative business.

All the drivers previously analyzed are a source of worry and need some measures to curtail their severity; nevertheless, urbanization/infrastructural development, outdated forest laws, poor integration between Ministries, Departments, and Agencies in charge of the forest, are severe threats to the forests. At the same time, logging and high population growth are fast depleting the forests, when departments charged with managing the forest are weak and corruption in the forestry sector seem to be strangulating any effort at protecting the forests. REDD+ option for strengthening law enforcement through Participatory Governance Assessment is very crucial to

addressing the situation. That is, operational structures for effective forest law enforcement must be put in place. Also, community-based law enforcement should be introduced and encouraged.

Land degradation and erosion.
While deforestation is highly topical as an environmental challenge owing to its contribution to climate change, biodiversity loss, erosion, flooding, siltation, landslides and soil degradation, the further intensification of land, without appropriate management practices drives activities in the same trajectory which portends a downward trend in the degradation of environmental assets and natural resource base with consequent backlashes in the ultimate reduction of economic productivity and welfare (Millennium Ecosystem Assessment, 2005; World Bank, 2012)..

Mining
Mining is a significant challenge in the forestry sector. The principal operation is the exploration and exploitation of oil in the Niger Delta and the quarry of solid minerals in states such as Cross River, Nasaraw, Taraba, Benue, Plateau, Adamawa, etc. There is a proliferation of mining activities in several communities leading to the destruction of the natural habitat. Artisanal mining is also carried out by the locals and is now significant in many communities. Beside ecological problems, the method of extraction poses health and safety risk. In some areas, mining has led to the destruction of the environment. Mining is very intensive and very destructive (Mather, 1991; Sands, 2005). The area of land involved in petroleum exploitation cause deforestation. Mining is a lucrative activity promoting development booms that may attract population growth with consequent deforestation and conflict.

The consequences of deforestation on the Plateau region due to mining are diverse with various environmental and economic implications[12]. Same is reported in Rivers state. The SESA study confirms the crises between shell petroleum and some communities. These have led to the loss of forest products, flooding, and erosion, aggravation of desertification and pollution, high rate of siltation of streams, a decline of biological diversity and acceleration of extinction of the Plateau region flora and Fauna and conflict leading to loss of life and properties. The increase in carbon dioxide and temperature of the atmosphere, regulation of nutrient cycles of carbon dioxides and Photosynthesis, shifting in population provision of income through the sale offuelwood/firewood, increased rate of evaporation and alteration of fluvial competence and capacity(Mustafa, 2010)

Energy Crisis and Forest Loss
The demand for fuelwood in Nigeria is very high because more than 70% of rural households use fuelwood in meeting their energy needs for cooking and heating. The unsustainable and constant use of fuel-wood by Nigerian households, institutions (schools, prisons, hospitals, IDPs camps) and cottage industries (e.g. fish smoking, cassava processing, and palm oil processing, bakeries) is one of the leading causes of deforestation and land degradation in Nigeria (Retrieved from[13].More than half of the 9.6 million hectares of rainforest belt in the southern part of Nigeria has been used to meet the demand for fuelwood in rural and urban areas. Fuelwood use has grown from 50 million m^3/year in 1990 to 70 million m^3/year and accounts for a significantly higher share of forest product use than, for example, commercial logging; the latter amounts to only 11

[12] .http://ccsenet.org/journal/index.php/jsd/article/viewFile/13188/9095

[13] https://leadership.ng/2018/01/02/promoting-sustainable-fuelwood-management-healt)

million m^3/year in 2010 and did not register any significant changes in the last decades (FAO, 2015).

This rapid rate of deforestation is a significant concern with over half of the country's primary forests cut down in the last 10 years, exacerbated by rapid population growth of 2.5%. Over-extraction of trees for firewood without re-planting new trees is threatening people's ability to afford fuel wood. In Nigeria, where woodfuels are the main source of fuel, sustainable management and use of the forest are imperative. The Second National Communication (SNC, 2014) estimates that about 4.5 million hectares of fuelwood plantations have to be established to tackle the primary cause of deforestation and help address the looming shortfall offuelwoodresources. The over-dependence on fuelwood in the country has been attributed to its availability and affordability compared to other sources of energy. Earlier research found that fuelwood consumption in the north and southwestern parts (the Ibadan area in Oyo state) of Nigeria far exceeds sustainable production, and the deficit is only made up from areas of surplus (pockets of localised vegetation in other parts of the country), which adds to the cost of the wood. The table below shows the distribution of the source of energy in REDD+ states and Nigeria.

Desertification in the Northern States: desertification is the most daunting challenge in northern Nigeria. The threat of the advancing desert necessitated the promotion of tree planting programme in Nigeria, which is an annual exercise, where trees are planted at a particular time of the year (mostly peak of rainy season) (Retrieved from http://allafrica.com/stories/200907300416.html) . Areas that are most threatened by the surging desert are frontline states. Desertification is one of the fundamental environmental problems that are responsible for the current trend in global warming, drought, a decrease in crop yield, forced migration and loss of biodiversity among others.

Soil and water quality concerns- from increasing agrochemical usage

Livelihoods and poverty

One of the demographic characteristics of the developing world is its rural nature of the population (World Poverty Report, 2011), some 3.1 billion people or 55% of the population in developing countries live in rural areas.

In Ondo State, studies reveal that farming activities, a gathering of fuelwood, and collection of snails were their significant activities before deforestation. Others include a collection of vegetables, collection, and gathering of medicinal plants, a collection of mushrooms, root and tubers. However, Now Study revealed that the rural women are some women had moved to the city (Akinwalere and Ogunniyi, 2015).

Demographic pressure

Nigeria population is about 193 million people. Natural resources play a pivotal role in the lives of most people in Nigeria with 75% of the population living in rural areas and over 70% employed by the agriculture and forestry sector. Increasing economic development and demographic pressure are changing agricultural and forestry systems in Nigeria and creating ever-increasing pressure on the natural resource base mainly forest.

Migration

Internal migration to urban areas and migration to fertile land and forest zone including poor enforcement of legislation and widespread poverty are some of the main contributing factors to fuel poverty and degraded natural resources. These trends are rapidly affecting resources such

as a forest. Coupled with this humanitarian issue, the deforestation and forest degradation that occur as a symptom of people's reliance on wood fuel (+70% of the population) is threatening the sustainability of the natural environment and its ability to perform ecological services infragile areas.

Weak institutions and insufficient policies at state and national level: Poor enforcement of forest and land laws, policies and regulations, as well as the absence of any policies and regulations to specifically address environmental degradation, exacerbate deforestation drivers. Monitoring deforestation and degradation and its drivers are concerned. Although sustainable fuelwood demand and supply are embodied in national policies, their implementation remains a great challenge at the state level hence the supply and demand value chain remains fragmented.
Conflicts in Forest and natural resource
There is many stakeholders in forest sector, hence many interest which often time result in conflicts between stakeholders of the same community and between localities. These include Farmers Association, Youth Group, Town/Village Union, Faith-Based Organizations, Women Group, Forest User Group, Private Firms, and Trade Association.

Low-capacity
The limited capacity of institutions hinders effective implementation of REDD+ interventions. There is lack of capacity of institutions to meet the scale of the responsibilities and challenges in planning and implementation. The capacity also involves training to up-scale technical skills in innovations relevant to MDAs in respect of development policies, plans and actions including human rights, gender sensitization, stakeholder engagement process and requisite skills to develop proposals for procurement of funds for green development initiatives and programmes, research in carbon emission, GHG, monitoring, etc.

The open regime of Resource Use: Open access regime for resource use is carried out in the community forest. While restriction in reserve.However, for timber permit is granted by the community. Use of rights is not extended to neighboring communities. The bush mango business is significantly affected by lumbering which reduces the quantity of the products. Free access reduces quantity because indigenes and non-indigenes are involved primarily in open areas without restriction. No Tax is paid but free for all. Only lumbers get permits

Deforestation of watersheds
Deforestation in watersheds is a critical problem in the Savanah zone. The SESA study in Atabla and Zono REDD+ pilot site in Nasarawa state revealed the degradation of water catchment that provides communities with domestic water. Some streams are on the verge of disappearance, while others have been silted. Concerted effort to tackle this problem is required. Despite current efforts, anthropogenic factors are significantly contributing to the degradation of watersheds, rising populations, and other socioeconomic variables are negatively impacting the quality of water in the agricultural watersheds (Retrieved from http://www.mdpi.com/1660-4601/8/6/2418/htm) .

Herdsmen vs. Farmers crisis
Herdsmen and farmers crisis is a significant issue arising from grievances in resource use conflict. Fulani herdsmen and farmers conflicts have remained the most predominately resource-use conflict in North-eastern Nigeria and North central part of Nigeria. The conflicts have taken a different dimension in Benue states, Nasarawa and Taraba states. Land resource use conflicts to provide food as well as raw materials for industry to meet ever-growing demands have led to

extensive use of land. The competition between these two agricultural land user-groups, however, has often times turned into severe hostilities and social friction leading to the destruction of lives and properties (Retrieved from https://www.aiaee.org/attachments/article/500/Adisa%2018.1-5.pdf). All the communities selected for SESA study have witnessed the herdsmen crisis. This is, therefore, a significant problem to solve in the implementation of REDD+ programme.

Benefit sharing issues in carbon trading

Though benefit-sharing mechanism exists in some communities, the SESA study revealed that benefits sharing mechanism is as defined by tradition. This system place women and sometimes youth and other vulnerable groups are in disadvantage position. Some cannot express their grievances because the culture has defined that and is acceptable where the chiefs and elders take the "lion's share." The youths most times react and feel being cheated especially in the southern part of the country. However, in the north and western part, this may not be expressed visibly. At a closer probe, some women and youth in some communities were not satisfied with the existing benefits sharing system. REDD+ intervention programme needs to ensure equitable benefit sharing for the effective implementation of the interventions. One area of concern is the clear definition of carbon rights.

Limited financial resources- hampering effective forest management

Financial incapability has hampered effective forest management system. The complaint of relevant MDAs in SFM and natural resource management is lack of finance to implement the project. A low or no budgetary allocation has hindered forest management. Corruption and financial mismanagement contribute to this limited capacity. In communities, financial mismanagement is a significant issue. There was general dissatisfaction among community groups in some communities with the management of community financial resources except the Council of Chiefs. Women expressed the strongest dissatisfaction with the management of community financial resources and registered displeasure with the level of involvement of women in the management of community financial resources.

Forest Governance: Forest governance has passed through the pre-colonial, colonial and post-colonial era. Within these eras, policies were formulated to regulate the use of forest and other natural resources. However, most of them were demand driven, that is to make resources available.

Limited livelihood activities putting pressure on forest resources

Promoting diversified and sustainable forestry and non-forestry enterprise development and employment generation for forest-dependent poor and marginalized people is imperative for REDD+ interventions. Lack of sustainable alternative livelihood schemes enhances communities heavily dependent on forest resources. Provision of alternative will promote the conversion of existing local biological resources into marketable products.

Market failure

Communities' products from farm and forest such as NTFPs are lowly priced and sometimes no market. More labor but less return on investment. SESA study reveals that buyers come to buy at low price and sell at a high price making gains at the expense of the local people. Poor transport and preservation facilities are a significant challenge. Value addition to products to gain access to external markets and generate income is required. Value-added forest products will increase forest revenues arising through royalties and value-added tax.

Lack of policy on carbon rights and payment for ecosystem services
Carbon rights and Payment for ecosystem services are not clearly defined and no policy backing for effective implementation. Strategic options will generate impacts only if they are implemented in an equitable, efficient and effective manner. Otherwise, they are likely to give rise to various negative impacts. It is therefore imperative to have issues of ownership and equity in benefit sharing, human rights and gender equality legally established as early as possible. This is likely to lead to the security of access, control, and rights (including carbon rights), but it will require the careful implementation of safeguard measures

Gender inequality and dominance of men and elite group
There remain significant incidences of gender and social exclusion. Economically, women are generally dependent on men because the men have the dominant access to and use of the primary factor of production, land. Whereas women provide more labor and food to the household. Discrimination will remain a factor that influences forest management. Ensuring active participation of women in REDD+ programmes and promotion of equitable distribution of REDD+ benefits to women who have particular linkages with the forest

Cultural attachment to access and right to tenure
Socio-cultural beliefs may impede the streamlining of gender in forest resource governance within forest-dependent communities. Traditional rights and access to natural resources do not ensure equity. In nearly all the communities of SESA studies such as Atabla, Zono and Marhai in Nasarawa, and Obada and Idoani in Ondo states, Women cannot inherit land due to cultural, traditional, norms and customs. Land tenure system by inheritance is in favor of men. Women cannot inherit land from their fathers. Irrespective of the fact that women are food providers they need land to carry out farming activities they area lack access to land. In Bubu, for instance, women do not have an equal right with men. However, in Aforobe the case is different as both male and female have equal right to resources. Non-indigenes have no right to land and forest resources. This system is also obtainable in forest communities in Taraba state. The cultural attachment may affect equitable benefits distribution.

Weak policy and legal framework for enforcement
Weak policy and legal framework hinders enforcement and in turn, mostly responsible for illegal logging. Moreover, conflicting policies where forestry department policy support conservation, the ministry of minerals resources policy support miming in the forest, agricultural policy supports agricultural expansion, increased demand for forest land and products. Policy harmonization on the part of government is required for MDAs to work together and deliver the goal of SFM and REDD+. At the community level, unclear, weak and insecure forest tenure arrangement is also a significant challenge. Change in government usually leading to change in policy direction. One solution is identifying and analyzing existing policy and legal framework that supports REDD+ implementation in Nigeria and their gaps. Policy on carbon rights and payment for ecosystem/environmental services need to be defined.
Other issues include:

- Abuse of power/conflict of interest by some traditional leaders and government officials to benefit from encroachment
- Ineffective collaboration among crucial government institutions
- Lack of GRM
- Resource wastage- during exploitation and use of timber

- Community participation in forest management and other natural resources is not adequate, without strengthening participation by all groups, some groups may be aggrieved of the management process.
- Forest-based livelihoods/interventions are not given priority for forest-dependent communities to reduce incursions into the forest.
- Wood-based fuel is highly utilized,and there is high demand for fuelwood in significant towns, alternative source of energy is therefore imperative.
- Investment in agro-based industry, agroforestry, arts and crafts and sustainable fuel woodlotsis required for sustainable forest management (SFM)
- Illegal timber harvesting is on a high side, alternative for logging needs to be given serious attention and should be something more lucrative to logging. E.g., sustainable agriculture
- There is an overall lack of capacity in agricultural production regarding inputs

a) Environmental Situation by Sectors in Nigeria

Land degradation is a crisis of land-based developments in Nigeria. In particular, land degradation is causing the decline in land productivity for forest growth and agricultural resources thereby severely threatening food security, environmental quality.

Land use planning has not been adopted on a reasonable scale as a land management tool in Nigeria. This land management tool from the supply angle is needed to guide the rational allocation of land among the various use-activities based on land capabilities

Agriculture and pastoral system have eaten deep into the reserved forests in Nigeria. Also, loggers and firewood harvesters have taken their toll of essential wood species in reserved forests, open forests, and savannas, thereby decreasing the quality of vegetation types across Nigeria. These types of deforestation activities have been consistently degrading the forest estate, estimated to cover about 10% of the total land area, at the rate of about 3-5% per annum. There has not beencorresponding reforestation of the degraded forests or the creation of new ones. FAO recommendation stipulates that about 25% of the country's land should be covered by forest. There is, therefore, a need to improve and expand the forest estate through reforestation and afforestation programmes and to control people's actions in forest use. Forestry has a significant role to play in watershed management and agroforestry for resource conservation and control of the environment.

b) Forest Related Social Situation in Nigeria

The contribution of Natural Resources to Nigeria's Economy. Nigeria's rich natural endowment supports the economic and socio-cultural base of millions of people, providing shelter, food, clothing, medicine, spiritual value, and raw materials for industry. The cost of ongoing environmental degradation (notably on renewable natural resources) and impacts is estimated at 10 percent of the GDP6 and is likely to increase under a business-as-usual scenario. Forests, one of Nigeria's most important renewable resources, contribute about 2.5 percent of the GDP. The forest resources are an essential source of employment, with over 2 million involved in the fuelwood and construction pole value chains, and more than 80,000 people working in the log processing industries, especially in the forest zones of the south7.

The lack of control of private land use has been the most significant cause of land degradation, low level of economic development and rural poverty in the country.

Conflicts in land use and ownership are an insurmountable problem. Even among related MDAs differences in sectoral objectives create conflict in land use. These problems are mounting as various categories of users complete for common resource – the land and its natural resources.

At the community level, there are intra and inter-communal conflicts from land use and ownership with violent clashes. Currently, in the Northern part of the country, violent clashes erupt between crop farmers and herdsmen. In the South and Niger Delta region clashes between local inhabitants and oil companies is alarming.
One of the significant problems is land tenure. The present system is in favor of men in many communities across the country where women cannot inherit land but can only own land through purchase window. In some communities, it established a practice that the more forest one clears, that forest according to customary law is owned by the individual. , and the area burned for farming purposes, a practice which establishes a right to ownership.

11.3 Forest and climate change management interventions

11.3.1 Ongoing Forestry Programs

At the national level, many forestry initiatives and programs have been developed to support sustainable forest management. These include the Nigerian Forestry Action Programme, the Forest Outlook Study for Africa, the Inter-Ministerial Committee on Desertification and Deforestation Programme, and the Programme of the National Council on Shelterbelt, Afforestation, Erosion and Coastal Zone Management[14]. Most recently the Presidential National Afforestation Program, an ambitious nationwide reforestation program with indigenous species and local involvement, was launched to simultaneously regain forest cover and improve community livelihoods across the country. However, despite these impressive activities, forest management activities in Nigeria suffer from severe and chronic underinvestment.

- The *Great Green Wall for the Sahara and the Sahel Initiative* focuses on arresting the high rate of desertification in the country through community participation. This project aims to establish 1,500 km of shelterbelts 15 km wide from Kebbi State to Borno State along the northern fringes to serve as a barrier against the advancing Sahara desert.
- The *Nigeria Erosion and Watershed Management Project (NEWMAP)* has the objective of reducing vulnerability to soil erosion in targeted sub-watersheds. This innovative project is helping prevent and reverse land degradation and other factors that are exacerbated by impacts of climate change.
- *Rural Women Energy Security* aims at providing rural women with access to clean energy. The National Clean Cook Scheme is part of this program, geared towards reducing dependence on fuelwood by 70 percent amongst rural populations. This scheme works on retrofitting kitchens in government institutions. The program launched in secondary boarding schools, hospitals and hotels are demonstrating high volume consumers' switch from cooking with firewood to cleaner fuels.
- The *National Bamboo and Rattan Value Chain Development Program* launched by the Department of Forestry in partnership with the United Nations Industrial Development Organization and the International Association of Bamboo and Rattan aims at providing substitutes for timber and sustainable charcoal.
- The *National Biodiversity Action Plan* was recently reviewed and updated, setting out targets for biodiversity and forms an essential nucleus for livelihoods.
    - Benefit sharing
    - Forest Governance system in Nigeria
    - Land Tenure, Carbon Rights, and Benefit Sharing

[14] https://www.forestcarbonpartnership.org/sites/fcp/files/2015/March/PID%20Nigeria

11.3.1.1 Carbon Rights:

REDD+, as a climate change mitigation mechanism, presents a valuable opportunity for Nigeria to enhance forest conservation, while simultaneously contributing to climate change mitigation and enhancing community development as agreed under the international negotiations in the climate-change convention. However, with these benefits, there are also envisaged risks related to the implementation of REDD+. This justifies the need to delineate both risk and benefit continuum in other to develop safeguards that mitigate potential risks and enhance likely benefits and protect the right of people particularly those affected by the REDD+ process. In the process,countries can receive much more money in the form of carbon credits which can be spent on more environmentally safe practices.

A framework for financial management to implement REDD+ activities and strategies is essential. Defining the rights to manage the process and the ownership of the right to the carbon sequestered through the management of the forest is therefore complex. The management regime of forest in Nigeria particularly parks and reserves definitely will require the in-depth definition of rights to carbon within such forest and payments for environmental services that farmers provide, such as watershed protection, erosion prevention, clean water and carbon sequestration. Another concern is that many forest area and carbon projects are fraught with problems, especially in the many places where there are existing conflicts about who exactly owns the land.

Nigeria is policy and legal framework for carbon right. This is imperative to take into account the rights, needs and decisive role of indigenous people and local communities, and especially the women, weak and vulnerable within those communities whose livelihood is perpetually tied to natural resources culture in the forest.

The continued shift in forest and landscape boundaries, and in land tenure and customary rights in Nigeria, combined with emerging markets for forest products and ecosystem services, create new challenges as well as new opportunities for people and forest conservation.

However, the challenges envisaged need to be considered in development of strategy at first; enabling policies and measures will be put in place to allow the implementation of REDD+ and encourage scaled-up investments and in phase three, market and fund-based mechanisms will deliver performance-based payments for emission reductions and carbon stock enhancements that are subject to third-party verification.

Tax code and financial accounting standards for carbon transactions and investments must be established and be compliant with existing practices and institutions. Where existing practices and institutions are inadequate, new mechanisms must be created.

11.3.1.2 Benefits Sharing:

REDD+ is to deliver on benefits beyond carbon and avoid potential risks to the environment and social well-being. SESA offers in-depth analysis of the environmental, social, economic and ecological risks and benefits to communities and other stakeholders to mitigation mechanism as well as analysis of the governance system and land use/land tenure focusing on sustainable environmental and natural resources management.

REDD+ will succeed if incentives are shared equitably among stakeholders including women and people with disabilities. However, the sharing mechanism is yet to be developed. The forest in

parks and reserves are also not defined based on rights. For practical and sustainable REDD+ there need to be clear principles of benefit sharing which also determine the forms of benefit distribution.

11.3.1.3 Major forest ownership and management in Nigeria- legal, policy, and institutional framework in forest management. Organizational Structure for Land Use Matters:

Many sectors have roles to play in the coordination of land resources management and conservation. In respect of agricultural land resources, the FMARD has the most significant role. It has some sub-sectoral departments, chief one of which is the Federal Department of Agricultural Land Resources (FDALR). There are other national councils and committees based in agriculture; in particular, the National Agricultural Land Resources development Committee (NALRDC) that reports to the National Council on Agriculture (NCA). Thisis serviced by the Federal Department of Agricultural Land Resources.

Other important organizationsis the:

- Sectoral agencies and their departments (ministry of works and housing, environment, industry, etc)
- Natural Resources Conservation Council (NRCC) under the Presidency and serviced by the National Advisory Committee in the Conservation of Renewable Resources (NACCRR); NRCC is responsible for the formulation and approval of a national policy for natural resources conservation (World Bank 1992).
- National Committee on Ecological Problems (NCEP) under the Presidency; it has for sub-committees dealing with Soil Erosion and Flood Control, Desertification and Drought, General Environmental Pollution and Oil Spillage and Pollution.
- National Committee on Drought and Desertification
- National Committee on Arid Zone Afforestation
- Relevant State Ministries and Departments (agriculture, works, and housing, industry, etc.)
- Local Government Councils, the role, which is very vital but not yet assigned.
- Agricultural Development Projects (ADPs)
- River Basin Development Authorities (RBDAs)

Institutional and policy challenges in the forest sector

A REDD-plus oversight body with technical, financial and administrative responsibilities should be set up under the Conference of the Parties to the UNFCCC, with representation based on United Nations' regions using the Nine[15].

REDD-plus mechanisms should build on the experiences gained in the existing voluntary carbon market, particularly regarding carbon market accounting and credible standards and certification.

At the national level, REDD-plus provisions should make use of existing government regulations and structures and capitalize on existing monitoring and independent third-party verification mechanisms, such as forest certification.

[15] http://cmsdata.iucn.org/downloads/investing_in_redd_plus_en_executive_summary.pdf

systems. Tax code and financial accounting standards for carbon transactions and investments must be established and be compliant with existing practices and institutions. Where existing practices and institutions are inadequate, new mechanisms must be created.

REDD-plus governance structures at both the national and international levels should include independent complaint and grievance mechanisms. In developing and promoting REDD-plus, efforts should be made to use existing forest-based instruments and to strengthen coordination and collaboration between them.

The forestry sector in Nigeria, as in many countries, struggles with transparency and good governance, which may undermine achievements. There is a risk that changes in policies, practices and benefit sharing approaches will result in different gains among current power holders and stakeholders. Macroeconomic shocks due to the rapidly falling price of oil, the principal contributor to Nigeria's GDP, may encourage expansion of agricultural lands, including through forest clearing.

While there is capacity at the federal level for implementing and some states for forest management, many states lack the adequate capacity. Also, capacity for handling social safeguards will require strengthening at all levels. Also land ownership has been a serious concern among all Nigerians since the enactment of the land use act. Nigerians can only exercise usufruct right to land, even then at sufferance. The land administration has been transferred from communal authorities to the state governor or local government councils, and its procedure is not very clear.

Other Policies and Laws related to REDD+ Implementation
Analyses of the Potential Impacts, Risks and the Mitigation Measures for the Proposed REDD+ Strategic Options

12.0 ENVIRONMENTAL AND SOCIAL ASPECTS OF REDD+ STRATEGY OPTIONS

Several strategic options for REDD+ implementation were derived from R-PP documents, Cross River State REDD+ strategy document and the issues generated from the SESA study.
The section analyses the potential positive impacts and risks of the strategic options extracted from the views of the key experts, consultation carried out at different levels. The issues are identified, assorted into relevant strategic options and then analyzed.

12.1 Assessment of candidate REDD+ strategy options

The strategic options from R-PP document were proposed in line with the issues and priorities for the REDD+ implementation. Various activities were identified under each strategic option based on the context of REDD+ implementation.

Table 12.1: Indicative REDD+ strategic Options

Strategic Category	Strategic options	Strategic activities
Legal and policy framework	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors

Strategic Category	Strategic options	Strategic activities
		• Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of a socially excluded group including women and people with disabilities
Institutional framework	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen platform for inter-agency coordination at all level • Establish joint planning among related agencies at all levels • Build and strengthen capacity for participation
Institutional framework	SO3: Multi-Stakeholder Synergy and Participation	• Create a platform for a stakeholders meeting • Building capacity for participant • Empower women, youth and vulnerable groups (including people living with disability) to participate in decision making • Create useful and equitable knowledge and informing sharing mechanism • Identify are engage relevant stakeholders • Strengthen local participation and decision making at all levels • Regular stakeholders dialogue and decision-making • Create a feedback response mechanism • Develop a system for re-engagement mechanism
Land reforms	SO4: Clarification of Forest and Land tenure system	• Legal and institutional reforms for tenure rights at all community level • Formulation of equitable carbon rights among stakeholders and gender • Ensure equity in benefit sharing • Develop a regulatory system for carbon markets • Develop a system for equitable carbon market accessibility • Review of a tenure rights • Guarantee rights of the socially excluded group especially rights of women and people with disabilities
Land reforms	SO5: Land use zoning and planning	• Develop land use plan at national, state and local level • Ensure implementation of sustainable land management • Harmonize policies across sectors to upscale and implement LUP • Build the capacity of stakeholders especially communities for implementation of land use plan.
Forestry	SO6: Sustainable Forest Management	• Enhance indigenous knowledge n sustainable forest management • Establish commercial tree woodlots of fast growing species to carter for demand • Enhance community base forest management system • Provision of Alternative livelihoods • Certification of wood and forest products • Strengthen capacity for the law, forest protections, enforcement
Forestry	SO7: Enhancement of Forest Carbon Stocks	• Enhance afforestation/reforestation of degraded areas • Enhance Protected Area system (PAs) • Enhance Agroforestry systems • Operate a system for monitoring and verification for carbon stocks enhancement • Ensure conservation/protection of high carbon stock areas • Define carbon rights and ethics for implementation • Establish benefit-sharing mechanisms

Strategic Category	Strategic options	Strategic activities
		• Use performance-based approach for sharing benefits
Agriculture	SO8: Agricultural Intensification	• Adopt Climate-Smart Agriculture (CSA) & CA • Agricultural intensification • Certificate of products from verified farms • Develop policy measures to increase value-chain of agricultural products • Enhance capacity for productivity • Integrated Agriculture LUP • Promote extension services
Energy	SO9: Sustainable Alternative Energy	• Use an alternative source of energy as biogas, biofuel • Use of fuel-efficient technology such as an efficient cook stove • Increase the scale of utilization of renewable energy • Establish sustainable social fuelwood lots to reduce impacts in forest • Capacity building for fuel-efficient system
Agriculture	SO10: Livestock management	• Develop livestock Ranching systems • Policy implementation in Ranching • Build capacity for Ranching • Establishment of Fodder crops • Increase livestock value-chain
Livelihood system	SO11: Alternative Livelihood	• Diversification of community livelihoods • Promote small-scale industrial production • Capacity building for domestication of forest products • Increase product value-chain
Livelihood system	SO12: Equitable Benefit Sharing	• Create a system for effective benefit sharing • Mainstream gender to benefit sharing mechanism • Consideration of performance in conservation • Enhance Synergy amongst MDAs • Strengthen governance structure at all levels
Forestry	SO13: Watershed protection	• Reforestation of the watersheds • Strengthen policy and legal reforms for watershed protection and management • Capacity building for watershed management • Integrate watershed protection into sectoral policies • Provision of alternative source of livelihood
Institutional reform	SO14: Grievance Redress Mechanism	• Establish a grievance redress mechanism • Provide a conflict resolution governance structure at all levels • Promote feedback mechanism
Forestry	SO15: Protected Area System	• Expand PA to at least 20% of all forest types • Enhancement of sacred groves and values to protects the cultural rights of local people • Effective policy and legal framework for PA • Capacity building for PA management at the local level
Livelihood system	SO16: Market and Value chain for Forest Products	• Links community to markets • Strengthens cooperatives for networking and marketing • Certification of products
Institutional reform	SO17: Sustainable Financial Mechanism	• Multiple funding for forest management • Ensure transparency and accountability
Mining	SO18: Sustainable Mining	• Conduct EIA in project areas before license is issued to companies • Enforcement and monitoring to ensure compliance with the mitigation procedures aand standards • Coordination among related MDAs on the review of compliance level with EIA

Strategic Category	Strategic options	Strategic activities
Institutional reform	S019: Capacity Building	• Capacity building of stakeholders at all levels including women and people with disabilities

12.2 Assessment of the extent to which the candidate strategy options at national and state levels address the identified environmental and social priorities

Table 12.2 present the proposed strategic options to address the direct and indirect driver's drivers of de forestation and forest degradation and Legal Institutional framework.

Table 12.2: Impact of indicative strategic options on direct drivers of deforestation

Proximate/Direct Drivers	Strategic Options	Strategic Activities
Small-Scale Agriculture	SO5: Land use zoning and planning	• Develop land use plan at national, state and local level • Ensure implementation of sustainable land management • Harmonize policies across sectors to upscale and implement LUP • The capacity of stakeholders especially communities for implementation of land use plan.
	SO8: Agricultural Intensification	• Adopt Climate-Smart Agriculture (CSA) & CA • Agricultural intensification • Certificate of products from verified farms • Develop policy measures to increase value-chain of agricultural products • Enhance capacity for productivity • Integrated Agriculture LUP • The scale of utilization of renewable energy • Establish sustainable social fuelwood lots to reduce impacts in forest • Capacity building for fuel-efficient system • Strengthens extension services for forest management
	SO13: Watershed protection	• Reforestation of the watersheds • Strengthen policy and legal reforms for watershed protection and management • Capacity building for watershed management • Integrate watershed protection into sectoral policies
Commercial Agriculture	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of a socially excluded group including women and people with disabilities
	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen platform for inter-agency coordination at all level • Establish joint planning among related agencies at all levels • Build capacity for participation
	SO5: Land use zoning and planning	• Develop land use plan at national, state and local level • Ensure implementation of sustainable land management

		• Harmonize policies across sectors to upscale and implement LUP • The capacity of stakeholders especially communities for implementation of land use plan.
Fuelwood/Charcoal production/Consumption	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen platform for inter-agency coordination at all level • Establish joint planning among related agencies at all levels • Build capacity for participation
	SO3: Multi-Stakeholder Synergy and Participation	• Create a platform for a stakeholders meeting • Building capacity for participant • Empower women and people with disabilities to participate • Create useful and equitable knowledge and informing sharing mechanism • Identity are engage relevant stakeholders • Strengthen local participation and decision making • Regular stakeholders dialogue and decision-making • Create a feedback response mechanism • Develop a system for re-engagement mechanism
	SO9: Sustainable Alternative Energy	• Use an alternative source of energy as biogas, biofuel • Use of fuel-efficient technology such as an efficient cook stove • The scale of utilization of renewable energy • Establish sustainable social fuelwood lots to reduce impacts in forest • Capacity building for fuel-efficient system
Logging (Illegal)	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of a socially excluded group including women and people with disabilities
	SO6: Sustainable Forest Management	• Enhance indigenous knowledge n sustainable forest management • Establish commercial tree woodlots to carter for demand • Enhance community base forest management system • Provision of Alternative livelihoods • Certification of wood and forest products • Strengthen capacity for the law, forest protections, enforcement
	SO10: Livestock management	• Develop livestock Ranching systems • Policy implementation in Ranching • Build capacity for Ranching • Establishment of Fodder crops • Increase livestock value-chain
	SO13: Watershed protection	• Reforestation of the watersheds • Strengthen policy and legal reforms for watershed protection and management • Capacity building for watershed management • Integrate watershed protection into sectoral policies

Legal Logging	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of a socially excluded group including women and people with disabilities
	SO6: Sustainable Forest Management	• Enhance indigenous knowledge n sustainable forest management • Establish commercial tree woodlots to carter for demand • Enhance community base forest management system • Provision of Alternative livelihoods • Certification of wood and forest products • Strengthen capacity for the law, forest protections, enforcement
	S019: Capacity Building	• Capacity building of stakeholders including women and people with disabilities
Infrastructural Development	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen platform for inter-agency coordination at all level • Establish joint planning among related agencies at all levels • Build capacity for participation including women and people with disabilities
	SO5: Land use zoning and planning	• Develop land use plan at national, state and local level • Ensure implementation of sustainable land management • Harmonize policies across sectors to upscale and implement LUP • The capacity of stakeholders especially communities for implementation of land use plan.
Grazing	SO5: Land use zoning and planning	• Develop land use plan at national, state and local level • Ensure implementation of sustainable land management • Harmonize policies across sectors to upscale and implement LUP • The capacity of stakeholders especially communities for implementation of land use plan.
	SO10: Livestock management	• Develop livestock Ranching systems • Policy implementation in Ranching • Build capacity for Ranching • Establishment of Fodder crops • Increase livestock value-chain
Bush Fires	SO6: Sustainable Forest Management	• Enhance indigenous knowledge n sustainable forest management • Establish commercial tree woodlots to carter for demand • Enhance community base forest management system • Provision of Alternative livelihoods • Certification of wood and forest products • Strengthen capacity for the law, forest protections, enforcement
	SO10: Livestock management	• Develop livestock Ranching systems • Policy implementation in Ranching • Build capacity for Ranching

		• Establishment of Fodder crops • Increase livestock value-chain
Mining	SO18: Sustainable Mining	• Conduct EIA in project areas before license is issued to companies • Enforcement and monitoring to ensure compliance with the mitigation procedures aand standards • Coordination among related MDAs on the review of compliance level with EIA

This table shows analysis of the strategic options and the underlying causes of deforestation and forest degradation they address.

Table 12.3: Impact of indicative strategic options on direct drivers of deforestation

Underlying Causes	Strategic Options	Activities
Unemployment	SO8: Agricultural Intensification	• Adopt Climate-Smart Agriculture (CSA) & CA • Agricultural intensification • Certificate of products from verified farms • Develop policy measures to increase value-chain of agricultural products • Enhance capacity for productivity • Integrated Agriculture LUP
	SO11: Alternative Livelihood	• Diversification of community livelihoods • Promote small-scale industrial production • Capacity building for domestication of forest products • Increase product value-chain
	SO12: Equitable Benefit Sharing	• Create a system for effective benefit sharing • Mainstream gender to benefit sharing mechanism • Consideration of performance in conservation • Synergy amongst MDAs • Strengthen governance structure
International Market	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and SFM • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of a socially excluded group
	S019: Capacity Building	• Capacity building of stakeholders
Domestic Market	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and SFM • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management

		• Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of a socially excluded group including women and people with disabilities
	S019: Capacity Building	• Capacity building of stakeholders including women and people with disabilities
Population Growth	SO3: Multi-Stakeholder Synergy and Participation	• Create a platform for a stakeholders meeting • Building capacity for participant including women and people with disabilities • Empower women and other vulnerable groups to participate • Create useful and equitable knowledge and information sharing mechanism • Identify are engage relevant stakeholders • Strengthen local participation in decision making • Regular stakeholders dialogue and decision-making • Create a feedback response mechanism • Develop a system for re-engagement mechanism
	SO11: Alternative Livelihood	• Diversification of community livelihoods • Promote small-scale industrial production • Capacity building for domestication of forest products • Increase products value-chain
Poverty	SO6: Sustainable Forest Management	• Enhance indigenous knowledge in sustainable forest management • Establish commercial tree woodlots to carter for demand • Enhance community base forest management system • Provision of Alternative livelihoods • Certification of wood and forest products • Strengthen capacity for the law, forest protection, enforcement
	SO11: Alternative Livelihood	• Diversification of community livelihoods • Promote small-scale industrial production • Capacity building for domestication of forest products • Increase product value-chain
	SO12: Equitable Benefit Sharing	• Create a system for effective benefit sharing • Mainstream gender into benefit sharing mechanism • Consideration of performance in conservation • Synergy amongst MDAs • Strengthen governance structure
	SO16: Market and Value chain for Forest Products	• Links community to markets • Strengthens cooperatives for networking and marketing • Certification of products
Outdated Forest Laws	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and SFM • Support land reforms that strengthens land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of socially excluded group including women and people with disabilities

	SO13: Watershed protection	• Reforestation of the watersheds • Strengthen policy and legal reforms for watershed protection and management • Capacity building for watershed management • Integrate watershed protection into sectoral policies
Sector-specific Forest Policies	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen platform for inter-agency coordination at all levels. • Establish joint planning among related agencies at all levels • Build capacity for participation including women and people with disabilities
Development Policies	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and SFM • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of socially excluded groups including women and people with disabilities
	SO5: Land use zoning and planning	• Develop land use plan at national, state and local level • Ensure implementation of sustainable land management • Harmonize policies across sectors to upscale and implement LUP • The capacity of stakeholders especially communities for implementation of land use plan.
Forest/Land Tenure	SO4: Classification of Forest and Land tenure system	• Legal and institutional reforms for tenure rights at all community level • Formulation of equitable carbon rights among stakeholders and gender • Ensure equity in benefit sharing • Develop a regulatory system for carbon markets • Develop a system for equitable carbon market accessibility • Review of a tenure rights • Guarantee rights of the socially excluded group especially women rights
	SO13: Watershed protection	• Reforestation of the watersheds • Strengthen policy and legal reforms for watershed protection and management • Capacity building for watershed management • Integrate watershed protection into sectoral policies
Poor Inter-Sectoral Integration	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen plat form for inter-agency coordination at all level • Establish joint planning among related agencies at all levels • Establish and strengthen • Build capacity for participation including women and people with disabilities
Weak Forest Sector Governance and Institutions (weak capacity)	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen platform for inter-agency coordination at all level • Establish joint planning among related agencies at all levels

		• Establish and strengthen • Build capacity for participation including women and people with disabilities
	SO3: Multi-Stakeholder Synergy and Participation	• Create a platform for a stakeholders meeting • Building capacity for participant • Empower women to participate • Create useful and equitable knowledge and informing sharing mechanism • Identity are engage relevant stakeholders • Strengthen local participation and decision making • Regular stakeholders dialogue and decision-making • Create a feedback response mechanism • Develop a system for re-engagement mechanism
	S019: Capacity Building	• Capacity building of stakeholders including women and people with disabilities
De-reservation	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of socially excluded groups including women and people with disabilities
	SO4: Clarification of Forest and Land tenure system	• Legal and institutional reforms for tenure rights at all community levels • Formulation of equitable carbon rights among stakeholders and gender • Ensure equity in benefit sharing • Develop a regulatory system for carbon markets • Develop a system for equitable carbon market accessibility • Review of a tenure rights • Guarantee rights of the socially excluded group especially women rights
Lack of access to Basic Resources	SO12: Equitable Benefit Sharing	• Create a system for effective benefit sharing • Mainstream gender to benefit sharing mechanism. • Consideration of performance in conservation • Synergy amongst MDAs • Strengthen governance structure
Law Technology	SO17: Sustainable Financial Mechanism	•
	S019: Capacity Building	• Capacity building of stakeholders including women and people with disabilities
High Revenue Targets	SO2: Inter-Sectoral/Inter-agency Coordination	• Establish and strengthen platform for inter-agency coordination at all level • Establish joint planning among related agencies at all levels • Establish and strengthen • Build capacity for participation including women and people with disabilities
Cultural Belief	SO3: Multi-Stakeholder Synergy and Participation	• Create a platform for stakeholders meeting • Building capacity for participant

		• Empower women and people with isabilities participate • Create effective and equitable knowledge and informing sharing mechanism • Identity are engage relevant stakeholders • Strengthen local participation and decision making • Regular stakeholders dialogue and decision-making • Create a feed-back response mechanism • Develop a system for re-engagement mechanism
Forest Fire	SO5: Land use zoning and planning	• Develop land use plan at national, state and local level • Ensure implementation of sustainable land management • Harmonize policies across sectors to upscale and implement LUP • The capacity of stakeholders especially communities for implementation of land use plan.
Low Timber Fees	SO12: Equitable Benefit Sharing	• Create a system for effective benefit sharing • Mainstream gender to benefit sharing mechanism • Consideration of performance in conservation • Synergy amongst MDAs • Strengthen governance structure
Corruption	SO1: Policy and legal reforms	• Policies, views at all levels to capture issues related to REDD+ including forest conservation, carbon rights and • Support land reforms that strengthen land rights • Increase synergy between agriculture forestry and environment to address deforestation and forest degradation • Policy harmonization with all other land use sectors • Revise and develop land and environmental legislation • Formalization of community laws in natural resource management • Strengthening capacity of Agencies to enforce laws and • Ensure effective forest governance law and enforcement • Guarantee rights of socially excluded groups including women and people with disabilities
Conflict	SO14: Grievance Redress Mechanism	• Establish a grievance redress mechanism • Provide a conflict resolution governance structure at all levels • Promote feed-back mechanism

12.3 Potential Environmental and Social Benefits of the Proposed REDD+ Strategic Options

This sub-section presents environmental and social benefits of the indicative strategic options of REDD+ implementation in Nigeri

Table 12.4: Environmental and social benefits of the indicative strategic options

Strategic Options	Environmental Benefits	Social Benefits
SO1: Policy and legal reforms	5. Curtail agricultural expansion into forest areas 6. Enhance reduction in deforestation and forest degradation 7. Protect fragile ecosystem such as wetlands 8. Enhance conservation of carbon stocks	- Good policy for conservation enhance ecological services - Change in attitude and practices of forest users through implementation of laws and policies - Create awareness on the need for conservation - Strengthens forest laws and policies
SO2: Inter-Sectoral/Inter-	3. Reduction in deforestation and forest degradation	- Create an opportunity for policy harmonization

agency Coordination	4. Effective conservation strategy through inter-sectoral collaboration	- Create a platform for stakeholders involvement in forest conservation - Change in strategic sectoral policy to integrate conservation - A platform for knowledge and information sharing - cross-sector coordination in the implementation of REDD+ programme
SO3: Multi-Stakeholder Synergy and Participation	4. Build capacity to reduce deforestation and forest degradation 5. Increase contributions to sustainable forest management by all stakeholder groups particularly women and vulnerable groups 6. Encourage participation in conservation of biodiversity	- The existence of effective management framework - Participation enhance change in attitude towards environmental resources - Create awareness on the benefit of conservation and REDD+ - Gender mainstreaming in natural resource management - Curtail conflict in resource use and management - Empowerment of local communities in decision making (including the poor, marginalized groups and women - Strengthen local level institutions involvement in the implementation of REDD+ initiatives
SO4: Clarification of Forest and Land tenure system	3. Enhance stakeholders' involvement in forest conservation 4. Security of tenure promotes commitment and long-term investment in sustainable use and management of forest resources	- Enhance equitable benefits sharing - Enhance benefits for vulnerable groups - Security of asset, access, control and rights to land and forest resources (including carbon rights)
SO5: Land use zoning and planning	6. Enhance protection of biodiversity through zonation of different land uses 7. Increase efficiency in natural resource utilization 8. Curtail deforestation and forest degradation 9. Enhancement of carbon stocks 10. Decreased in carbon emissions directly from forest conversion to other land uses	- Reduce conflict in resource use and management - Enhance productivity from efficient use of resources such as land - Improve community's knowledge in resource planning
SO6: Sustainable Forest Management	9. Reduce deforestation and forest degradation 10. Enhance availability of forest resources 11. Enhancement of carbon stocks 12. Reduce illegal logging and other activities 13. Reduce loss of species and biodiversity particularly threatened species 14. Enhancement of ecosystems services in general (e.g. water availability; protection against landslides and other erosion hazards) 15. Enhance Restoration and rehabilitation of degraded areas 16. Removal of invasive alien species and improving regeneration of natural forest	- Strengthens community involvement in forest resource management - Resource availability through sustainable utilization - Reduce poverty and unemployment - Change in attitudes towards resource management - Increase local economy and livelihood opportunity - Integrating livelihood into forest conservation programme - Can reduce pressures on conservation areas - Conservation and sustainable use of resources can strengthen cultural services
SO7: Enhancement of Forest Carbon Stocks	7. Protection of forest and natural resources 8. Reduce carbon emission 9. Protection of soil and reduce ecological problems 10. Enhance biodiversity conservation	- Provision of ecosystem services - Create awareness and increase knowledge - Create an opportunity for carbon economy at the local level and opportunity to earn carbon credits

	11. The decrease in carbon emissions directly from forest conversion to other land uses 12. Increase in effective rainfall, reduction of erosion & run-off, improved land stability	
SO8: Agricultural Intensification	6. Reduce deforestation and forest degradation by reducing agricultural expansion to forest areas 7. Reduce proliferation of small farm holdings to the forest area 8. Encourage organize agriculture 9. Conservation of agro-biodiversity 10. Lower emission from the agricultural sector	- Enhance productivity of the land - Enhance income of farmers - Diversification of livelihood opportunity - Adoption of sustainable agricultural practices - Improved livelihoods and employment and income generation opportunities at the community level
SO9: Sustainable Alternative Energy	4. Reduce emission and pollution through the adoption of renewable energy 5. Provide clean alternative energy 6. Reduce pressure on the forest for fuelwood and charcoal	- Create an opportunity for employment through the establishment of fuel woodlots - Create income opportunity and Potential financial benefit from carbon market through the use of fuel-efficient stoves - Enhance availability of efficient fuel - Improvement in livelihoods and health of the community and other stakeholders
SO10: Livestock management	8. Enhance conservation of biodiversity 9. Reduce pressure on the forest as grazing land 10. Soil conservation using organic materials 11. where tree and fodder are involved, can increase carbon sequestration 12. pasture crops and grasses can reduce soil erosion 13. Provide organic manure for other uses 14. Create an opportunityfor the use of organic materials for production of biogas (reduce pressure on forests for biomass energy)	- Reduce herdsmen vs. arable farmers' conflict - Increase productivity through effective management - Enhance income of herdsmen - Create an opportunity for employment through the production of fodders/feeds - Increase in dairy production and better livelihoods - Enhance health of livestock
SO11: Alternative Livelihood	6. Enhance conservation of biodiversity 7. Reduce pressure on forest 8. Reduce illegal logging 9. Enhance sustainable forest management 10. Improve NTFP management	- Diversification of livelihood sources - Create alternative income generation source and New economic opportunities, and support for livelihoods - Reduce poverty - Private sector investment increases employment opportunities - Women's access to and control over their source of livelihood leads to household poverty reduction
SO12: Equitable Benefit Sharing	3. Enhance conservation of biodiversity 4. Strengthens sustainable forest management	- Engender a sense of belonging and responsibility among Stakeholders and willingness for participation - Strengthens gender equity in REDD+
SO13: Watershed protection	6. Provision of quality water and reduce drought 7. Management of watershed reduce ecological problems such as floods 8. Protection of aquatic resources 9. Increased ecosystem services (improved soil fertility, erosion control, water regulation) 10. Reduces deforestation & biodiversity loss	- Availability of aquatic resources - Employment opportunity - Improve human health and well-being - Enhancement of ecosystem services

SO14: Grievance Redress Mechanism	1. Enhance sustainable forest management	- Reduce conflict among resource users - Enhance participation and involvement in the REDD+ process - Increased understanding of GRM - Create awareness and knowledge on conservation
SO15: Protected Area System	5. Protection of biodiversity 6. Enhancement and protection of carbon stocks 7. Enhance ecological services 8. Protection of wildlife and habitat	- Enhance opportunity for Ecotourism - Increase opportunity for employment and income opportunity for local communities through ecotourism
SO16: Market and Value chain for Forest Products	3. Increase sustainability of forest and biodiversity 4. Enhance SFM	- Increase productivity of NTFPs - Increase the income of communities - Enhance linkage to market and increase the market for community product - Create employment opportunity - Enhance alternative livelihood
SO17: Sustainable Financial Mechanism	4. Enhance funding for forest conservation 5. Establishing Green fund and financing mechanism for Micro, small and medium agriculture and agro-processing, agribusiness, co-operatives and other institutions 6. Implements the polluter pays principle to reduce pollution, safeguarding ecosystems, biodiversity integrity, and other natural resources	- Availability of multiple sources of funding - Procure funding from AFDB/CBN Youth in agriculture scheme & other sources to support green jobs in the agricultural and other sectors - Provision of incentives to local people through the provision of credit facilities - Create easy access to investors to access loans and other credits from Agricultural banks, Central banks, African development banks and other financial institutions at local and international level.
SO18: Sustainable Mining	4. Reduce pressure destruction of forest and natural ecosystems 5. Enhance ecosystem services 6. Protect habitat for wildlife	- Availability of revenue to the community - Increase Employment opportunity - Design of environmentally sensitive investments in the mining sector;
S019: Capacity Building	6. Enhance SFM 7. Improved management of natural resources as result of capacity building 8. Capacity Building for improved low carbon practices such as CSA Irrigation, water harvesting, and drainage system 9. Public enlightenment on agricultural intensification through extension services 10. Capacity building for natural resource management to reduce wastage of resources	- Increase opportunity for participation in the REDD+ process - Gender-based knowledge of resource use/management recognized by policymakers - Create an opportunity for building capacity of organizations for social inclusion and gender mainstreaming. - Increase the knowledge, skills, and capacity of Local institutions to guide SFM - Increased the capacity of institutions including MDAs on policy decisions, resources allocation, and investment priorities - Improve extension services - strengthening of cooperatives and organizations in resource use and productivity - Capacity for respect for human right and enhancing equity in access to resources

12.4 Potential Environmental and Social Risks of the Proposed REDD+ Strategic Options and the Mitigation Measures

Analyses of environmental and social risks of the proposed strategic options and the mitigation measures are presented in this sub-section

12.5: Potential Environmental Risks and the Mitigation Measures of the Proposed REDD+ Strategic Options

Environmental Risks

Strategic options	Risks	Mitigation Measures
SO1: Policy and legal reforms	• Restricted access may result in illegal activities which trigger deforestation • *Weak policy can enhance business as usual in investment policies causing adverseenvironmental impacts* • Corruption and outdated laws and policy can increase deforestation	- Implement laws that protect environmental integrity in allocation and use of resources among competing uses - Stakeholder participation and participatory conservation measures - Provide alternative means of livelihoods - *Elimination of perverse investment incentives for better environmentalmanagement* - Comprehensive legal, policy and regulatory framework for transparent and effective forest governance
SO2: Inter-Sectoral/Inter-agency Coordination	Divergence policy may take time to be harmonized which may create conflicting objectives in implementation	- Establishment of the effective coordination system
SO3: Multi-Stakeholder Synergy and Participation	Dominance by male counterpart may result in over-exploitation and abuse of resource utilization Social exclusion of people with disabilities	Create an equal opportunity for male and female participation Curtail deprivation by creating avenues for involvement of people with disabilities
SO4: Clarification of Forest and Land tenure system	• Change in land use which may enhance forest degradation • Elite and powerful group capture land • Change in the traditional system of land tenure	- Synergize community tenure system with that of government - Ensure equitable benefit sharing with particular emphasis on representation of all groups
SO5: Land use zoning and planning	• Change in land use type in favor of agriculture may induce deforestation • Lack of consensus might result in conflicting decisions with negative impacts on forests, biodiversity and carbon stocks	• Effective land use plan to accommodate all uses • Avoid ecologically sensitive areas • Build capacity for a sense of ownership
SO6: Sustainable Forest Management	• May enhance deforestation due to overuse • Economic benefits may outweigh conservation purpose that drives deforestation • Collection of NTFPs can lead to forest degradation • increased in carbon emissions directly from forest conversion to other land uses • Lack of capacity to monitor activities can lead to unsustainable practice, overharvesting of some NTFP species which can reduced ecosystem diversity	- Define in specific terms type and areas of utilization e.g. of NTFPs only - Promote the establishment of multipurpose woodlots - Integration of livelihood into conservation objectives - Build capacity for domestication of NTFPs

SO7: Enhancement of Forest Carbon Stocks	• Restricted access may lead to reversals • Priority on carbon stocks can lead to loss of biodiversity and other ecological services • Focusing on valuable species for carbon sequestration neglecting traditionally valued species can lead to biodiversity loss • Lack of consensus might result in conflicting decisions by deviant groups with negative impacts on forests, biodiversity and carbon stocks	- Enhance community participation in the REDD+ programme - Integrate biodiversity conservation into the carbon policy - Increase ecosystem services beyond carbon - Stakeholders engagement and participation
SO8: Agricultural Intensification	• Increase pollution from the use of inorganic substance such as fertilizer • The risk of erosion and other ecological problem due to land intensification • Introduction of invasive species • Weak agricultural extension services can result in wastage and unsustainable practices	- Certification of products from approved farms - Improved land use management - Regulation of agricultural inputs mainly inorganic substances and species - Strengthening agricultural policies and laws
SO9: Sustainable Alternative Energy	• The high cost of alternative may encourage continuous utilization of fuelwood and leakages • Lack of coordination among related MDAs in energy programme can affect the efficiency of the programme • Limited institutional capacity regarding testing standards to ensure minimum emissions • Monoculture in fuelwood lots particularly on fast-growing trees can lead to loss of ecosystem services • Fuel woodlot is capable of reducing land for agriculture and other uses • Intermittent nature of the energy sources; climate change and risk of disaster	- Funding and subsidy to attract adoption - Strengthening coordination units among related MDAs - Building capacity of stakeholders to deliver on renewable energy programmes - Diversification of the tree species for fuel woodlots - Diversification of energy sources
SO10: Livestock management	• Land degradation from land intensification • Clearing of forest to establish ranch and pasture land • Can lead to increased livestock population and thus increasing emissions of GHG such as methane • The concentration of livestock management activities in certain areas might accelerate forest & land degradation	- Enhance agro Silvo-pastoral method to enhance production of fodder - Land use zonation to forestall increase into the forest areas - Reduced grazing pressure (optimized livestock carrying capacity and avoided overstocking - Improved decision making in resource allocation will limit conversion of forests to other uses
SO11: Alternative Livelihood	• Lack of political will to enhance investment can enhance dependence on forest • The cultural attachment may limit adoption and continuous deforestation	- Advocacy for political will by policy makers - Need assessment and integration of sustainable practices in livelihood capability

	• increase the destruction of forest – if the working mechanism is not well defined • Increased productivity of livelihood activities can potentially generate high profits which could incentivize over-exploitation of forests	- Clear definition of a mechanism for sustainable livelihoods - Regulation of livelihood activities and practices in line with objectives of REDD+
SO12: Equitable Benefit Sharing	• Over-exploitation of the forest if proper benefit sharing mechanism is not put in place excluding some groups such as youth, women and other vulnerable groups • Marginalised groups can still practice unsustainable activities that can increase deforestation and biodiversity loss	- Putting in place efficient benefits-sharing mechanism for all groups - Put in place effective GRM
SO13: Watershed protection	• Lack of funding to implement reforestation • Concessionaires unwillingness to change the attitude • Low capacity for enforcement • Introduction of invasive species through reforestation	- Provision of funding mechanism to enhance reforestation - Key into the NEWMAP project - Partnership with the private sector
SO14: Grievance Redress Mechanism	• Delay in GRM can result in conflict and destruction of resources	- Adequate access to justice, including procedures that can provide adequate remedy for infringement of rights, and resolve disputes among forest communities
SO15: Protected Area System	• Low enforcement capacity may limit encroachment • Lack of consensus might result in conflicting decisions with negative impacts on forests, biodiversity and carbon stocks	- Encouraging shelter belt planting to demarcate forest areas from other land uses - Enforcement of laws for the protection of forest and another critical ecosystemto ensure the protection of ecosystems/biodiversity - Promote integrated forest management practices through the implementation of land use plan
SO16: Market and Value chain for Forest Products	• Economically driven forest management can enhance destruction of ecosystem services and biodiversity trade-off • Increased productivity might generate potential high profits which could incentivize clearing of forests for agriculture	- Strengthening policy to enhance ecosystem services - scaling up existing sustainable traditional practices that enhance conservation
SO17: Sustainable Financial Mechanism	• lack of funding limit investment in SFM	- Create easy access to investors to access loans and other credits from Agricultural banks, Central banks, African development banks and other financial institutions at local and international level.
SO18: Sustainable Mining	• May impose a significantnegative environmental impact on other sectors • Increase pollution by waste emanating from the site • Destruction of natural habitat through removal and clearance of	- Regulation and strict adherence to EIAs and undertaken to implement sustainable land use plans - Build capacity of MDAs to monitor and impose " polluter pay principle

	forest to gain access to minerals leading to biodiversity loss • May have an environmental impact on other sectors if investments not subjected to EIAs and undertaken to implement sustainable land use plans • Solid mineral mining is in the federal legislative list which makes difficult the monitoring of mining operations by state agencies for environmental compliance.	- Evaluates "environmental performance" as one of the selection criteria for a tax rebate and licensing - Enactment and enforcement of laws to regulate activities - Introduce new, cleaner technologies of low energy mining -
S019: Capacity Building	• Delay in building capacity limits monitoring of deforestation • Technology may displace indigenous knowledge, skills & practices • Deprivation/Social exclusion of people with disabilities	- Upscaling technical and vocation skills development for women and youth - creating avenues for involvement of people with disabilities in skill acquisition and capacity development

Table 12.6 Potential Social Risks and the Mitigation Measures of the Proposed REDD+ Strategic Options

Social Risks

Strategic Options	Risks	Mitigation Measures
SO1: Policy and legal reforms	• Conflicts may ensue from enforcement and sanctions • Reforms in legal system may not change the cultural system of women vulnerability	- Put in plate GRM - Create awareness on the existence of the law - Encourage change in traditional practices to include women rights
SO2: Inter-Sectoral/Inter-agency Coordination	• The target of many agencies may be in deviance to objectives of REDD+ • Unwillingness on the part of the private sector to cooperate	- Policy reinforcement - Improve open inter-agency coordination by strengthening the coordination unit - knowledge sharing and capacity building,
SO3: Multi-Stakeholder Synergy and Participation	• Dominance by a male counterpart in decision making • Power and central may be used by the male folks • Lack of adequate resources to share information • Raising awareness often raise expectations and misunderstanding of the objective of REDD+ likely to result in social conflict and mistrust • Social exclusion of people with disabilities	- Advocate for gender equity in participation and decision making - Define roles and responsibilities for devolution of power - Seeking funding from multiple sources to carry out this task - Management of expecting stations by properly engaging all stakeholders especially communities - Creating avenues for involvement of of people with disabilities
SO4: Clarification of Forest and Land tenure system	• Social exclusion of landless and vulnerable groups such as non-indigenes • The loss in land ownership and control due to change tenure system • Security of access, control & rights (to land & forest resources (including carbon rights) – including through safeguards implementation	- Stakeholders' participation in reforms - Create equal access to land by all groups - Institute compensation mechanism
SO5: Land use zoning and planning	• Eviction of smallholder farmer • conflicts and divergent interests within the communities	• Effective compensation mechanism for losers

	Politicization of community decisions	• Strengthened efforts to educate communities on their rights and responsibilities
SO6: Sustainable Forest Management	• Elite capture of economic opportunity • Depression of vulnerable groups due to unstructured access • Loggers unwillingness to adopt low destructive methods of harvesting • May encourage commercial forestry • Increased value of forest products might increase the demand for raw materials causing illegal logging, forest degradation and loss of carbon	- Effective participation of all stakeholders - Enhancement of CBFM - Dialogue and engagement of loggers to reach a consensus - Regulatory mechanism to control SFM
SO7: Enhancement of Forest Carbon Stocks	• Unclear rights to carbon may result in conflicts • Inequality in benefits sharing from carbon which huge amount can accrue to large-scale forest/land landowners	- Clearly defined rights, roles, and responsibilities - Policy for effective benefits sharing mechanism
SO8: Agricultural Intensification	• The scarcity of non-forest land for farming which may lead to food insecurity • Unwillingness by landholders to limit agricultural land • Attachment to cultural practices may hamper adoption of the practice such as improved seedlings • Dumping of food crops for cash crops	- Adoption of CSA - Provision of inputs to increase productivity - Effective land use plan - Policy for efficient PES - Advocacy and awareness for adoption of the sustainable practice
SO9: Sustainable Alternative Energy	• Low buy-in by stakeholders due to the high cost of energy • Low adoption due to the high cost of access/technology • Lack of capacity and insufficient funding can lead to project funding • Cultural attachment to fuelwood can hinder adoption of the renewable energy • New technology may displace indigenous knowledge, skills & practices	• Ensure the cost of a fuel-efficient stove is affordable even for the most disadvantaged households. This could be done through financing or lowering taxes on imports of raw materials and other equipment used in the industry - Coordination among relevant agencies in the provision of energy - Certification of energy source - Adoption of Low-cost technology - Integration of renewable energy to development policy
SO10: Livestock management	• Low adoption of ranching due to the coat of inputs such as Increased labor requirements to manage feedstock production & livestock • Social exclusion of women and vulnerable groups in handling large herds/breeds • Displacement of local enterprises by larger-scale businesses leading to loss of livelihoods and conflicts	- Provision of subsidy and incentives to encourage adoption - Empower women and vulnerable groups to participate - Empower smallholders investment in livestock management
SO11: Alternative Livelihood	• Lack of political will to enhance investment • Low Market value for products • Low investment by government and private sector • Elite capture of the opportunity and exclusion of women and other vulnerable groups • The monopoly of the private sector in setting market prices of products increasing price and forcing scarcity	- Funding for investment in alternative livelihood - Increase market value for goods - Scale up investment in the non-forest sector and targeting rural areas - Promote payment for ecosystem services - Ensure equal representation of all groups and households - Strengthen policy and legal framework to regulate activities

	• If not well managed can lead to displacement of Local enterprises by larger-scale businesses	
SO12: Equitable Benefit Sharing	• Delay in the implementation of benefit sharing mechanism • Cultural practices likely to limit equitable benefit sharing mechanism putting women at disadvantage end • Dominance and benefits capture by elite groups • Inequality in benefits sharing from carbon and PES which huge amount can accrue to large-scale forest/land landowners • Politicisation of benefit sharing mechanism	- Define an efficient mechanism for benefit sharing - Ensure representation by all groups - enhancing stakeholders' participation and decision making - Strengthen policy and legal framework for benefit sharing
SO13: Watershed protection	• Conflicts and divergent interest in watershed resources and management	- Educate stakeholders and communities on benefits rights and responsibilities for the watershed protection
SO14: Grievance Redress Mechanism	• Delayed action by government in developing the GRM mechanism which could demotivate community participation in REDD+. • Misuse of the grievance mechanism to the disadvantage of vulnerable groups • Displacement of existing customary practices	- Strengthens GRM - Enhance institutional capacity to carry out GRM - Strengthen policy and legal framework to enhance effective delivery on GRM - Integrate customary practices in GRM
SO15: Protected Area System	• Loss of traditional use of forest • Restricted access can result in conflict and nonconformity by communities • It can result in the conversion of agriculture land to timber plantations capable of reducing food production; employment and income of communities.	- Provision of alternative livelihood - Proper engagement for consensus building in a conservation - Strengthen policy and legal framework for protected area system (PAS) -
SO16: Market and Value chain for Forest Products	• Low investment due to the harsh investment environment • Economically driven forest management can enhance overexploitation and unsustainable practices • Increased value of forest products might increase the demand for raw materials, causing illegal logging, forest degradation and loss of carbon • The monopoly of the private sector in setting market prices	- Provide incentive and political will for investment - Regulations of practices and market - Provide incentives for multiple investors
SO17: Sustainable Financial Mechanism	• Least attention to forestry and conservation in budgetary allocation • Complex process in the application process to international funds	- Advocacy and awareness of other ecosystem goods and services other than economic gains - Advocate funding and budgetary allocation for resource management
SO18: Sustainable Mining	• Corruption which can influence EIAs to implement sustainable land use plans • Solid mineral mining is in the federal legislative list which enhances conflicts in the sector • Investment in the mining sector is often capital intensive which may limit the capacity of the private sector to invest	- Enables and regulates Public-Private-Partnership to deliver public goods - Inter-sectoral collaboration to enhance the sustainability of the sector - Incentives for investors

S019: Capacity Building	Women may be excluded from - capacity building for REDD implementation Deprivation/Social exclusion of people with disabilities	- Involvement all stakeholder in capacity building - creating avenues for involvement of people with disabilities in skill acquisition and capacity development

12.5 Likely Impacts on Strategic Options

The strategic objectives/proposed interventions for REDD+ implementation in the R-PP document from both the national and reconnaissance surveys were matched against their perceived level of impacts by community stakeholders and presented in the table below.

Table 12.7: Likely strategic objectives/proposed interventions impact on strategic options.

	National		North Central		South – West		South-South				North West						North East		South-East			
			Nasarawa		Ondo		Rivers		Aks		Kano		Kaduna		Kat.		Taraba		Enugu		Anambra	
Rating Impact	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Agricultural intensification	2		2		2		3		3		1		1		1		3		2		3	
Agroforestry system	3		2		3		3		3		1		3		3		3		2		3	
Irrigation system	2		2		3				2		3		2		2		2		2		3	
Reforestation and Afforestation programme	3		2		2		3		3		3		1		3		3		3		3	
Capacity strengthening for forest protection	3		2		2		3		3		3		3		3		3		3		3	
Sustainable Fuel Wood Lots	2		3		2		2		2		3		3		2		2		2		3	
Efficient alternative energy	2		2		2		1		1		2		2		3		1		2		3	
Strengthening local institution for forest protection	2		2		2		2		2		3		3		3		2		2		3	
Strengthening legal and policy framework.	2		1		2		2		2		3		3		3		2		2		3	
Investments in sustainable forest-based products	2		2		1		1		1		3		3		3		1		2		1	
Strengthening participatory community-based forest management	2		2		3		2		2		3		3		2		2		2		2	
Watershed protection and management	3		2		2		3		3		3		2		2		3		3		2	
Capacity strengthening for forest protection	3				1		3		3		3		2		3		3		3		3	

Investments in sustainable forest-based products	2		1		1		2		2		3		3		1		2		3		3	
Cattle Ranching to curb farmers herdsmen crises	0		2			-3	0		0		3		1		3		0			-2		-3

1= Low positive impact, 2=Medium positive impact, 3=High positive impact
-1 = Low negative impact, -2= Medium negative impact, -3= High negative impact
0= No impact

12.6 Suggested Enhancement Strategic Options for Further Consideration in line with the environmental and social situations

12.6.1 Compliance with nigeria's legal and policy provisions and world bank safeguards.

As part of the process for the completion of the SESA document, critical review of the proposed strategic options was carried out using various approaches. The review included the analysis of mitigation options, environmental and social benefits and environmental and social risks of the 19 strategic options. The approach for the review involved:

i. In-house review by SESA Team
ii. Review by Quality Assurance Team
iii. Stakeholders' workshops involving safeguards working group, national and state REDD+ secretariat, MDAs, CSOs, among others

The analysis was to determine alignment of the mitigation options, benefits and risks with the strategic options; their relevance, gaps overlaps and compliance with Nigeria's legal and policy provisions and World BankSafeguards.The review considered the work of the consultant plausible and thereby made very little input into the strategic options. The table below shows the outcome of the analysis and the few areas enhanced in the strategic options. .

Table 12.8: Analysis of alignment of the mitigation options, benefits and risks with the strategic options

Strategic Category	Strategic options	Strategic activities
Institutional framework	SO2: Inter-Sectoral/Inter-agency Coordination	• Build and strengthen capacity for participation
Institutional framework	SO3: Multi-Stakeholder Synergy and Participation	• Empower women, youth and vulnerable groups to participate in decision making • Strengthen local participation and decision making at all levels
Land reforms	SO5: Land use zoning and planning	• Build the capacity of stakeholders especially communities for implementation of land use plan.
Forestry	SO6: Sustainable Forest Management	• Establish commercial tree woodlots of fast growing species to carter for demand
Forestry	SO7: Enhancement of Forest Carbon Stocks	• Ensure conservation/protection of high carbon stock areas • Define carbon rights and ethics for implementation • Establish benefit-sharing mechanisms • Use performance-based approach for sharing benefits
Agriculture	SO8: Agricultural Intensification	• Adopt Climate-Smart Agriculture (CSA) & CA • Agricultural intensification • Certificate of products from verified farms • Develop policy measures to increase value-chain of agricultural products • Enhance capacity for productivity • Integrated Agriculture LUP • Promote extension services
Forestry	SO13: Watershed protection	• Reforestation of the watersheds

Strategic Category	Strategic options	Strategic activities
		• Strengthen policy and legal reforms for watershed protection and management • Capacity building for watershed management • Integrate watershed protection into sectoral policies • Provision of alternative source of livelihood
Institutional reform	SO17: Sustainable Financial Mechanism	• Multiple funding for forest management • Ensure transparency and accountability
Mining	SO18: Sustainable Mining	• Conduct EIA in project areas before license is issued to companies • Enforcement and monitoring to ensure compliance with the mitigation procedures aand standards • Coordination among related MDAs on the review of compliance level with EIA
Institutional reform	S019: Capacity Building	• Capacity building of stakeholders at all levels

13.0 INTEGRATION OF SESA AND ESMF INTO NATIONAL REDD+ STRATEGY

The National REDD Strategy is a framework that includes REDD+ activities. For now, the CRS REDD+ strategy, the R-PP, INDCs document and the issues from the SESA study at the community level serves as the foundation for the linkage between SESA, ESMF and REDD+ strategy. The REDD+ activities will result in potential benefits as well as risks through the implementation of the strategic activities at local, state and national level. For successful implementation of REDD+ activities, it is required that the issues of benefits and risks are also thoroughly addressed.

SESA therefore ensures in addition, that projects, investments, initiatives and other types of mitigation/intervention demonstrate that the activities undertaken should practically fall within the provisions of the National Strategy. On the other hand, the strategy ensures a project, investment, initiative or other type of interventions cannot be implemented outside the National Strategy as also enshrined in the CRS REDD+ strategy, R-PP and INDC.

Moreover, the National REDD Strategy gives the guides, method and approach for impmenetation of intervention activities. For example, programs that cover areas such as agricultural development, reforestation, conservation, land tenure security etc, must be integrative, and align with the criteria and World Bank safeguard standards.
Different approaches can be employed to ensure benefit particularly as it concern forest conservation or discourage deforestation.

13.1 REDD+ Targets

REDD+ is a mechanism that intends to compensate countries for demonstrated efforts in reducing deforestation and forest degradation in their territories particularly in the local communities. The programme is executed in three phases comprising the Readiness, Implementation of REDD+ Strategy (policy reforms/measures & investments) and Performance-based payment (Positive incentives for verified performance). The transition from REDD+ readiness to implementation has been systematically carried out in the REDD+ mechanism over the past years in many African countries (i.e.), Nigeria using CRS as a model has completed the readiness phase and extending the readiness to other states. With increasing international opportunities to finance REDD+ implementation, CRS is inroad to implementation phase as other states key into the programme with the target of covering the entire states

Good forest management measures and policies will secure the survival of African forest and indeed the diverse forest in Nigeria, enhance the wellbeing of the People particularly at the local communities and mitigate the impact of Climate Change. Moreover, environmental, social, cultural, economic and other benefits will increase. It can both maximize forests' contribution to climate change mitigation and help forests and forest-dependent people/communities adapt to new conditions caused by climate change. Improved/sustainable forest management practices for climate change mitigation and adaptation need to be planned and implemented in such a way to garner multiple benefits for the communities. However, this forest management strategy must be evaluated to analysis the potential positive and negative environmental and social impacts/risks to the communities and multiple stakeholders with mitigations.

13.2 SESSA and REDD+ strategy

The SESA is a tool that seeks to integrate social and environmental considerations into policymaking processes, leading to making REDD+ policies and programs more sustainable. It supports the design of the National REDD+ policy framework, including the National REDD+ Strategy. SESA is therefore essential for avoiding the negative impacts and enhancing the positive REDD+ benefits, especially in terms of socio-economic, cultural, and livelihood development gains, governance enhancements, and wider environmental and social benefits.

SESA strategic dimension helps in refining the REDD+ strategy by assessing the responsiveness of the strategy options to Environmental and Social(E&S) priorities in the forestry sector and the opportunity cost of conserving forests through cost-benefit analysis instrument.Furthermore, SESA set precedence for ESMF which establishes the framework for E&S management of future projects, policies andactivities through which the refined REDD+ strategy is implemented as guided by the ESMP.

Also, the ESMFis prepared when REDD+ strategic option has been refined/enhanced including strategic interventions/activities, mitigation options to address the E&S risks. Therefore, in the implementation of REDD+ strategy, SESA/ESMF ensures that REDD+ maximizes social, cultural,economic and environmental good whilst avoiding or mitigating harm.REDD+ Social and Environmental Standards (REDD+ SES) support the design and implementation of government-led REDD+ programmes, to help ensure respect for the rights of local peoples and local communities and to help generate significant social and environmental benefits. The standards explicitly go beyond minimum safeguards, and identify and elaborate additional benefits. The link between SESA and REDD+ strategy is represented in the diagram below.

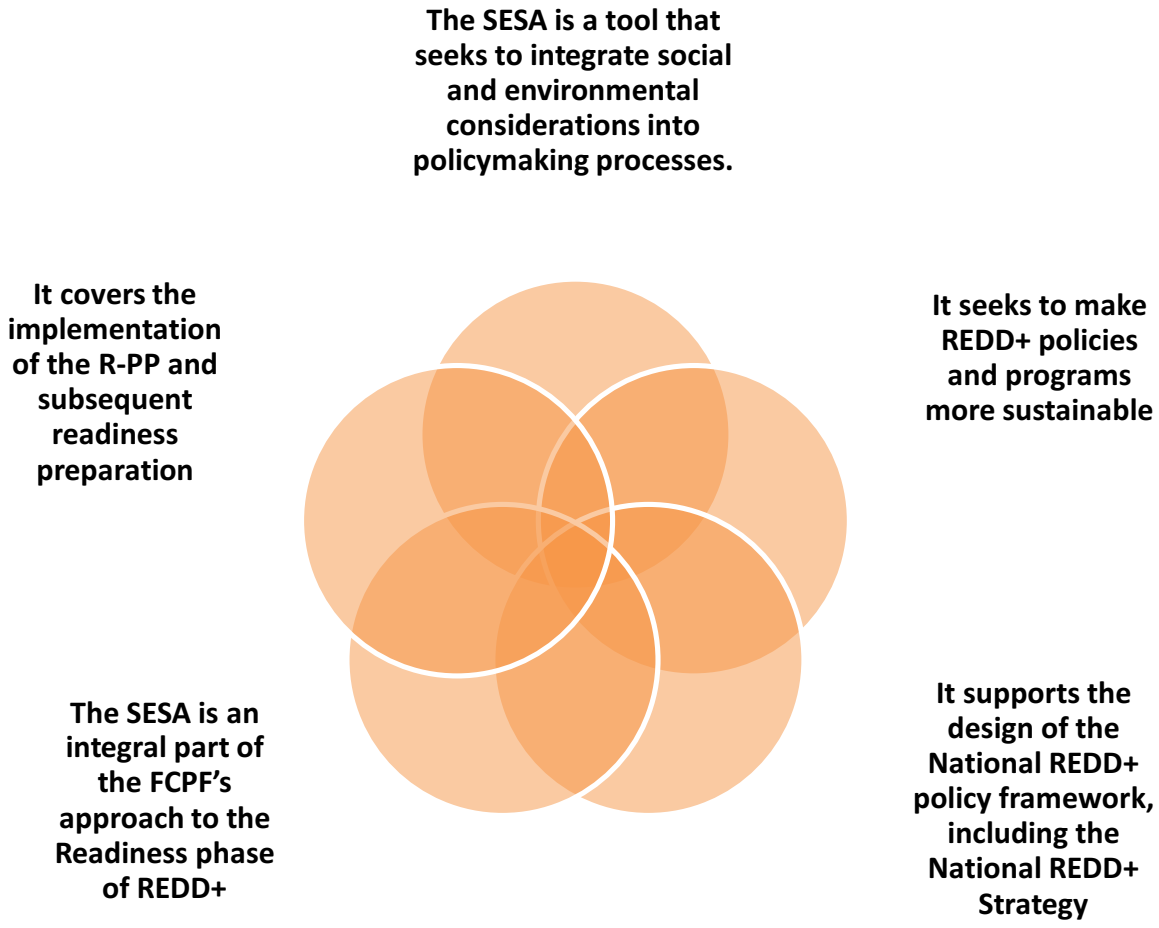


Figure 13.1 : Link between SESA and REDD+ strategy

13.3 ESMF and REDD+ strategy

ESMF component involve REDD+ strategy options and applicable safeguard policies.
It assesses risks and potential impacts associated with REDD+ activities that may occur prior to implementation. The Framework sets out the principles, guidelines, and procedures to assess environmental and social risks, and proposes measures to reduce, mitigate, and/or offset potential adverse environmental and social impacts and enhance positive impacts and opportunities of said projects, activities, policies and /or regulations

The ESMF in line with the REDD+ strategy ensures:

- Consultations with concerned stakeholder groups;
- Capacity building measures
- Environmental and social impact screening, assessment, and monitoring
- The inter-institutional arrangements for the preparation of time-bound action plans for mitigating adverse impacts.

The ESMF will provide the overall framework for addressing social and environmental risk management issues in REDD+ activities that are implemented beyond the readiness preparatory work. Relevant documents will be reviewed to support preparation of environmental and social measures to mitigate all identified impacts as stated in the work plan. The mitigation

measures and environmental monitoring (including parameters and scope) for the different phases of the project development shall be clearly carried out. Wide-ranging consultations will be carried out. The Link between ESMF and strategy implementation is presented below.

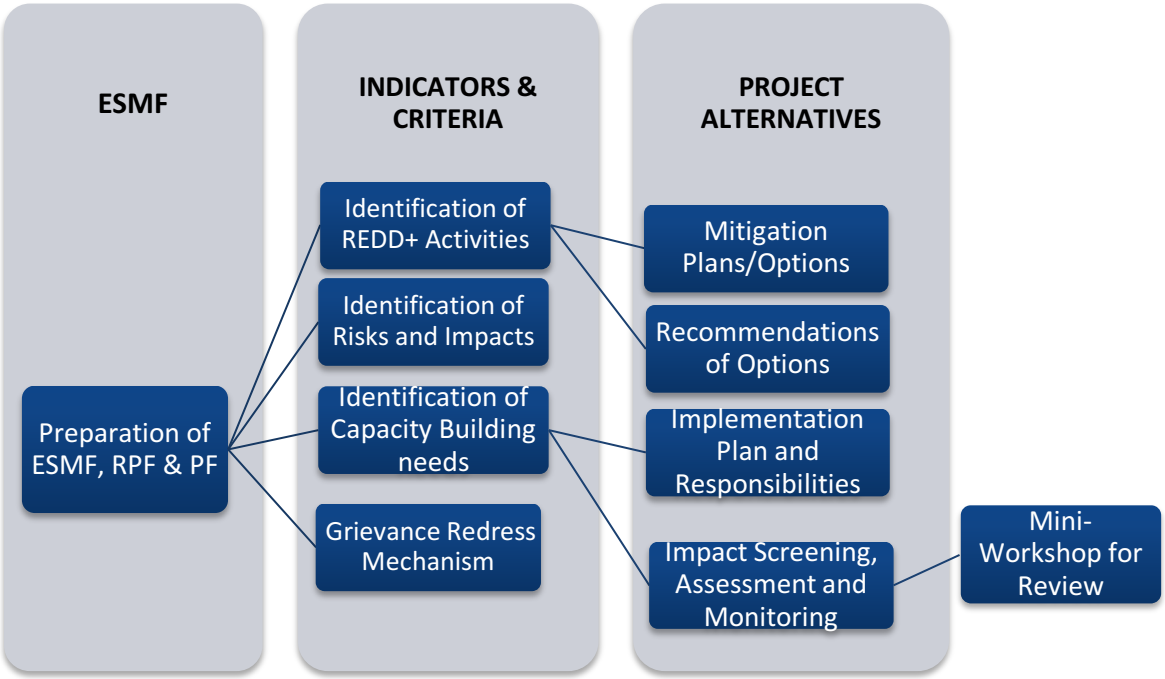


Figure 13.2 : Link between ESMF and strategy implementation

13.4 Expected alignment of SESA/ESMF and REDD+

- Rights: REDD+ strategy recognizes and respects rights to forest resources (including customary claims by forest dependent peoples) and also those of the vulnerable groups (Women and Landless)
- Compliance: REDD+ strategy adheres to relevant international environmental and social safeguards including the World Bank safeguard standards.
- Good governance. Good governance is one of the key principles of REDD+: REDD+ strategy is implemented in the context of broader good governance objectives including transparency and accountability
- Land-use planning**:** Land use plans are responsive to the opportunity costs of forests and E&S sustainability
- Participation and adequate information: REDD+ Promote inclusive, full and effective participation of all stakeholders in the REDD+ process to give an equal voice and take into account the priorities and concerns of all stakeholders, from the national to the local level. All relevant stakeholders have the opportunity to participate fully and have timely access to appropriate and accurate information.

13.5 Safeguard policies and existing Laws

Many areas affected by deforestation is characterized by corruption, weak institutions and poor governance frameworks which may limit the possibility for REDD+ to actually deliver the envisioned social and environmental benefits. This impose greater risks on the achievement of the gains of the programme. Also unclear tenure system is an institutional weakness that may prove to be particularly challenging for the successful implementation of REDD.

With weak institutions and governance with economic aspirations will the forests sector to excessive exploitation and conversion to other uses. Moreover, without clear tenure there is a risk that less powerful stakeholders, such as poor forest dependent local people, are made worse off if large scale investments in plantations and other commercial agriculture are carried out. Also, Protected Area system of forest protection approach for implementing REDD+ is followed is likely to restrict access by communities in proximity to the forest. Similarly, lack of capacity in relevant MDAs to enforce their legislative framework for environmental and natural resources management and are likely to have difficulties to manage potential negative effects from REDD+ related investments.

To deal with the challenges highlighted, the WB's Safeguard Policies and the existing policy and legal framework are integrated into the REDD+ policy making process. Further, the implementation of REDD+ project/interventions/activities under Grant Agreements and Emission Reductions Programs must operate within international acceptable standards. Nigeria under the FCPF grants will comply with the WB's Operational Policies and Procedures, taking into account the environmental and social risks and mitigation needed for effective management of the REDD+ activities, provide sustainable alternative livelihood for the forest dependents communities as well as participation of the communities in decision making that may affect them, respecting their rights in line with the international standards and national laws

13.6 SESA implementation plan

REDD+ is a dynamic programme requiring appropriate framework for its effective implementation. Considering the various critical issues and risks such as tenure rights, access to forest, livelihood displacement, relocation and resettlement, restriction to forest resources, carbon rights, forest governance, benefit distribution and safeguards envisaged in the process, implementation plan must ensure delivering just and equitable REDD+ benefits. SESA implementation must be well planned to ensure a series of activities as stipulated in the strategy deliver ample benefits and reduce risk.

Monitoring Plan

Monitoring plan will involve participatory, effective and efficient monitoring and information system. The monitoring and evaluation system will be designed for the social and environmental impacts of the REDD+ process, with monitoring indicators and a corresponding evaluation procedures and methodology. This will provide management and stakeholders with the information required for effective implementation of REDD+ activities.

Monitoring:

Monitoring aims to correct implementation approaches and processes guided by projects document and standards. Monitoring supports analyses and management of the envisaged environmental and social impacts of REDD+ projects and activities and any resulting changes catalyzed by those interventions. Continuous monitoring of the project results will constitute a key management tool for the REDD+ Secretariat in charge of the implementation process. The REDD+ secretariat will determine the regularity of monitoring reports in line with the strategy document and standards. However, a minimum of 6 months can be used to monitor the program's delivery. Under the FCPF, monitoring reports will be used to prepare FCPF annual reports and at specific intervals.

Evaluation:
Evaluation aims at checking alignment of the project implementation with policies and providing lessons learnt for reflection and amending strategies and implementation in a long term perspective. This can be done internally (self-evaluation) or externally (Independent evaluation). Independent evaluations would be planned within the following period:
(i) at mid-term in order to assess progress and formulate recommendations to improve the delivery of envisaged results; and
(ii) at the end of the project, in order to establish a clear picture of program achievements and recommendations for future and long term plans

Potential environmental and social impacts/ risks specifically to each intervention will be identified; monitoring indicators will be developed for monitoring and evaluation of the success of the project and efficiently monitored. This be anchored by M& E unit within the REDD+ secretariat at all levels. REDD+ M&E Framework for environmental and social safeguards be linked or incorporated into the overall REDD+ Monitoring and Evaluation (M&E) system to avoid duplication of structures (details is provided in the ESMF document).
The key principles guiding the Monitoring and Evaluation Proposal are that:

- Capacity for M&E unit be built and strengthened
- M&E for safeguards should be transparent
- The approach should be participatory involving all stakeholders
- Consultative process should be established and local communities/CSOs should be able to provide feedback into the system

13.7 indicators, monitoring and evaluation proposal

13.7.1 Indicators to monitor:

ESMF document contains monitoring indicators. This will support the monitoring of various interventions/activities at the different sectors and levels. The indicators should have the following characteristics:

1. “Data collection methods and approach are accessible, understandable, interactive and inducing participation to the local stakeholders”.
2. Awareness and understanding of local stakeholders on the purpose of the indicators process and their involvement in it,
3. follow-up” and feedback on the status of the activities in alignment with standrads .
4. “Flexibility to allow for refinement of the indicators set and data collection methods”.
5. Ensure input from stakeholders in the process
6. “Integrate stakeholders’ inputs into the indicator set and data collection methods”
7. Gather information about stakeholders’ preferences for further communication, involvement and follow-up of the process.

13.7.2 Criteria for Selection of the Indicators

The forst step in the selection of the indicators is the identification of the environmental and social issues/risks, this will be followed by definition of the indicators, and selection of indicators will be carried out. This will be elaborated in the ESMF. The indicators will be based on policy relevance, alignment with WB’s standard, analytical soundness and measurability.
The criteria for policy relevance include:

- Alignment with international best practices
- represent the national circumstance including environmental conditionscapture the policies relevant to environmental, economic and social issues
- dynamic, flexible and responsive to changes in environment and human activities

- Specific on interventions//activities to capture local environmental concerns; and
- Referencepoint for comparison purposes and decision.

For analytical soundness, indicators should:

- be theoretically sound in technical and scientific terms;
- be based on international standards and international consensus about their validity; and
- lend themselves to being linked to economic models, forecasting and information systems.

measurability, the data required to derive indicators should be:

- readily available at a reasonable cost/benefit ratio;
- adequately documented and of known quality; and
- able to be updated at regular intervals in accordance with given standards .

13.7.3 Types of Indicators Proposed

Indicators will be based on sectors and strategic options. A series of simple biophysical and socioeconomic environmental indicators are developed in the ESMF to assist in the periodic monitoring and evaluation of the implementation of the strategic options and interventions. These cuts across Natural resource/ecological/biophysical indicators; Economic indicators; Socio-cultural Indicators. Policy and legal framework indicators

13.7.4 Consultatione process for M&E

A consultative process built into the M&E system will support obtaining feedback from affected persons, women and vulnerable groups identified, local communities/farmers, CSOs and other stakeholders. It is therefore pertinent to integrate Free prior and informed consent (FPIC) as well aas detailed information about the project and potential impacts should be provided to potentially affected persons/communities.

13.7.5 Training and Capacity Building for M&E of Safeguards

Capacity building is very important in the monitoring plans. Capacity ofM&E units is appropriate to enable stakeholders to participate effectively in the monitoring and evaluation of environmental and social safeguards. This is to ensure that an effective feedback, and information sharing mechanisms are put in place by the implementation of the interventions process.

13.7.6 M & E Framework

The M&E is a continuous process of performance reporting (annually with semi-annual update for FCPF reporting) and tends to limit itself to the assessment of the effectiveness and efficiency in program delivery.The evaluation takes place at mid-term/phase and terminal phase). Thus the framework includes:

- The Result Chain and Logical Framework, which together provide a strategic overview of the interventions, by illustrating the main results to be achieved, how they link to each other and their associated performance indicators.
- The Performance Measurement Framework (PMF), which is the key internal management tool to be used by the REDD+ Secretariat to manage the collection, analysis and reporting on the performance data capturing key elements of expected results of interventions

14.0 CONCLUSION AND RECOMMENDATIONS

14.1 Conclusion

REDD+ as a climate change mitigation strategy to protect and better manage forests, contributing to the global reduction in the emissions of Green House Gases within developing countries is currently involving communities and other stakeholders in the drives for change in action towards mitigating climate change. Thus it involves mechanism that will provide opportunities for sustainable development and conservation of biodiversity focusing on reducing of deforestation, reducing forest degradation, conservation and enhancement of carbon stocks and sustainable management of forests,

Before now, some communities have utilized their local knowledge, customs and traditions in regulating resource use through indigenous conservation methods and institutions. While for some, resource utilization was based on laissez faire principle, where there was little control over resource use. However, there was control mainly against external influence of neighbors and non-indigenes to attract access fees. Also specific resources are controlled based on totemic purposes. In the context of REDD+, there is need to secure the long-term use and sustenance of the natural resource base for diversifying and enhancing the livelihoods of communities and strengthening their capacity to respond effectively to climate change.

REDD+ is designed to promote sustainable management of the forestry sector through the promotion of concerted rural development in the country in the short term to be followed by embracing REDD+ objectives and practices in full. REDD+ is a beneficial programme, however, the analysis of strategic options shows there are likely to be both environmental and social implications (positive and negative impacts) with negative feedback if options are not implemented effectively, efficiently and equitably for sustainability.

Therefore, SESA study revealed that, addressing environmental and social issues such as governance, rights, is the bedrock for effective implementation of the REDD+ programme and the sustainable management of the forests. The REDD+ programme has been designed with the assumption that a sound governance system will be central to the success of its policies and financing.

14.2. Recommendations

From the environmental and social issues identified and the analysis of indicative strategic options, the following recommendations are made:

a. Environmental

- The Federal Department of Forestry (FDF) through its Strategic interventions should demarcate the forest boundary; control the expansion of activities such as CSA, timber and fuel wood lots and other interventions into the forest area to reduce drivers.
- The ministry of Environment, Agriculture and FDF should ensure that alien and invasive species should be control not to displace the indigenous species. Moreover, interventions should not displace forest cover.
- The Ministry of Environment through NESREA should curtail pollution arising from increase inputs and waste from agriculture, mining sites and other activities

b). Social

- Effective community-level institutions are required to oversee the development and implementation of agreed forest management actions and ensure that costs and benefits

are shared equitably among local forest users. If current or planned REDD+ interventions are to build on effective community forestry experiences,stakeholder engagement and governance processes will need to address the following challenges:

- The REDD+ implementation Agency FDF in particular should ensure that development opportunities accruing from the REDD interventions should benefit both women and men equally
- Relevant MDAs in natural resource management including the ministries of Environment, Agriculture, natural resource management, Climate Change and Forestry etc. including CSOs should aim at promoting gender equality in natural resource management at National and State and Local Government levels, especially in the development and implementation of National and State action plans.
- Considering that the proportion of women without land is high in most of the pilot sites, the National REDD+ should consider a collaboration to engage the existing traditional institutions of local communities so as to utilize women cooperative/farmer groups to give more access to land to women.
- While it is proposed that the use of firewood and charcoal should be discouraged among rural women, relevant government agency in collaboration with civil society group that advocates for renewable energy should consider training to various women groups on the utilization of improved biomass cooking stoves. These stoves utilize various agricultural wastes such as rice rusk. At the end of the training, these stoves should be sold at subsidized rates for use.

c). Policy and Legal

- The legislative arm at the national, state and local levels should carry out a comprehensive review of policies, laws and programmes on land use and secure rights to natural resources in Nigeria. To achieve this, the national assembly with law making powers over forest resources to be re-examined to enable national legislation on REDD+.
- REDD+ Programme also needs to support land reforms that strengthen the land rights of the poor, women and marginal groups. Government at the federal, state and local levels should allocate sufficient resources for effective implementation of reform policies and laws
- The relevant agencies to REDD+ particularly Forestry unit and ministry of Environment and justice should encourage communities to make bylaws or strengthen any existing ones that specifically address and discourage the existing unsustainable open access regime of forest lands and resources and the practice of shifting agriculture influenced in part by land ownership interest. Legal recognition need to be accorded to these laws and formerly integrated into customary and community byelaws.

d). Institutional

- The relevant MDAs in forest management particularly natural resources, forestry, environment and agriculture should build the capacity of local authorities in addressing the drivers of deforestation, financial management, benefits sharing mechanism and conflict mitigation and resolution
- The REDD+ programme improves interaction among government MDAs to avoid duplication of efforts. Information and experience sharing will ensure that duplication of efforts is minimized and/or eliminated as much as possible.
- There is a clear gap in cross-sectoral coordination in joint planning and implementation of projects and programs. The Sectoral coordination agency such as ministry of environment, natural resources, department of forestry planning commission need to be

seriously looked at and synergy coordination office should be established and be accountable to a higher level of government

- The REDD+ secretariat through the leading agency should encourage Cluster" meetings between relevant ministries (i.e. Inter-ministerial) to increase awareness of activities in different ministries and promote common understanding of forest management issues among different ministries..
- The REDD+ secretariat to address the capacity building needs of actors from government, civil society, local communities and businesses. To ensure that the capacity building measures offered to stakeholders address their weaknesses as well as their respective roles and functions, it is suggested that periodic monitoring be undertaken by the REDD Secretariat. The strengthening of stakeholders' capacities across the various levels in the implementation of regulatory policies and law enforcement for the sector is therefore of particular importance. To ensure the country derives the most benefit from REDD+ implementation, there is need to strengthen the capacities of stakeholders at the local, state and national levels.
- The REDD+ secretariat and the leading agency to build local capacity for addressing the drivers of deforestation, financial management, benefits sharing mechanism and conflict mitigation and resolution. The Chiefs and Elders and Town Councils are the most important authorities that can influence improved management of forest resources
- REDD+ programme should ensure stakeholder training in sustainable resource utilization and conservation, including sustainable farming, land use planning and implementation. The training on skills acquisition and other forms of capacity development for farmers and other resource users is imperative in the various communities. Farmers need to be trained on intensive method of farming rather than extensive method that requires more land. Moreover, other resource users need to be trained on sustainable resource management.
- The Government at federal, state and local government should recognize existing community institutions and supporting their formalization as well as engaging effectively with existing community organizations that would facilitate implementation of the REDD+ programme and efficient management of forest resources.

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Annexes:

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ANNEXES:

Annex 1: Questionnaire used for field data collection

QUESTIONNAIRE FOR
STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT STUDY IN REDD+ PILOT SITES IN NASARAWA AND ONDO STATES

Dear Respondents:
Reducing Emission from Deforestation and Forest Degradation (REDD+) is part of the Global Climate Change policy which is Strategic Environmental and Social Assessment which is meant to find out environmental and social issues in the course of promoting the conservation of forest and ecosystem protection. We therefore seek your response on the questions given below and assure you that any information given has no negative consequences and shall be treated with utmost confidentiality. Please tick and provide answers where appropriate based on your personal experience, conviction and observations as relevant to you and your community

This questionnaire is a base line study for the project.
Please ticks where applicable in the box provided and write necessary.
This should be filled by the Assessor:

STATE ☐☐ **NAME:……**	**LGA** ☐☐ **Name:……**	**Locality:** ☐
EA **Name:** **……**	**EA Code** ☐☐☐☐	**RIC** ☐☐☐☐ **SECTOR** ☐
HH NO. ☐☐☐	**HOUSEHOLD SIZE** ☐☐	**HEAD OF HH** ☐
INTERVIEW STATUS: Complete (1) Partially Completed (2) Not at Home (3) Move away (4) Refused (5) Household not located (6) ☐		

This section should be filled by the Household

Q/N	QUESTION ITEM	RESPONSE	CODE	SKIP	ENTRY
1.	Relationship of Respondent to the Head of Household	Head of HH …… Spouse …… Child …… Step child …… Grandchild …….. Brother/sister …….. Niece/nephew…… Brother/sister-in-law…….. Parent …… Parent in law …… Other relative ……	1 2 3 4 5 6 7 8 9 10 11		☐
2.	Sex of the Respondent	Male …….. Female ……	1 2		☐
3.	Age of the Respondent	_____ years			☐
4.	Marital status of the Respondent	Never married …… Currently married …….. Separate …… Divorced …… Widowed ……	1 2 3 4 5		☐
5.	Highest educational level of the Respondent	None …….. Below Pry …… Traditional Quranic …… Primary …….. Junior Sec …….. Senior Sec …… ND/NCE …… HND …… University Degree. …… Post graduate ……	1 2 3 4 5 6 7 8 9 10		☐
6.	Occupation	Farming Charcoal business Fuel wood business Logging Gathering NTFPs Mining Bricks making Hunting Civil/Public Servant Others (Specify) ……..	1 2 3 4 5 6 7 8 9 10		☐
7.	Income Class (Monthly)	Less than ₦20,000.00 ₦20,000.00 - ₦40,000.00 ₦41,000.00 - ₦60,000.00 ₦61,000.00 - ₦80,000.00 ₦81,000.00 - ₦100,000.00 Above ₦100,000.00	1 2 3 4 5 6		☐
8.	What is/are your other source(s) of income	Please provide list…….			☐

9.	Where do you mostly carry out your livelihood activity	Open/free area/general area Forest reserve Degraded forest Others	1 2 3 4		☐
10.	For how long have you been involved in your occupation:	0-5 years 6-10 years 11-15 years 16-20 years 21 years and above	1 2 3 4 5		☐
11.	Apart from your occupation, what other source(s) of livelihood would you prefer:	Bee Keeping Snail farming Fish Farming Others (Specify)	1 2 3 4		☐

ENERGY

Q/N	QUESTION ITEM	RESPONSE	CODE	SKIP	ENTRY
1.	What is/are your Source(s) of Energy	Charcoal Firewood Kerosene Gas Others	**1** **2** **3** **4**		☐
2.	Why do you prefer the source(s) of energy	……			☐
3.	Where do you get this source of energy	Forest Reserve Community wood lot. Open Forest Others (Specify)	**1** **2** **3** **4**		☐
4.	What other alternative would you prefer	……			☐
5.	Why do you prefer this alternative?	……			☐
6.	What is the distance to the point of collection of this source of energy	……			☐
7.	How much do you spend per day per household on energy consumption?	a. N100-N200, b. N300-N400, c. N500 d. Above N500	**1** **2** **3** **4**		☐

8.	What is the estimate of quantity produced for firewood and charcoal	……			☐
9.	How much do you sell per quantity of measurement for firewood and charcoal?	……			☐
10.	Are you involved in fuel wood production?	1. Yes 2. No **3.** Don't Know	**1** **2** **3**		☐
11.	If yes, how much does it cost you to produce one bundle of fuel wood?	……			☐
	How far (distance) do you travel to fetch fuel wood?	……			☐
12.	How many bundles can you fetch per day? On return, how much do you sell one (1)) bundle of fuel wood?	……			☐
13.	How many do you sell per day?	……			☐
14.	Are you involved in lumber production?	1. Yes 2. No **3.** Don't Know	**1** **2** **3**		☐
15.	If yes, what is the cost of harvesting one (1) log of lumber?	……			☐
16.	How much do you sell one (1) log of lumber? Please specify other costs involved in lumber production	……			☐
17.	Will REDD+ or any government conservation Process have any meaning you in any way?	Yes No Don't Know	**1** **2** **3**		☐
18.	If yes/no, explain	…… ……			☐
19.	Do you know that there is increase in loss of trees?	Yes No Don't Know	**1** **2** **3**		☐

20.	If yes, is the loss good for your environment?	Yes No Don't Know	**1** **2** **3**		☐
21.	What mitigation strategies do you recommend to guard against any loss?	……			☐
22.	Do you need support in your community?	Yes ( ) No ( ) Don't Know ( )	**1** **2** **3**		
23.	Have you receive any support from government at all?	Yes ( ) No ( ) Don't Know ( )	**1** **2** **3**		☐
24.	Is Government doing anything to reduce dependent on forest in your community?	Yes ( ) No ( ) Don't Know ( )	**1** **2** **3**		☐
25.	What strategies are included in government energy plans to reduce dependent on forest in your community?	……			☐
26.	What do you imagine yours Organization/group may be exposed to as a result of REDD+ implementation?	……			☐

LAND TENURE

Q/N	QUESTION ITEM	RESPONSE	CODE	SKIP	ENTRY
1.	Are you a land owner in your community?	Yes ( ) No ( ) Don't know ( )	1 2 3		☐
2.	How did you acquire the portion of the land you are now using?	By inheritance; by gift; by purchase; By Government allocation; By Traditional allocation	1 2 3 4 5		☐
3.	What are you currently using the land for?	Agricultural purpose Residential purpose Commercial purpose Mining; Others state	1 2 3 4 5		☐
4.	How long have you been using this land?	Between 1-10 Years; 11-20 Years; 21-30 Years; 31-40 Years; Over 40 Years	1 2 3 4 5		☐
5.	What was in/on the land before you took over?	Crops; Economic Trees;	1 2 3		☐

		Forestry; Buildings; Others State	4 5 6 7		
6.	What titled do you have on this land?	L.G. R of O **C of O,** State **R of O** C of O, Federal **R of O** C of O, Others	1 2 3 4 5 6 7		
7.	What conflict do you have with your neighbors?	Boundary issues; Animal Grazing, Ownership dispute, others	1 2 3 4		
8.	What is commonest land dispute in your community?		--------		
9.	How are you resolving the disputes above?	1. In court; 2. Family meeting 3. Traditional Rulers, 4. Police, **5.** Arbitration, others	**1** **2** **3** **4** **5**		
10.	Are you aware of existence of reserves and parks?				
11.	Are you aware that Government prohibits deforestation in reserves and parks?	1. Yes ( ) 2. (No) 3. Don't know ( ).	**1** **2** **3**		
12.	Do you pay ground rent annually for the use of your land?	1. Yes ( ) 2. (No) 3. Don't know ().	**1** **2** **3**		
13.	Do you pay in cash or in Kind?	(a) Cash ( ), (b) Kind ( ), (c) None ( )	**1** **2** **3**		
14.	Who do you pay annual ground rent to in your area?	1. Traditional heads, 2. State Government 3. Local Government, 4. Federal Government, 5. Individuals/corporate organization, 6. others……..	1 2 3 4 5 6		
15.	Are you satisfied with the Government role in sustaining land resources in your area	1. Yes ( ) 2. (No) 3. Don't know ( )	**1** **2** **3**		
16.	Are there cases of community or Government double allocation of land in your area?	1. Yes ( ) 2. (No) 3. Don't know ( )	**1** **2** **3**		
17.	If yes, how was the case resolved? Community head, Traditional ruler, at police, religious leader, Government officials, ADR, others	----------			

18.	Are you satisfied with the land Tenure system in your area	1. Yes ( ) 2. (No) 3. Don't know ( )	**1** **2** **3**		☐
19.	Suggest an alternative land tenure you prefer	----------			☐
20.	What is the ownership status of forest in your community (you may choose more than one option if applicable)	1. Community 2. Family 3. Private 4. Government 5. Others (Please specify)	**1** **2** **3** **4** **5**		☐
21.	What is the source of Revenue for the community?	1. Forest concession 2. Mining fee 3. Loyalty for forest preservation/conservation 4. Tax of NTFPs 5. Others (Please specify)	1 2 3 4 5		☐
22.	Where do you carry out farming or other activities?	1. Community land 2. Private land 3. Government land 4. Others (please specify)	1 2 3 4		☐
23.	Which of these land is highly utilized	1. Community land 2. Private land 3. Government land 4. Others (please specify)	1 2 3 4		☐
24.	Do you know companies that carry out activities close to your community?	a. Yes b. No c. Don't know	**1** **2** **3**		☐
25.	If yes, name the company/ companies	……			☐
26.	Do all community members have rights to forest resources'?	1. Yes ( ) 2. (No) 3. Don't know ( )	**1** **2** **3**		☐
27.	Has there been any forest management activities/Projects carried out in your community?	1. Forest livelihood activities, 2. Forest regeneration project (tree planting) 3. Forest management plan 4. Others (specify)	**1** **2** **3** **4**		☐

Causes of deforestation and forest degradation		**Extremely High**	**High**	**Low**
I.	Large scale/ commercial agriculture			
II.	Small holdings agriculture			
III.	Logging/illegal logging			
IV.	Fuel wood harvesting			
V.	Charcoal production			
VI.	Over grazing			
VII.	Mining activities			
VIII.	Forest fire through annual bush burning			
IX.	Urbanization/infrastructural development			
X.	Outdated national or state forest laws			
XI.	Poor integration between MDAs			

XII.	Land/forest tenure laws			
XIII.	Weak Forestry Department			
XIV.	Absence of working forest Reserve Management plan			
XV.	High forest revenue target			
XVI.	Low timber fees			
XVII.	De-reservation of forest reserve			
XVIII.	High population growth driving demand on land/forest products			
XIX.	Inefficient processing of timber (e.g. making planks using chainsaw)			
XX.	Corruption in the forest sector			

GENDER

Q/N	QUESTION ITEM	RESPONSE	CODE	SKIP	ENTRY
1.	Do you have any women organizations/ groups in your community?	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ] If yes Name them	1 2 3		☐
2.	Do you think women activities have led to deforestation	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3	☐	☐
3.	If yes Name them				
4.	Do you share your ideas with other women in your group/association?	a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
5.	Do you partake in co-operatives?	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
6.	Do you attend your meetings	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
7.	Do women have equal right to forest and land as men?	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
8.	Do women participate in decision making for forest and land resource management in the communities	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
9.	Do you receive credit facilities from government or other organization	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
10.	Do women have access to natural resources in the communities?	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
11.	Are women entitled to carry out livelihood activities in your community	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐

12.	Have you participated in any capacity building programme for alternative livelihood	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
13.	Have you participate in any training to help conserve forest and land resources	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
14.	Do you have funding or other supports to help you carry out your activities	(a) Yes [ ] (b) No [ ] (c) Don't Know [ ]	1 2 3		☐
15.	Has there be any Specific actions to address the distinct needs of women	**Yes** **No** **Don't Know**	**1** **2** **3**		☐
16.	Do women have right to own land?	**Yes** **No** **Don't Know**	**1** **2** **3**		☐
17.	Do women have right to share in resources and other benefits	**Yes** **No** **Don't Know**	**1** **2** **3**		☐
18.	What challenges do you have in livelihood activities	**Yes** **No** **Don't Know**	**1** **2** **3**		☐
19.	Has there been any problem in the management of fund in women group? If yes please mention the problem	**Yes** **No** **Don't Know**	**1** **2** **3**		☐

COST BENEFIT ANALYSIS:

	Are you a member of any association?	Yes ( ) No ( ) Don't Know [ ]	1 2 3		☐
	If yes, what is the name of your association and its objectives?				

1. List the types of farming activities you engage in and No. of ha involved

S/N	Type	No. of ha	Yield/output
1.			
2.			
3.			
4.			
5.			

2. List the cost of producing one (1) hectare of each of the crops produced

_____
_____
_____
_____

3. List the other crops you produce from your farm

_____
_____
_____
_____

4. List the cost of managing these farming activities per ha

S/N	Type of farming activities	Cost/ha
1.		
2.		
3.		

5. What are the costs involved in charcoal production? Please list them

S/N	Type of activities	Cost/ha
1.		
2.		
3.		

Please state unit of measurement

6. Which institution is responsible for forest monitoring in your area?

1.	How often do they visit your community?	(a) Daily ( ) (b). Weekly ( ) (c). Fortnightly (Once in 2 weeks) () (d). Monthly ( ) (e). Yearly ( ) (f) Never ( ) (g) Others specify) ……	1 2 3 4 5 6 7		☐
2.	Does your community have meetings with government Ministries, Department or Agency in charge of forest?	1. Yes ( ) 2. No ( ) 3. Don't Know ( )	1 2 3		☐
3.	How often do you have such meeting?	(a) Daily ( ) (b). Weekly ( ) (c). Fortnightly (Once in 2 weeks) () (d). Monthly ( ) (e). Yearly ( ) (g) others (specify) ……	1 2 3 4 5 6		☐

7. How would you rank (1 to 5) their monitoring process one is low and 5 is high

Q/N	QUESTION ITEM	RESPONSE	CODE	SKIP	ENTRY

1.	Sustainable forest management practices are regularly communicated.	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐
2.	The relationships between the agencies and community are characterized by substantial mistrust and antagonism	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐
3.	Forest management agencies provide extension services to address issues of poverty and alternative livelihoods.	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐
4.	Provision is made by agencies to report practises that are unsustainable	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐
5.	Agency provides training to stakeholders on sustainable forest resource management.	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐
6.	Agency provides avenue for reporting problems and issues of concern on their activities.	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐
7.	Agency has contact persons to facilitate regular contact with the community	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐
8.	Contact persons from agency have sensitize the community on their rights to seek redress	Strongly agree Agree Undecided Disagree Strongly Disagree	1 2 3 4 5		☐

FOREST MANAGEMENT INTERVENTIONS					
Q/N	**QUESTION ITEM**	**RESPONSE**	**CODE**	**SKIP**	**ENTRY**
1.	Has there been any forest management activities/Projects carried out in your community NGOs, Private organizations, Forestry commission or any other agency?	Yes No	1 2		☐
2.	If yes, indicate the type of intervention	Forest livelihood activities, Forest regeneration project (tree planting) Forest management plan Others (specify	1 2 3		☐

			4		
3.	Which agency/agencies was/were responsible for the intervention?				
4.	When, was/were the intervention(s) carried out				
5.	Which community groups were involved in the identified intervention(s) (activities/projects)?				
Identify the extent to which the various groups were involved in the projects/activities (Specify project)					
6.	Planning/Design of Project	Not involved Marginally involved Moderately involved Highly involved	1 2 3 4		☐
7.	Decision making	Not involved Marginally involved Moderately involved Highly involved	1 2 3 4		☐
8.	Project Implementation	Not involved Marginally involved Moderately involved Highly involved	1 2 3 4		☐
9.	Monitoring	Not involved Marginally involved Moderately involved Highly involved	1 2 3 4		☐

COMMUNITY CAPACITY BUILDING FOR SFM					
Q/N	**QUESTION ITEM**	**RESPONSE**	**CODE**	**SKIP**	**ENTRY**
8.	Has there been any specific training on rights for your community?	Yes No Don't know	1 2 3		☐
9.	If yes, when was the training conducted?	Less than 6 months ago year ago Less than 5 years ago Over 5 years ago	1 2 3 4		☐
10.	Who conducted the training				
11.	Were you a participant in the training	Yes No	1 2		☐
12.	If No, who/which group was involve				

13.	How many other person in your community participated in the training	

GRIEVANCE AND REDRESS MECHANISM					
Q/N	**QUESTION ITEM**	**RESPONSE**	**CODE**	**SKIP**	**ENTRY**
14.	Are there grievances or concerns related to forest management interventions by government (State/Federal) or private authorities?	Yes No	1 2		☐
15.	If yes, what kinds of grievances or concerns do you have?				
16.	Are you aware of any complaint channels to deal with the grievances or concerns?	Yes No	1 2		☐
17.	If Yes, what are your complain channel				
18.	Have you ever made any complaint regarding natural resource issues to any agencies of government?	Yes No	1 2		☐
19.	If yes, how was/were the grievance(s) expressed	Verbal report to the agency Written report to the agency Verbal report to contact person/liaison officer Written report to contact person/liaison officer Others (Specify)…	1 2 3 4 5		☐

Which of this describe your involvement in forest management in your community with government					
20.	Cajoled to accept the project	True Partly true Not true	1 2 3		☐
21.	Being told what is to be done with no input from us	True Partly true Not true	1 2 3		☐
22.	Only given information about what is going on	True Partly true Not true	1 2 3		☐
23.	involved in decision making but input was not considered	True Partly true Not true	1 2 3		☐
24.	Involvement was limited to providing labour	True Partly true Not true	1 2 3		☐
25.	only involved after major decisions have been taken	True Partly true Not true	1 2 3		☐
26.	Community was represented by a few in all project activities	True Partly true	1 2		☐

		Not true	3		
27.	There was partnership with both communities and outsiders sharing responsibilities	True Partly true Not true	1 2 3		☐
28.	Involvement was initiated by the community	True Partly true Not true	1 2 3		☐
29.	Have there been past projects in your community seeking to achieve what REDD seeks to offer?	Yes No	1 2		☐
30.	If yes, what benefits/ consequences did the project bring to the community?				
	AWARENESS TO RIGHT FOR REDRESS				
Q/N	**QUESTION ITEM**	**RESPONSE**	**CODE**	**SKIP**	**ENTRY**
31.	Are you aware that you have the right to service and that you can seek redress with regards to forest resource management?	Yes No Don't know	1 2 3		☐
32.	If yes, can you give an example of a service / situation where you would seek redress? (Name service/situation).				
33.	Have you ever received any service related to forest resource management from a government institution/NGO?	Yes No Don't know	1 2 3		☐
34.	If yes, please name the service / government institution/NGO				
35.	Have you ever sought redress for a grievance related to forest management with relevant government institution/NGO?	Yes No Don't know	1 2 3		☐
36.	If no, do you feel that you are in a position to seek redress if you feel aggrieved?	Yes No Don't know	1 2 3		☐

Annex 2: Checklist for FGD

CHECKLIST TO GUIDE FOCUS GROUP DISCUSSIONFORSTRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT STUDY IN REDD+ PILOT SITE IN NASARAWA AND ONDO STATES

NOTE: Different groups will deal with issues related to them

Name of village
Name of community group/Organization
Names of participants (and their occupation)
Names of team members conducting the discussion
If any Participatory techniques were used

INSTRUCTION:

Introduce yourselves and explain the purpose of the inquiry…

The team should agree on a generic introduction that is brief enough for everyone to say up-by-heart.

Explain the consent process and data protection:

You do not have to participate in this discussion or answer any questions that you do not feel comfortable with. You also do not have to provide your name if you would rather retain anonymity. The information gathered through this discussion will only be used to inform REDD+ SESA study in Nasarawa and Ondo States. It will not be used for any other purpose.

A. FOREST AND LIVELIHOODS

1. Main sources of livelihood in the community ……
2. Role of forest in community livelihood (Venn diagram forest and livelihood interface)……
3. Five most important products derived from the forest (matrix ranking).....
4. Benefits of these products to community wellbeing (matrix ranking).....
5. Estimate value (economic) of each product to other activities (e.g. farming and/or livestock rearing) (Pie chart) .....

B. CHANGE IN NATURAL RESOURCE CONTEXT AND GOVERNANCE RESPONSE

Identify changes in specific resources

1. Change in forest cover
2. Change in stock of NTFPs
3. Size of harvest per unit area
4. Number/quantity of harvest per trip
5. Change in stock of aquatic resources
6. Size of harvest per unit area
7. Number/quantity of harvest per trip
8. Change in stock of forest resources (Timber/fuel wood/charcoal etc.)
9. Size of harvest per unit area
10. Number/quantity of harvest per trip
11. Change in forest cover around stream/river (Watershed)
12. Change in access regimes (rules, enforcement etc.) to natural resources
13. Change in unit of sales, price

    Methodology=Trend analysis, (10 years interval for 30 years) may be used to depicts change over time
14. Determine change severity. Change severity may be determined using weighted matrix ranking on the following possible criteria:

Weighted Matrix table on change severity in resource stock through time

Possible criteria	**Resource component**				
Quantity					
Quality					
Frequency					
Distance					
Cost of Sale					

Score between 1 (not severe) to 5 (Very severe)

C.AGRICULTURAL SYSTEMS AND FORESTRY

1. What are the main crops grown in your community?
2. Where do you acquire land for the crops grown (forest, fallow, and other lands)?
3. What land management techniques do you commonly adopt to increase farm output?
4. Are there links between forest and agricultural systems practiced?
5. What effects (positive or negative) will forest conservation have on your community agricultural output?
6. What suggestion can you offer to reduce negative effects and or promote the positive ones?

D. ENERGY (FUEL WOOD/CHARCOAL):

1. What is the source of energy for the community?
2. Where do you extract your energy from? Either purchased or extracted directly?
3. What is the quantity of fuel wood/Charcoal use by household daily?
4. Which groups of the community are involved in provision of energy?
5. Do you sell fuel wood/charcoal to outsiders?
6. Where do buyers come from?
7. Provide list, number of buyers and estimate per week?
8. Do you have fuel wood plantation, government or private? And management plan?
9. What is the risk affecting fuel wood management?
10. Estimate the quantity of (i) fuel wood, (ii) charcoal, (iii) NTFPs (mushroom, hot leaves etc.) in bundles, bags, baskets, basins, heaps etc.
11. Will REDD+/conservation intervention (i.e. access restriction) affect extraction of fuel wood/charcoal? Please explain.
12. What are the options and alternative/ solution to negative impacts?

E. MINING ACTIVITIES

1. Are there mining activities in your area or neighborhood?
2. Which community groups are mostly involved
3. What method of mining is practiced in your area (open earth mining or sub-surface mining etc. with explanation)?
4. At what scale does it take place (artisanal, commercial)?
5. What are the different minerals extracted?
6. What are the private firms involved in mining ?(if any)
7. What are the impacts of mining on forest, other activities, community etc?
8. What are the risks/concern in mining activities?
9. Are there laws, policies, institutions that regulate mining activities (Name them if any and the level of effectiveness)?
10. What are the options and alternative to negative impacts?

F. GRAZING

1. Do you practice cattle rearing in your community?
2. Do herdsmen settle in or close to your community?
3. Are there areas demarcated for grazing including forest in your community?
4. Has there been any conflict between herdsmen, farmers and other resource users? Provide list, location, reason and effects of the conflict.
5. What are the risks involved in cattle business?
6. What are the options/solutions to the risks

G. PARTICIPATION IN FOREST INTERVENTION/REDD+ PROCESS

1. What are the benefits/risks for conserving forest and other natural resources? (provide risk/benefits, rank risk/benefits and give reasons for risk/benefits)
2. Do you support REDD+/conservation of forest? If yes what conservation options do you recommend and give reasons.
3. What are the effects of conservation on you or your community activities? ……
4. What are the effects on your means of livelihood? ……Give example
5. Has there been any forest management activities/Projects carried out in your community by NGOs, Private organizations, Government, Forestry commission or Ministry or any other agency?
6. If yes, indicate the type of intervention
7. Which agency/agencies was/were responsible for the intervention?
8. When and where were the intervention(s) carried out----------
9. Which community groups were involved in the identified intervention(s) (activities/projects)?
10. Identify the extent to which the various groups were involved in the projects/activities **(Specify project) ……..**
11. Which phase of the project are you involved in?

List of Interventions

Year	Interventions	Location	Agency responsible	Benefits of intervention

H. LAND TENURE SYSTEM

1. How do you acquire land in your community? (list and explain the different modes)
2. Do all members of the community including women have equal rights to resources?
3. What rights do non-indigenes have on forest?
4. Any shifts in tenure and customary right over the years? Name them
5. Who controls land and forest resources? Provide details
6. Any relationship between local people and the state, NGOs, private sector and others in land management?
7. What are your expectations about REDD+?
8. What are your fears about REDD+?
9. What are the options/solutions to the risks

I. MARKET FOR FOREST PRODUCTS

1. What are the commercial forestactivities in your area?
2. Where are the Markets for forest products (five key products) – periodicity, proximity, quantity?
3. What forest community Associations exist in your area?
4. What is the influence of the markets (risks/benefits) on the change in forest cover and stock?
5. How do you regulate forest/land use?
6. What are the options/solutions to the risks?

J. CULTURE AND FOREST RESOURCES

1. What are the Festivals: Annual/Periodicity
2. Do you have Shrines/Heritage sites/ Sacred sites/ Archaeological/Historic sites
3. Do you have Reserved Forests for cultural activities e.g. evil forest
4. Do you think REDD+/conservation will affect cultural activities
5. What are the uses of forest for Recreational Facilities/Tourism?; revenue/income obtained and other benefits

K. COMMUNITY VIEWS ABOUT THE PILOT SITES REED+ PROJECT

1. Positive effect
2. Negative effect

L. GENDER

1. What are the existing community based women organizations (Indigenously or externally formed)?.....
2. What are the responsibilities of the groups?
3. What are the roles of women in farming, NTFPs extraction, sales of farm produce decision-making about land use, resource management and benefit sharing arrangements?
4. What are the distinct needs of women in the community in natural resource use/management?
5. What are specific actions to address the distinct needs of women?
6. What are women unique role in natural resource management relevant to REDD+.
7. What are the roles of women in forest resource governance? (decision making, design, implementation etc.)
8. What are the impacts of REDD+ on gender roles/activities?

M. DRIVERS OF DEFORESTATION

Causes of deforestation and forest degradation	**Extremely High**	**High**	**Low**	**Nil**
Large scale/ commercial agriculture				
Small holdings agriculture				
Logging/illegal logging				
Fuel wood harvesting				
Charcoal production				
Over grazing				
Mining activities				
Forest fire through annual bush burning				
Urbanization/infrastructural development				

Outdated national or state forest laws				
Poor integration between MDAs				
Land/forest tenure laws				
Weak Forestry Department				
Absence of working forest Reserve Mgt plan				
High forest revenue target				
Low timber fees				
De-reservation of forest reserve				
High population growth driving demand on land/forest products				
Inefficient processing of timber (eg making planks using chainsaw)				
Corruption in the forest sector				

N. LIKELY IMPACTS ON STRATEGIC OPTIONS

What are the likely Environmental and social impacts of REDD+ on:

Rating the impacts	**Positive/ beneficial to environment**			**Negative/ harmful to environment**		
Indicative Strategic Options for Ondo/ Nasarawa State REDD+	**1**	**2**	**3**	**-1**	**-2**	**-3**
1. Agricultural intensification						
2. Agroforestry systems						
3. Irrigation system						
4. Reforestation and Afforestation programme						
5. Capacity strengthening for forest protection						
6. Sustainable Fuel Wood Lots						
7. Efficient alternative energy						
8. Strengthening local institution for forest protection						
9. Strengthening legal and policy framework.						
10. Investments in sustainable forest-based products						
11. Strengthening participatory community based forest management						
12. Watershed protection and management						
13. Capacity strengthening for forest protection						
14. Investments in sustainable forest-based products						
15. Cattle Ranching to curb farmers herdsmen crises						

O. COST BENEFIT ANALYSIS

1. Are you a member of any association?
2. If yes, what is the name of your association? _____
3. List the types of farming activities you engage in and No. of ha involved

S/n	Type	No. of ha	Yield/output	Cost of production	Sales

4. Are members of your community involved in charcoal production? Yes/No
5. If yes, please list all the activities involved in charcoal production

_____
_____
_____
_____

6. What are the costs involved in charcoal production? Please list them.

S/n	Type of activities	Cost/ bag	Sales/ bag

Please state unit of measurement (bags, bundle, heaps etc)

7. What is the estimate of producing one UNIT (Specify unit of measurement) of charcoal? _____
8. How much do you sell one-unit measurement of charcoal? _____

Fuel Wood

1. How many bundles can you fetch per day? _____
2. On return, how much do you sell one (1) bundle of fuel wood? _____
3. Are you involved in lumber production? Yes ( ) No ( )
4. If yes, what is the cost of harvesting one (1) log of lumber? _____
5. How much do you sell one (1) log of lumber? _____

Please specify other costs involved in lumber production

P. CONFLICT IN NATURAL RESOURCE USE AND MANAGEMENT (INTRA & INTER COMMUNITY CONFLICTS).

1. Profile of Community Natural Resource Capital

Use resource map showing community natural capital assets critical to livelihood. I.e.

- Sand mining
- NTFPs
- Timber, fuel wood, charcoal, etc.
- Water resources

2. Use Rights to Natural Resource Capital

- Who has right of use? (Specify resource use context) By:
- Gender
- Birth
- Place of origin
- Etc.
- Who is excluded from use?
- Are use rights extended to neighbouring communities?
- Which resources are involved?
- Which communities exploit resources from your village territory (specify resources involved)?
- Do members of your community exploit resources from other villages?
- Identify the communities/villages and the resources involved
- Frequency and quantity gathered per trip by season, etc.

Use Resource Map or Base Map Supported by Flow Diagrams to Illustrate Shared Resource

Q. INTRA & INTER COMMUNITY CONFLICTS

Intra Community Conflicts

Equity in Community Use Rights of Natural Resource Capital for specific resource type. i.e.,

- Sand mining
- NTFPs
- Timber, fuel wood, charcoal
- Water resources

Rank local perception of access to resources of significance to livelihood on the following score scale (or any preferred score scale)

Scale	Score
• Not Fair	1
• Fair	2
• Very Fair	3

Perception of equity may differ for each resource type, individuals, user group, gender, etc.

1. Are there common occurrences of intra-community conflicts (between individuals, households, families, user groups, etc.) over natural resource use?

If confirmed, indicate frequency in the occurrence of conflicts by specific resource type and groups/individuals involved.

- Sand mining
- NTFPs
- Timber, fuel wood, charcoal
- Water resources
- Etc.

What mechanisms exist to resolve conflicts amicably over natural resource use?

Assess the level of effectiveness of each of the identified means of conflict resolution on the following score scale (1 marginal 5 very)

Scale	Score	Reasons provided
Not effective	- 1	
Somewhat effective	- 2	
Effective	- 3	
Very effective	- 4	

R. CONFLICTS IN FOREST/NATURAL RESOURCE USE AND MANAGEMENT

1. Are there cases of "between community conflicts" over natural resource use? (Specify by resource type, circumstance & communities involved)

   ---

2. How were these conflicts resolved?

   ---

3. How effective were the means of resolving the given conflicts? Use effectiveness scale identified.

Scale	**Score**	**Reasons provided**
Marginally effective	**- 1**	
Somewhat effective	**- 2**	
Effective	**- 3**	
Very effective	**- 4**	

Suggest ways of making intra & inter community conflict mechanisms more effective

S. BENEFITS SHARING

1. What groups, associations or cooperatives exist in the village? Please list the names of all of these.
2. What procedures do you follow when sharing benefits among the different groups in the community?
3. Do you share benefits equally?

T. SANCTIONS IN NATURAL RESOURCE MANAGEMENT FOR REDD+

1. What happens when a community member breaks the rules or violates the norms (traditions and customs) for specific resource type?
2. Are there different sanctions for men, women, youths and non-indigenes for the same offence? If Yes give details---
   ---
3. Are the existing sanctions adequate? Please be specific---
   ---

4. Give reasons for your response to 3 above----------

---

5. Suggest ways of making the sanctions more effective_____
_____

a. How many of the cases sanctioned have been enforced within one year?
b. Why were others not enforced?

U. COMMUNITY LAWS AND INSTITUTIONS

1. **Rules Governing Access to:**
   - Land i.e. farmlands, building, Mining (sand extraction, minerals etc.).
   - Forest resources (Timber and Fuel wood)
   - Water resources (Sand, sea foods etc.)
   - NTFPs (Afang, Bamboo, seeds, etc.)
   - Hunting etc.

2. **Rules for protecting the environment/managing environmental stress e.g.**
   - Defecation in streams
   - Use of chemicals in fishing
   - Inappropriate hunting practices
   - Inappropriate agricultural practices
   - Land degradation
   - General environmental sanitation etc.

3. **How effective are these rules in the resource use and management context identified above?**

- **Effectiveness of access to:**
  - Land i.e. farmlands, building etc.
  - Forest resources (Timber, Fuel wood and charcoal)
  - Water resources (Specify)
  - NTFPs (Specify)
  - Hunting etc.
  - Effectiveness of rules for protecting the environment/managing environmental stress.
  - Defecation in streams
  - Use of chemicals in fishing
  - Inappropriate hunting practices
  - Inappropriate agricultural practices
  - Land degradation
  - General environmental sanitation etc.

Rank the degree or levels of effectiveness of the rules
Provide effectiveness criteria for the ranking e.g.

- Frequency of default (how often are the rule(s) broken)
- Enforcement of sanctions (Are sanctions implemented/enforced?)
- Existence of monitoring arrangements for the rules i.e Are the rules monitored for possible breaches?

Weighted Matrix table on the effectiveness of Rules

Criteria	**Access to resources**				
• Frequency of default (how often are the rule(s) broken)	**Land (farming, building etc.)**	**Forest (Timber)**	**Water resources**	**NTFPS**	**Inheritance**
• Enforcement of sanctions (Are sanctions implemented/enforced?)					
• Existence of monitoring mechanism					

- ****Develop separate matrix if rules are specific to different resource type by specific resource use complex**
- **Effectiveness of rules may be scored between 1 (very weak) to 5 (Very strong)**

V. Existence of customary laws guiding access to and use of land and forest resources

1. **Access to Farmland**

a. How do people (women, indigenes and migrants alike) access land for farming and alternative uses in this community?
b. What land tenure arrangement(s) are common here? Inheritance? Leasehold? Outright land sale? Share-cropping?
c. If share-cropping, which crops are involved? If access is through inheritance how does this vary according to ethnic group?
d. What rights do women have over land in this community?
e. How secured are these rights?

2 Existence of Community Bylaws Guiding Access to Land and Forest Resources

a. Are there any bylaws in this community guiding access to and use of land and forest resources?
b. If so, what are the bylaws? What do the bylaws cover? Land acquisition? Use of water resources? Hunting? Logging? Harvesting of NTFPs? Fishing? Use practices? Etc.

3 Nature of Community Bylaws

a. How many community bylaws are formalized (i.e. recognized by the judiciary system) at the local or state level?
b. In what forms do these laws exist – written or unwritten?) If written, could we please have a copy of the bylaws? Or could we just see it?
c. How many of these byelaws are accepted as evidence or used as references in the courts (customary, magistrate or High court)?

4 Existence of Land Use Plans

a. Does your community have a land-use plan?
b. If yes, when was it developed? Is the community land use plan being implemented?
c. How effective is the process of implementing the community land use plan? Could you please give evidence of effective implementation or otherwise?
d. Does your community have a forest management plan?
e. If yes, when was it developed?
f. Is the community forest management plan being implemented?
g. How effective is the implementation process? Could you please give any evidence of effective implementation or otherwise?

W. WHAT ARE THE EXISTING COMPLAINT MECHANISMS RELATED TO NATURAL RESOURCE MANAGEMENT REDD+?

1. ***What are the existing complaint mechanisms related to forest resource management for REDD+?***
   a. Does your community have a formal process of making complaints? If yes, how?
   b. Is/are the process(es) documented as part of customary law? If yes, can we at least sight the document?
   c. Have you had any case where you applied the complaint process?
   d. What was the case involved?
   e. Do you have complaint(s) about REDD+?
   f. If yes, was the issue reported to any government authority?
   g. How are grievances expressed and to whom are they addressed?
   h. What was the response like?
   i. How do you receive or give feedback to government authorities and NGOs with regards to grievances related to forest resource management?
   j. Do you have feedback on the complaints made?

ANNEX 3: SESA STUDY TEAM			
S/n	**Position**	**Role**	**Institutional Affiliation**
1	Professor Francis Bisong.	Team Lead/Policy Analyst/Planner	Department of Geography & Environmental Science, University of Calabar.
2	Dr. Felix TakimOgar	Stakeholder Engagement/Land Use Specialist	Department of Agronomy, Faculty of Agriculture, University of Ilorin, Nigeria.
3	Engr. Ariyo Ezekiel Olanrewaju	Social Development Specialist	Ministry of Agriculture & Natural Resources, Kwara State
4	Iordah Emmanuel AgbAgabi	Land Tenure Specialist/RPF Consultant	
5	Yusuf Surajudeen LLB	Legal Expert	Yusuf Surajudeen& Co Principal Partner
6	Dr. Shilpy Gupta	Environmental Specialist	Darashaw
7	Vinay Singh	Forest Governance Specialist	Darashaw
OTHER EXPERTS			
8	Prof S. O. Abang	Cost Benefit Analysis Consultant	Department of Agricultural Economics & Extension, Faculty of Agriculture, University of Calabar
9	Prof. (Mrs) Nonso Bisong	Gender Consultant	Department of Educational Foundation, Faculty of Education, University of Calabar.
10	Princewill Ode	Mapping Specialist (Remote Sensing & GIS)	Integrated Ecodev Systems Konsults Ltd.
11	Ekaba Ononse	Statistician/Data Analyst	Silicon Blast Nigeria Ltd.
12	Mr. OdighaOdigha	ESMF for Cross River State Consultant	Integrated Ecodev Systems Konsults Ltd.
13	Dr.(Mrs) Lizzy Andrew-Essien	ESMF for Cross River State Consultant	Integrated Ecodev Systems Konsults Ltd.
14	Asuquo Okon	SA to Team Leader	Integrated Ecodev Systems Konsults Ltd.
15	Jackson Akor	Support Staff	Department of Business Entrepreneurial Education, University of Ibadan
16	Victor Oki	Support Staff	Integrated Ecodev Systems Konsults Ltd.

RECONNAISSANCE SURVEY TEAM		
	Nasarawa State	**Ondo State**
1	Asuquo Okon	Dr. Felix Takim
2	Jackson Akor	Engr. Ariyo Ezekiel Olanrewaju

FIELD DATA COLLECTION IN NASARAWA STATE

S/N	Name	Designation	Role
	GROUP 1 (Marahai Pilot Site)		
1	Felix Takim	University of Ilorin (SESA Consultant)	**Group Leader**
2	Kingsley Nwauba	National REDD+ Secretariat	Member

3	Napoleon Gyeobe	Nasarawa State REDD+ Programme Coordinator	Member
4	Julius Jukpa	Forest Officer Nasarawa State	Member
5	Tanimu Ibrahim	Forest Officer Nasarawa State	Member
	GROUP 2 (Obi Pilot Site)		
1	Ariyo Eziekiel	SESA Consultant	**Group Leader**
2	Hauwa Umar	Gender Expert, National REDD+ Secretariat	Member
3	Asuquo Okon	SA to Team Leader	Member
4	Ahmed Egaide obi forest reserve	Forest Officer Obi Forest Reserve, Nasarawa State	Member
5	Jubril Addo	M&E REDD+, Nasarawa State	Member
			Member
	GROUP 3 (Zono Pilot Site)		
1	Mr Tijani Ahmed	Safeguard Expert National REDD+ Secretariat	**Group Leader**
2	Jackson Akor	SESA Support Staff (Ecodev Konsult)	Member
3	Samuel Patrick Angba	Forest Officer Nasarawa State	Member
4	Kassa Ndabo	Forest Officer Nasarawa State	Member
5	Mohammed Abubakar	Forest Officer Nasarawa State	Member
6	Nicolas Dogo	Forest Officer Nasarawa State	Member

FIELD DATA COLLECTION IN ONDO STATE

S/N	Name	Designation	Role
	GROUP 1 Akure Pilot Site		
1	Felix Takim	University of Ilorin (SESA Consultant)	**Group Leader**
2	Kingsley Nwauba	National REDD+ Secretariat	Member
3	Napoleon Gyeobe	Nasarawa State REDD+ Programme Coordinator	Member
4	Tijani Ahmed	Safeguard Expert National REDD+ Secretariat	Member
5	Olorunda Tunde	M&E Ondo State REDD+ Programme	Member
	GROUP 2 Osse River Park Pilot Site		
1	Ariyo Eziekiel	SESA Consultant	**Group Leader**
2	Hauwa Umar	Gender Expert, National REDD+ Secretariat	Member
3	Asuquo Okon	SA to Team Leader	Member
4	Jackson Akor	SESA Support Staff (Ecodev Konsult)	Member
5	Aladenusi Olusola	Ondo State REDD+ Programme	Member
6	Mr Agbayewa	Ondo State REDD+ Programme	Member

A/ADDITIONAL DATA COLLECTION FOR NATIONAL COVERAGE

S/N	Name	Designation	Role
//	**SUB TEAM 1 (NORTH WEST) (KADUNA)/KANO/KATSINA**		
/1	Kingsley Nwauba	National REDD+ Secretariat	**Group Leader**
2	Ariyo Eziekiel	SESA Consultant	Member
3	Yakubu	National REDD+ Secretariat	Member
	SUB TEAM 2 (NORTH EAST) (TARABA)		
1	Mr. Tijani Ahmed	Safeguard Expert National REDD+ Secretariat	**Group Leader**
2	Emmanuel Iordah	SESA Consultant (Land Tenure)	Member
	SUB TEAM 3 (SOUTH EAST) (ENUGU/ANAMBRA)		
1	Hauwa Umar	Gender Expert, National REDD+ Secretariat	**Leader**
2	Raymond	National REDD+ Secretariat	Member
3	Jackson Akor	SESA Support Staff (Ecodev Konsult)	Member
	SUB TEAM 4 (SOUTH SOUTH) (RIVERS/AKWA-IBOM)		
1	Richard Okibe	MRV/Communication National REDD+ Secretariat	**Group leader**
2	Asuquo Okon	SA to Team Leader	Member

2. ***Percentage of sampled stakeholders (by gender and age) within the forest dependent communities who are aware of <u>existing complaint channels</u>***
   a. Are there grievances or concerns related to forest management interventions by government (State/Federal) or private authorities? If yes, what kinds of grievances or concerns do you have?
   b. Are you aware of any complaint channels to deal with the grievances or concerns? If yes, what are the complaints channels? .....
   c. Have you ever made any complaint regarding forest management or other agencies of government?
   d. If yes, how was/were the grievance(s) expressed (i.e. verbal or written)?

Annex 4: Attendance list of Stakeholders
Validation Workshop Attendance

NIGERIAN REDD+ PROGRAMME, SESA WORKSHOP, 23RD JANUARY, 2018

HOLDING @SAWALINO HOTEL & SUITES, KEFFI – NASARAWA STATE

ATTENDANCE LIST

/N	NAME	ORGANISATION	LOCATION	ACCOUNT DETAILS	PHONE/EMAIL	SIGNATURE
1	100K – 4days Mrs Hauwa Umar	NAT REDD+ SEC	ABUJA	2004733561 FIRST BANK	hauwaumar38 @yahoo.com	100K
2	TIJJANI AHMAD ZAKIRAI	NAT. REDD+ SECT.	ABUJA	UBA 1005341381	08065547756 tahmadzakirai@yahoo.com	
3	EBONINE O. RAYMOND	NAT. REDD+ SECT.	ABUJA	1004818882	rayonyeje@yahoo.com 08055431793	
4	ASUQUO ETIM OKON	CRS REDD+	CALABAR	3051422955 FIRST BANK	asuquo...@gmail 08030867600	
5	ADO JIBRIN INARIGU	MOF&EP,L	LAFIA	DIAMOND 0015242470	08065919600 ajibrin1980@gmail.com	
6	CYRIL A BIKOM	FMARD	ABUJA	2001930780 FIRST BANK	08065448448 cybikom2012@gmail.com	
7	OKIBE RICHARDS AUGIE	NAT REDD+ SEC	ABUJA	2006732837	08066008222 okiberichard@gmail.com	
8	OLOGUN B. FREEMAN	FMENV FORESTRY	✓	FIRST BANK 3071243961	ologunfreeman@hotmail.com	
9	Rasak K. Alokola	REDD+	Abuja	Access Bank 0040955108	08033704528 Kolodekola@yahoo	
10	Mohammed M-Oshafu	REDD+	LAFIA.	ACCESS BANK 0006365563	08036578741 oshafumohammed@gmail.com	
11	Akon, Jackson O.	ECOSEW	CALABAR	0138370474 GTB	07030615650 Akon.jackson@gmail.com	
12	Oghenechuko ODIBO	REDD+	ABUJA	0003677019 FCMB	08065456294 ...@yahoo.co.uk	

NIGERIAN REDD+ PROGRAMME, SESA WORKSHOP, 23RD JANUARY, 2018

HOLDING @SAWALINO HOTEL & SUITES, KEFFI – NASARAWA STATE

ATTENDANCE LIST

S/N	NAME	ORGANISATION	LOCATION	ACCOUNT DETAILS	PHONE/EMAIL	SIGNATURE
3	~~IKEH AUGUSTUS OGUEKI~~ Ogueri	REDD+, FMENV	ABUJA	ZENITH BANK 1002532768	~~ike.augustus@yahoo.com~~ 08036113855	
4	SAMUEL P. ANGBA	REDD+	NASARAWA	FIRST BANK 3010549577	Samuelangba2017@gmail.com	
5	IBRAHIM MOA'D OTAKI	REDD+	NASARAWA	~~ECO BANK~~ 4202116713	08038279808 ibrahimotaki@yahoo.com	
6	~~Emmanuel Ozobia~~	REDD+	ABUJA	Zenith Bank 2004200150	08065301300	
7	EDET, XAVIER O.	NAT. REDD+ SEC.	ABUJA	FBN 3010302678	xavierde89@yahoo.com 07030479779	
8	BAAKI JOHN T.	WOMEN ENVIRONMENTAL PROGRAMME (WEP)	ABUJA	FCMB 2803861014	08057232549	
9	~~Odigha Odigha~~ NGOCE		Calabar	Access 0022759571	08037237454	
10	KUJEH AYUBA	min of Environment	NASARAWA	Sigmund 0012274625	08061306125	
11	~~Adeleke David~~	~~REDD+~~	OHAO	UBA 2055733557	eladeadesina@yahoo.com 08035792092	
12	Olorunda Imade Andrew	REDD+	ONDO	GTB 0162353611	08066457657	
13	Iliyasu Mamman A.	NGO Tomba	Jalingo	4221007810 Eco bank	08038865951	
14	ALH ABD AKEEM YAKUB	NGO.	ONDO	WEMA 0226754275	08081732641	

NIGERIAN REDD+ PROGRAMME, SESA WORKSHOP, 23RD JANUARY, 2018

HOLDING @SAWALINO HOTEL & SUITES, KEFFI – NASARAWA STATE

ATTENDANCE LIST

S/N	NAME	ORGANISATION	LOCATION	ACCOUNT DETAILS	PHONE/EMAIL	SIGNATURE
25	AGBAYEWA ADEKUNLE	N.G.O	ONDO	FIRST BANK 3053601648	08033267103	[signature]
26	~~DR. ALICE EKWU~~	Min. of Climate Change Cross River State	CALABAR	First Bank 3110292396	07034493343	[signature]
27	Francis E. Bisong	SESA STUDY TEAM	CALABAR	.	08033380315	[signature]
28	Dr. JAMES Godstime	NASRDA Abuja	ABUJA	ACCESS BANK 0053410232	08022739154/ godstimej@gmail	[signature]
29	ABDULLAHI YAKUBU	NATIONAL REDD+ SECRETARIAT ABUJA	ABUJA	ACCESS BANK 0046130248	08036532129 [illegible]@gmail.com	[signature]
30	[illegible]	EEMEE	ABUJA	0805797[illegible]	08057979[illegible]	[signature]
31	E. A. Iordaah	E.A. Iordaah & Co Land Tenure Expert	MKD	IBTC Stanbic 9301331787	08034402001 emmaiordaah@yahoo.com	[signature]
32	Ibrahim P. Tarfa	NGO	Adamawa	First bank 3046305634	07036622542 tarfaibrahim@yahoo.com	[signature]
33	SKACHI CHARLES AKAWU	D.D.A.	ABUJA	UNITY BANK 0004828781	Skachi charles at G-mail	SK
34	AKPANKE VICTOR A.	Youth Action for Climate	C RIVER	FIRST BANK 3041921365	07066137400/ akpanke[illegible]@gmail	[signature]
35	Gorah M Danladi	NEWMAP	ABUJA	CITBank 0171513186	danmazi@yahoo.com	[signature]
36	Daniel Kaunafung	E I A	ABUJA	Diamond 0078227041	08092157197	[signature]

STAKEHOLDERS' WORKSHOP FOR VALIDATION OF SESA, ESMF, RPF AND PF ON 25TH OCTOBER, 2018; 8:00AM
AT REIZ CONTINENTAL HOTEL, ABUJA

ATTENDANCE

s/no	Name	Organization	Phone No	Account Detail	Signature
25	ATAH ANTHONY USHIE	REDD+ CRS	08037754884	First Bank 2010862513	
26	RALPH ADEYINKA ADEWOYE	FORESTRY RESEARCH INSTITUTE OF Nig. Ibadan	08069420985	Zenith 1000640791	
27	JOHN FONWEBAN	FAO	08131580665		
28	Odigha Odigha	NGOCE	08037237454	Access 0022759571	
29	OMEGE SUNDAY	FDF	08050576724	UBA 2065052732	
30	ENGR. ARIYO, Ezekiel O	ECNC	08030702807	0732627210 Access only	
31	Prof A. E. Bisong	Team leader SESA	08033380315	ACCESS BANK 0177852774	
32	Dr. Moses Ama	REDD+ SEC	08133486935	Diamond Bank 6007162155	

NIGERIAN REDD+ PROGRAMME, SESA WORKSHOP, 23RD JANUARY, 2018

HOLDING @SAWALINO HOTEL & SUITES, KEFFI – NASARAWA STATE

ATTENDANCE LIST

S/N	NAME	ORGANISATION	LOCATION	ACCOUNT DETAILS	PHONE/EMAIL	SIGNATURE
47	Jide Ajayi	NAT. REDD+ SEC.	Abuja	FIRST BANK 3073002538	08069189282	
48	Kingsley Nwawuba	Nat. REDD+ Sec	Abuja	FIDELITY 6052346276	08038088656 Kingnwawuba@yahoo.com	
49	Dr. Moses Ama	4days √(100,000)	Abuja	Diamond Bank 0007162155	08033486909 memsa2ong@Yahoo.Com	

Stakeholders Workshop Attendance

STAKEHOLDERS' WORKSHOP FOR VALIDATION OF SESA, ESMF, RPF AND PF ON 25TH OCTOBER, 2018; 8:00AM
AT REIZ CONTINENTAL HOTEL, ABUJA

ATTENDANCE

s/no	Name	Organization	Phone No	Signature
1.	TIJJANI AHMAD ZAKIRAI	NAT. REDD+ SECT. ABUJA	08065547756	
2.	ADEDAYO MAHMUD	NCE LAGOS	07033584363	
3	Rasak K. [illegible]	Nat-REDD+ Sec.	08033704528	
4.	Michael SIMIRE	EnviroNews, Lagos	08037148384	
5	Odigha Odigha	NGOCE	08037237454	
6	Prof F. E. Bisong	SESA Team Leader	08033380315	
7	Dr. Ralph Adewoye	Forestry Research Institute	08067420785	
8.	Engr. Ariyo Ezekiel-O	ECMC / Confu[illegible]	08030702808	
9	Anthony Atah	REDD+ Calabar	08037759864	
10	Andrew, David Adeyo	FDF, Abuja	08033900579	
11	ADELAJA BABATUNDE TOLU	FOREST & DEPT (FMENV)	08062586942	
12	Bette Philip Obi	Forestry Comm	08067581645	
13	Dr Idris Jega	NASRDA	08093296848	
14	Emmanuel Ozobia	HAT REDD+ SECRETARIAT	08065301300	
15	Samuel Azubo	NAT. REDD + Secre Abuja	08160313724	
16	Randolph Pae	Min. of Env Lagos	08036323474	

STAKEHOLDERS' WORKSHOP FOR VALIDATION OF SESA, ESMF, RPF AND PF ON 25TH OCTOBER, 2018; 8:00AM
AT REIZ CONTINENTAL HOTEL, ABUJA

ATTENDANCE

s/no	Name	Organization	Phone No	Account Detail	Signature
9	Okise Richards Aigie	NAT REDD+ Sec, Abuja	08066008222	FIRST BANK 2006732837	
10	Michael Simire	Environews, Lagos	08037148384	1004067361 Zenith Bank	
11	Abdullahi Takuru	NAT REDD+ SEC	08056532129	ACCESS BANK 0046130248	
12	ADEDAYO MEMUDU	NIGERIAN CONSERVATION FOUNDATION (NCF, LAGOS)	07033584363	FIRST BANK 3089980694	
13	Tijjani Ahmad Zakirai	NAT. REDD+ SECT. ABUJA	08065547756	UBA 1005341381	
14	Ayim Michael Haji	Environment Watch for Niger Delta, PH.	08033760462	First Bank 3072125996	
15	Nkpang Victor Ncakuu	Mining in the forest legal context	07066137444	First Bank 3041921365	
16	Tanko Sabo Robert	D. M. community	07062195784	Demand Bonus 0078568461	

STAKEHOLDERS' WORKSHOP FOR VALIDATION OF SESA, ESMF, RPF AND PF ON 25TH OCTOBER, 2018; 8:00AM
AT REIZ CONTINENTAL HOTEL, ABUJA

ATTENDANCE

s/no	Name	Organization	Phone No	Account Detail	Signature
17	Rosak Kolawole Akinola	Nat. REDD+	08033704528	First Bank 3033748 34	
18	Emmanuel Johnson	A1 T	08027163322	GT Bank 0113886035	
19	ADELAJA BABATUNDE	FMENV / FDF	08062586942	GT BANK 0032832854	
20	ANDREW DAVID ADEJO	DIRECTOR/FDF	08033900599	STANDARD CHARTERED BANK 0000402457	
21	ADESINA DAVID DADA	REDD+ OHBO STATE	08035792052	UBA 2055733557	
22	Eligs Gyobe Napoleon	REDD+ Nasarawa State	08138883367	Diamond bank 0013102836	
23	Patrick Coco Bassey	REDD+ CROSS RIVER STATE	08034742838	2007046395 First Bank	
24	Bette Obi	forestry	08067851645	0023031174 Diamond Bank	

STAKEHOLDERS' WORKSHOP FOR VALIDATION OF SESA, ESMF, RPF AND PF ON 25TH OCTOBER, 2018; 8:00AM
AT REIZ CONTINENTAL HOTEL, ABUJA

ATTENDANCE

s/no	Name	Organization	Phone No	Account Detail	Signature
25	ATAH ANTHONY USHIE	REDAT CRS	08037759884	First Bank 2010862513	
26	RALPH ADEYINKA ADEWOYE	FORESTRY RESEARCH INSTITUTE of Nig. Ibadan	08069420985	Zenith 1000640791	
27	JOHN FONWEBAN	FAO	08131580665		
28	Odigha Odigha	NGOCE	08037237454	Access 0022759571	
29	OMEJE SUNDAY	FDF	08050576724	UBA 2065052732	
30	ENGR. ARIYO, Ezekiel .O	ECWE	08030702807	0732622710 Access Bank	
31	Prof A.E. Biseng	Team leader SESA	08033380315	ACCESS BANK 0717785274	
32	Dr. Moses Ama	REDAT Sec	08133486905	Diamond Bank 0007162155	

STAKEHOLDERS' WORKSHOP FOR VALIDATION OF SESA, ESMF, RPF AND PF ON 25TH OCTOBER, 2018; 8:00AM
AT REIZ CONTINENTAL HOTEL, ABUJA

ATTENDANCE

s/no	Name	Organization	Phone No	Account Detail	Signature
33	Emmanuel Ozobia	NATREDD ABJ	08065301300	Zenith Bank 2004250157	
34	Samuel Azebo	NAT REDD + Abuja	08160313554	zenith 2004201 762	
35	Amicable	Amicable Studio	08188279416	ECO bank 2851016925	
36	Agwinya Julius Agwinya	F2X Media/ECMC/ Smartcity	08075496812		
37	INNOCENT OWAH	GLOBE Nigeria National Assembly	07067463477	GTBank 0118958971	
38	Gloria A Joshua	Local Community	08035758833	Diamond Bank 0042708833	