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Federal Republic of Nigeria

**Federal Ministry of Commerce
and Industry**

**Growth Enterprises and
Markets in States (GEMS)
Project**

**Environmental and Social
Management Framework**

Final Report

March, 2010



Maximizing Resources and Sustaining Development

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LIST OF ACRONYMS

AAP	-	Africa Action Plan
AFDB	-	Africa Development Bank
AIEA	-	Association of International Education Administration
BIR	-	Board of Internal Revenue
CEM	-	Country Economic Memorandum
CPS	-	Country Partnership Strategy
DFID	-	Department for International Development
EA	-	Executing Agency
ESMF	-	Environmental and Social Management Framework
FGN	-	Federal Government of Nigeria
FIAS	-	Foreign Investment Advisory Services
FMOCI	-	Federal Ministry of Commerce and Industry
FMF	-	Federal Ministry of Finance
FMR	-	Financial Management Report
FPD	-	Financial and Private Development
ICA	-	Investment Climate Assessment
ICP	-	Investment Climate Program
IDA	-	Investment Development Association
IFC	-	International Finance Corporation
IPR	-	Intellectual Property Right
MIGA	-	Multilateral Investment Guarantee Agency
MSME	-	Micro Small and Medium Enterprise
NEEDS	-	National Economic Empowerment and Development Strategy
NESG	-	Nigerian Economic Summit Group
NIPC	-	Nigeria Investment Promotion Commission
NSC	-	National Steering Committee
OSIC	-	One Stop Investment Center
PMU	-	Program Management Unit
PGP	-	Performance Grant Program
SEEDS	-	State Economic Empowerment and Development Strategy
SIL	-	Specific Investment Loan
USAID	-	United State Agency for International Development

EXECUTIVE SUMMARY

Introduction

The Federal Government of Nigeria (FGN) has received a loan from the World Bank (WB) to support the Growth Enterprises and Marketing in States (GEMS) project in the Federal Ministry of Commerce and Industry. The major thrust of the GEMS project is to contribute to the FGN's strategy for poverty reduction by improving the welfare and living conditions of poor and vulnerable communities in selected states (Lagos, Kano, Kaduna, Cross River states and F.C.T., Abuja).

The GEMS project will support private investment with information, skills, technology, group organization, and business opportunities. It will strengthen the Medium Small and Micro Enterprises schemes in all the selected states, thereby, increasing opportunities in self employment, poverty reduction and growth.

Objectives of GEMS project

The objectives of the GEMS project are as follows:

- ③ Increased investment and poverty reduction: business environment reforms and interventions in support of strategic clusters should help to increase investment leading to employment creation and poverty. Potentially this could help to reduce the extent to which young people become economically inactive or are unemployed, which is an important contributory factor to crime and violence.
- ③ Improved housing needs: business environment reforms could help to release more land for development addressing the acute housing shortage in the country. More transparent land administration could reduce the disadvantages that women and the poor currently face in obtaining title to land.
- ③ Increased incomes: improved competitiveness of strategic clusters could help to increase the incomes of participants.
- ③ Skills development: targeted skills development could help to build human capital in selected industries.
- ③ Health and safety standards in the workplace: this could be improved in targeted industries and the improvement of food production, wholesaling and retailing facilities could help to reduce health risks for consumers.
- ③ Creating environmental awareness and effective monitoring and evaluation of impacts could improve the environmental footprint of selected industries.
- ③ Investment in social and economic infrastructure, such as construction or rehabilitation of health facilities and markets will result in improvement in people's well-being and livelihoods, and promote equitable development.

The program which span up to five year, is to be achieved through three components;

Component 1: An improved investment climate;

Component 2: Increased competitiveness of strategic clusters including construction and Real Estate, Hospitality, Meat production and marketing as well as Leather production;

Component 3: Effective project implementation monitoring and evaluation and communication.

Scope of Work

The scopes of work for the Environmental Assessment of the GEMS project are as follows:

1. Prepare Environmental and Social Management Framework (ESMF): This takes into consideration the project description, project components and institutional arrangements for project implementation and Prepare an Environmental and Social checklist, to be used as a Screening mechanism for the identified activities of the project.
2. Prepare Pest Management Plan (PMP) taking into consideration the activities of the project and institutional arrangement for implementing the PMP Project description
3. Prepare a Resettlement Policy Framework (RPF) report that provides basic information about the scope of adverse social impacts to be induced by project operations and the mitigation measure (resettlement/ rehabilitation) actions to be taken by project operations.

This ESMF is concerned with the (a) component of the scope, while the rest of the components are dealt with in the PMP and RPF reports as standalone documents.

Potential Impacts of the Project

The potential impacts of the project and the recommended mitigation measures are stated below:

Potential Impacts	Recommended Mitigation Measures
Physical	
Land Use	
<ul style="list-style-type: none"> ③ Land degradation resulting from use of pesticides ③ Leakages of oil and fuel during civil works 	<ul style="list-style-type: none"> ③ Proper maintenance of equipment and machines
Noise	
<ul style="list-style-type: none"> ③ Resulting from use of heavy equipment/machines during construction /refurbishing works 	<ul style="list-style-type: none"> ③ Installation of sound insulation. ③ Schedule work periods not more than 8 hours for personnel operating heavy machines.
Air Quality	
<ul style="list-style-type: none"> ③ Emission of pollutants from mobile (vehicles) and stationary (mixers, generators etc) sources. ③ Allergy from emission of offensive pesticides ③ Air pollution from burning of demolition wastes e.g. wood, paper etc 	<ul style="list-style-type: none"> ③ Introduction of dust reduction measures in construction sites ③ Safety measures put in place including the wearing of PPEs
Soil	
<ul style="list-style-type: none"> ③ Point source contamination from hydrocarbon leaching ③ Increased soil erosion due to vegetation damage , soil trampling and compaction during civil work ③ Increased rapid runoff due to vegetation clearing and soil compaction diminishing infiltration capacity 	<ul style="list-style-type: none"> ③ Proper storage of diesels ③ Proper maintenance of machines/equipments
Water Quality	
<ul style="list-style-type: none"> ③ Potential pollution of surface and ground water through runoff of pollutants ③ Water pollution due to seepage from tanks (diesel, sanitary wastes etc) Lack of water for sanitation or toilet facilities 	<ul style="list-style-type: none"> ③ Maintain equipment regularly ③ Ensure proper storage of oil, diesels and fossils ③ Ensure the availability of portable water in the project area.

Potential Impacts	Recommended Mitigation Measures
Biological Resources	
Vegetation	
<ul style="list-style-type: none"> ③ Vegetation extinct resulting from IRS and larvicide treatment ③ Impacts on protected areas; critical habitats for rare species or of ecologic or domestic importance. ③ Coloration of green plants due to contact with chemicals 	<ul style="list-style-type: none"> ③ Careful planning and selection of sites ③ Cultural heritage sites protection enforced. ③ Appropriate seasonal implementation
Solid/Hazardous Waste Management	
<ul style="list-style-type: none"> ③ Solid waste generated from demolition and construction activities containing potentially hazardous materials (e.g. asbestos). ③ Waste generation during building works piling on the roadside 	<ul style="list-style-type: none"> ③ Quick sorting, collection and disposal of waste removed from the sites in accordance with applicable regulations.
Health and Safety	
<ul style="list-style-type: none"> ③ Risks of road accidents during work ③ Contamination risk by HIV from the labour force. ③ Allergy resulting from chemical inhaling 	<ul style="list-style-type: none"> ③ Ensuring the use of nose guard <p>Conduct awareness raising campaigns on HIV/AIDS</p>

Environmental Management Plan

The sub-project proposals must contain an Environmental Management Plan (EMP) that will consist of a set of mitigation, monitoring and institutional measures, implementation schedules and cost estimates to be taken during the implementation and operation stages of the sub-project cycle to eliminate adverse environmental and social impacts, offset them or reduce them to acceptable levels.

The EMP contains the following elements:

- ◆ Description of the mitigation measures: The EMP identifies feasible and cost effective measures to reduce and potentially significant adverse environmental and social impacts to acceptable levels.
- ◆ Description of the Monitoring program: Environmental Performance Monitoring should be designed to ensure that mitigation measures are implemented, have intended results, and that remedial measures are undertaken if mitigation measures are implemented are inadequate or the impacts have been underestimated within the Environmental Assessment (ESMF & ESIA) report. It should also assess compliance with national standards and World Bank safeguard policies.
- ◆ Institutional arrangements: responsibilities for mitigation and monitoring should be clearly defined. The EMP will identify arrangements for coordination between the various stakeholders/institutions responsible for mitigation.
- ◆ Implementation schedule and reporting procedure: The timing, frequency and duration of mitigation measures should be specified in an implementation schedule, showing links with the overall project implementation plan.
- ◆ Cost estimates: this should be specified for both the initial investment and recurring expenses for implementing all measures contained into the EMP, and integrated into the total project costs.

The table below shows the sub-project cycle and the relevant EMP activities.

Cycle	Phase	Activities	Responsibilities
PLANNING	Scoping and Screening	<ul style="list-style-type: none"> ④ Initial site visit & consultations. ④ Identification of technical, environment and social issues and applicable safeguards policies ④ Categorization ④ Action plan ④ Screening Report ④ <i>WB No-Objection</i> 	Consultant; Supervision by SSC/SEPA/State Ministry (FMOCI)
DESIGN	Preparation of ESIA and RAP (if applicable) and consultations	<ul style="list-style-type: none"> ④ Draft ESIA ④ Draft RAP (if applicable) ④ Consultations ④ <i>WB No-Objection</i> 	Consultant; Supervision by SEPA/State Ministries FMOCI
	Disclosure	<ul style="list-style-type: none"> ④ Disclosure of ESIA / RAP locally & to WB InfoShop 	GEMS State Agencies FMOCI; World Bank
	Finalization and Incorporation	<ul style="list-style-type: none"> ④ Final version of ESIA /RAP ④ Incorporation of ESIA into contract documents ④ <i>WB No-Objection</i> 	Consultant; Supervision by State Agencies
EXECUTION	Implementation and monitoring	<ul style="list-style-type: none"> ④ Implementation ④ Monitoring & reporting on environmental and social mitigation measures 	Contractors Supervision by State Agencies /LGRC & the Community
OPERATIONS (POST-COMPLETION)	Operations and maintenance	<ul style="list-style-type: none"> ④ Maintenance ④ Monitoring & reporting on environmental and social mitigation measures 	Contractors Supervision by SSC/PMU, SEPA/ FMOCI

Institutional Capacity for the Implementation of the Environmental Management Plan

The institutions and their implementation schedules are seen below:

Institution	Tasks/Activities
State GEMS Committees	Project Coordination and Oversight; responsible for providing oversight over the Technical Committees that have been established by the ICP program.
GEMS Programme Board	Preparation of TORs for EMPs; monitoring activities of EMPs.
Federal Ministry of Commerce and Industry (FMOCI)	Maintaining day-to-day relations with the financial institutions.
World Bank, FMOCI, State Ministries of Commerce	Review, approve and clearance of ESMPs; Monitoring State GEMS Committees and reporting to FMOCI and State Project Advisory Board.

Stakeholder Consultation

At this stage of project development, when specific project activities and sites are not identified, stakeholder consultation was mainly carried out within the level of project management unit and programme coordinators. The purpose at this is to unearth necessary issues ranging from the nature of proposed interventions, project stakeholders and concerns.

It was found that stakeholders meetings at all the beneficial states were still at preliminary level. However, proposed interventions based on investment demand and availability of resources are as follows:

Lagos: Entertainment and Real Estate
 Abuja: Tourism and Real Estate
 Cross River: Tourism
 Kano and Kaduna: Meat and Leather production

The Indicative Cost Estimate and Responsibility for the ESMF, PMP and RPF Instruments

The table below shows a budget breakdown and responsibility of the cost for implementing the ESMF, PMP and RPF instruments.

Details of the breakdown of the PMP and the RPF can be seen in the respective documents.

ITEM	RESPONSIBILITY	COST BREAKDOWN	COST ESTIMATE IN NIGERIAN NAIRA (₦)	COST ESTIMATE IN US DOLLARS (US\$)
Mitigation	GEMS State Agencies /SEPAs		15,000,000	100,000
Management	GEMS State Agencies /SEPAs	5% of Mitigation Cost	3,000,000	20,000
Monitoring	GEMS State Agencies /SEPAs	25% of Mitigation Cost	1,800,000	12,000
Training/ Capacity Building	GEMS State Agencies /SEPAs		3,000,000	20,000
Sub- Total			22,800,000	152,000
Contingency		10% of Sub- Total	2,280,000	15200
Total			23,028,000	167,200

The total cost for implementing the ESMF is estimated at **One Hundred and Sixty Seven Thousand and Two Hundred US Dollars only (\$167,200)**.

1.0 INTRODUCTION

1.1 Background

The Federal Government of Nigeria (FGN) has received a loan from World Bank (WB) to support the Growth Enterprises and Marketing in States (GEMS) project in the Ministry of Commerce and Industry. The major thrust of the GEMS project is to contribute to the FGN's strategy for poverty reduction by improving the welfare and living conditions of many poor and vulnerable communities in the selected states (Lagos, Kano, Kaduna, Cross River states and F.C.T., Abuja).

The GEMS project will support private investment with information, skills, technology, group organizing, and business opportunities. It will strengthen the Medium Small and Micro Enterprises schemes in all the benefiting states, thereby, increasing opportunities in self employment, poverty reduction and growth.

1.2 Objectives of GEMS project

- ③ Increased investment and poverty reduction: business environment reforms and interventions in support of strategic clusters should help to increase investment leading to employment creation and poverty. Potentially this could help to reduce the extent to which young people become economically inactive or are unemployed, which is an important contributory factor to crime and violence.
- ③ Improved housing needs: business environment reforms could help to release more land for development addressing the acute housing shortage in the country. More transparent land administration could reduce the disadvantages that women and the poor currently face in obtaining title to land.
- ③ Increased incomes: improved competitiveness of strategic clusters could help to increase the incomes of participants.
- ③ Skills development: targeted skills development could help to build human capital in selected industries.
- ③ Health and safety standards in the workplace: this could be improved in targeted industries and the improvement of food production, wholesaling and retailing facilities could help to reduce health risks for consumers.
- ③ Creating environmental awareness and effective monitoring and evaluation of impacts could improve the environmental footprint of selected industries.
- ③ Investment in social and economic infrastructure, such as construction or rehabilitation of health facilities and markets will result in improvement in people's well-being and Livelihoods, and promote equitable development.

1.3 Scope of Work

The scope of work for GEMS project environmental assessment includes:

- ◆ Prepare Environmental and Social Management Framework (ESMF): This takes into consideration the project description, project components and institutional arrangements for project implementation and Prepare an Environmental and Social checklist, to be used as a Screening mechanism for the identified activities of the project.
- ◆ Prepare Pest Management Plan (PMP) taking into consideration the activities of the project and institutional arrangement for implementing the PMP Project description

- ◆ Prepare a Resettlement Policy Framework (RPF) report that provides basic information about the scope of adverse social impacts to be induced by project operations and the mitigation measure (resettlement/ rehabilitation) actions to be taken by project operations.

This report (ESMF) is concerned with the (a) component of the scope, while the rest of the components are dealt with in the PMP and RPF reports as standalone documents.

1.4 Study Approach and Methodology

The study was conducted by the consultant using the following approach and methodology;

- **Desk Review:**

Documents consulted in the process of preparing the ESMF study include:

- the Project Appraisal Document (PAD);
- The Project Implementation Manual (PIM);
- the draft general environmental management conditions for construction contracts;
- the Constitution of the Federal Republic of Nigeria; and
- numerous relevant Federal, State, and local laws, regulations, decrees, acts, policies and guidelines, World Bank Safeguards Policies and other relevant document.

- **Field Survey:**

Field study was conducted in the following states;

Cross River, Kano, Kaduna, Lagos and Abuja. During the field study, discussions were held with officials of GEMS and relevant state ministries and agencies and served the purpose of eliciting baseline data of the proposed project.

Using the specific circumstances of each state visited, the project clusters for each state towards GEMS was examined and, their capacity to implement the proposed environmental and social management process and mitigation measures was assessed, and discussions held to determine appropriate recommendations for improvement in service delivery, mitigation, monitoring, institutional requirements and their training and capacity building needs.

GEMS project will support different investment clusters in the selected states under various components described in section 2.2. Under the pilot phase, GEMS implementation in the states will be determined by sub-components of greatest investment demand. Earthguards have through interaction with state steering committees identified the sub-components which have potential to trigger the safeguard policies. They are listed below along the states where interventions will take place.

Sub-Components	States
● Real Estate	Lagos and F.C.T. Abuja
● Entertainment	Lagos
● Meat and Leather	Kano and Kaduna
● Tourism	Cross River and F.C.T. Abuja

2.0 DESCRIPTION OF THE PROJECT

2.1. Purpose

The GEMS “Program” represents a broad multi-donor initiative of which IDA will fund a significant part, “the project”.

The Project development objective is to remove bottlenecks to private sector development. This will be supported by:

- i. Improving the business environment and
- ii. Supporting job creation and increased incomes in selected states.

The Program will deliver three outcomes;

- An improved business environment that reduces the cost and risk of doing business providing a greater incentive to invest:
- Increased competitiveness of strategic clusters in selected non-oil industries improving the return to investment in terms of growth and jobs: and
- Effective monitoring, evaluation and dissemination of information to provide valuable lessons which, through communication and peer learning, help leverage the program impacts.

Support to deliver Outcome 1 will focus initially in four states Kano, Kaduna, Lagos and Cross River. Additional focal states will be added when conditions are favourable. Outcome 2 will focus on these four states plus the FCT, while working in other states as required by value chains that do not fit neatly within state boundaries. Anambra or Enugu as a growth pole for the South East zone is likely to be included once the program has been established and has the capacity to support further expansion. If conditions in the Niger Delta region improve the project may also support development efforts possibly focused around youth employment and/or oil-related services in that troubled region.

The key performance indicators for the program are:

- An increase in current levels of inward investment including foreign direct investment in selected value chains;
- An increase in the number of formal sector jobs created in each value chain; and
- An increase in incomes of those involved in selected value chains.

2.2 Project Components

The Growth Enterprises and Market in States (GEMS) project has the following components:

Component 1: Improved Investment Climate

The objective of this component is to lower the cost of investment by addressing the long and high administrative burden incurred in complying with business regulations. It will also help to make business regulations more transparent, thereby reducing the risk of investment.

The Investment Climate Assessment highlighted three key areas of weakness in Nigeria’s investment climate; Energy, Transport and Access to Finance with infrastructure and access to finance addressed

by other operations. GEMS will focus on improving the business environment, underpinned by the DFID and the World Bank pilot reforms of land and tax administration under the investment Climate Program (ICP) in all four GEMS focal States including F.C.T, Abuja. GEMS will consolidate and deepen ICP progress as described below:

Land

- Design and install an effective system for making serviced land available for development.
- Develop simpler and transparent procedures for investors to acquire secure title to property and reduce the cost of land transactions.
- Simplify and streamline the procedure for obtaining planning consent and construction permit to allow investors to develop land quicker and at lower administrative cost.

Tax

- Improved capacity and incentive for Boards of Internal Revenue (BIRs): GEMS will train officials in tax assessment and administration and explore ways of providing greater autonomy to BIRs so that tax officials may be better remunerated.
- Establish better systems of tax administration: GEMS will support BIRs to improve the efficiency and transparency of tax administration by computerizing tax assessment, payment and the issuance of tax clearance certificates.
- Reduce multiple taxation: State and local government areas (LGAs) may attempt to collect multiple taxes and levies. Many are without legislative backing and do not generate much revenue, but do provide the pretext for officials to predate on business and citizens. GEMS will provide the technical assistance to focus States LGAs to reduce multiple taxation and move to a system of a fewer number of easily administered taxes.
- Tax payer education: GEMS will help increase the amount and quality of information available to tax payers by assisting BIRs to establish walk-in and call centers for tax payer queries and complaints.

Investment Promotion and Facilitation

- To respond to investment promotion issues, GEMS will provide the technical assistance required to establish effective investment promotion agencies and **One Stop Investment Centers** (OSICs) in the four States.
- It will support the federal OSIC to undertake a process of simplifying procedures for the agencies involved thereby providing a model that States can follow.

Flexible Facility and Peer Learning

- GEMS will provide a pool of unassigned funds which can be used to address new areas of reform against agreed reform deliverables.
- Business environment reform activities will be accompanied by peer learning.
 - For example, lessons learned from improving the tax administration system in the focal State will be shared through the joint Tax Board.
 - The aim of this peer learning will be to strengthen demand for reforms and promote good practice at the federal and State levels.

Component 2: Industry Cluster

The objective of this component is to increase the competitiveness of strategic clusters in selected non-oil industries thereby improving the return to investment in terms of growth and jobs. This component includes interventions in six promising value chains to increase growth and employment and a small flexible financing mechanism. The component has the following subcomponents.

Information Communication Technology (ICT)

GEMS will address the binding constraints to the sectors growth including:

- Broadband connectivity increasing returns to investment;
- Management and vocational skills;
- Access to private equity and credit;
- Support incubation and cluster development services through ICT parks:
 - GEMS will work on ICT clusters in all four states as well as Abuja where call centers and an ICT park are emerging.

Entertainment

GEMS will:

- Improve the protection of Intellectual Property Rights (IPR);
- Strengthen formal marketing and distribution channels;
- Increase access to equity and loans finance;
- Improve management and skill training;
- Develop leasing and equipment hire services;
- Develop the national film institute to serve as a center for excellence.

Wholesale and Retail Trade

GEMS will:

- Reduce waste by increasing investment in better storage, distribution systems and market infrastructure
- Promote better business models to reduce transaction costs in the traditional wholesale/retail system and make the emerging modern retailing system more accessible to small suppliers
- Improve the enforcement of weights and measures, food safety and product standards to increase consumer's confidence.

Construction and Real Estate

GEMS will:

- Address access to serviced land;
- Project management and vocational skills;
- Access to finance;
- Construction permits and standard;s

Hospitality

GEMS will focus on Lagos, Kano, Kaduna, Cross River and FCT, Abuja as recognized growth poles for the industry and shall support the following:

- Address access to land to build hotels and restaurants
- Skills in designing and operating accommodation attraction and catering establishment

- Effective institutions for marketing destinations and attractions and enforcing health and safety and environmental standards
- Develop more efficient and inclusive supply chains.

Meat and leather

The development of better abattoirs in the northern part of Nigeria will increase the supply of skins to Nigeria leather industries addressing the main constraint to growth. The important clusters are in Kano, Kaduna and Lagos.

Towards this end GEMS will:

- Support investment in abattoirs in the north to supply meat to the south;
- Improve animal health and nutrition by training private sector Para- veterinarians;
- Support feed suppliers to develop a market for feeding ruminants;
- Improve food safety throughout the meat chain.

Flexible funding Mechanism

GEMS will use a variety of instrument to bring about systematic changes. The major government failure will be addressed through financial and technical assistance to invest in public goods (i.e. vocational training), facilitate public private partnerships (i.e. to improve storage facilities) and strengthen institutions (i.e. IPR enforcement agencies). GEMS will engage with the private sector to address market failures by:

- Increasing the supply of business development services to improve management and access to finance;
- Using public monies to trigger innovation in business models that provides public benefits using the challenge fund mechanism to obtain the best value for money.

Component 3: Project Management, Monitoring, Evaluation and Communication

The objective of this component is to establish a framework and resource allocation for the execution, monitoring review (semi-annual and mid-term), independent evaluation and reporting of project performance in all components. However, the component will finance audit, training, consultant assignments, and goods required to:

- Further the execution, reporting, review (semi- annual and mid-term) and monitoring of project components
- Execute a comprehensive impact assessment survey.

2.3. Purpose of the Safeguards Policies in GEMS Project

The project will comply with the World Bank Safeguard Policies and applicable Federal, State and local laws of Nigeria.

The World Bank Safeguard Policies are as follows;

1. Environmental Assessment (OP4.01)
2. Natural Habitats (OP 4.04)
3. Forests (OP 4.36, GP 4.36)
4. Pest Management (OP 4.09)
5. Cultural Property (OPN 11.03)
6. Indigenous Peoples (OD 4.20)
7. Involuntary Resettlement (OP 4.12)
8. Safety of Dams (OP 4.37, BP 4.37)
9. Projects on International Waters (OP 7.50)
10. Projects in Disputed Areas (OP 7.60)

11. Public Disclosure (BP17.50)

A complete description of the safeguard policies and their triggers can be found on the World Bank's official web site www.worldbank.org and summarized in Annex 1.0,

2.3.1 Safeguards Policies Triggered by GEMS Project

1. Environmental Assessment (OP4.01)
2. Involuntary Resettlement (OP 4.12)
3. Pest Management (OP 4.09)

③ **Environmental Assessment (OP4.01, BP 4.01, GP 4.01)**

OP4.01 is triggered when the components sub-project activities involve civil works that have negative impact on the environment. The World Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA process required in order to avoid adverse impacts, or mitigate them where avoidance is not possible.

OP 4.01 is triggered in component 2 of the GEMS project as a result of sub-project civil works activities (construction and/or refurbishment) and with the potential to impact adversely on the environment. The sub project components include:

- Construction of a smart building for accommodating the ATV corporate office and a technology incubation centre for ICT.
- Construction of a built-to-suit internet open plan space, play amenities and office spaces
- Construction of hotels and restaurants
- Construction & real estate
- Construction work in the national film institute.

However, at this stage of the project, specific project locations are not known, hence the right instrument required is the ESMF.

③ **Pest Management (OP 4.09)**

The policy supports safe, affective, and environmentally sound pest management practices. It promotes the use of biological and environmental control methods.

This policy is triggered in component 2 of the GEMs project due to the need to support improved technology in agro-related meat and leather industry, which shall involve procurement and use of pesticides. Comprehensive discussion on this is found in the Pest Management Plan report.

Involuntary Resettlement (OP 4.12)

This policy is triggered in the GEMS project due to proposed land take for developments. OP 4.12 covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by:

- the involuntary taking of land resulting in;
 - relocation or loss of shelter;
 - loss of assets or access to assets, or
 - loss of income sources or means of livelihood, whether or not the affected persons must move to another location;
- The involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

OP4.12 will apply in GEMS project as result of the proposed land takes for various construction works. Details are discussed in the Resettlement Policy Frame work (RFP) report

However, this report is the ESMF, which addresses Environmental Assessment (OP4.01)

3.0 DESCRIPTION OF PROJECT ENVIRONMENT

3.1 Description of Nigeria

Nigeria is situated in West Africa lying between latitudes 4°00 N and 14°00N and longitudes 2°500 W and 14°45 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.

As seen in Figure 3.1, Kaduna and Kano states are located in the north-central part of Nigeria; F.C.T. Abuja in the central part of Nigeria; Cross River state is located in the south -south of Nigeria; and Lagos state in the south-west of Nigeria.

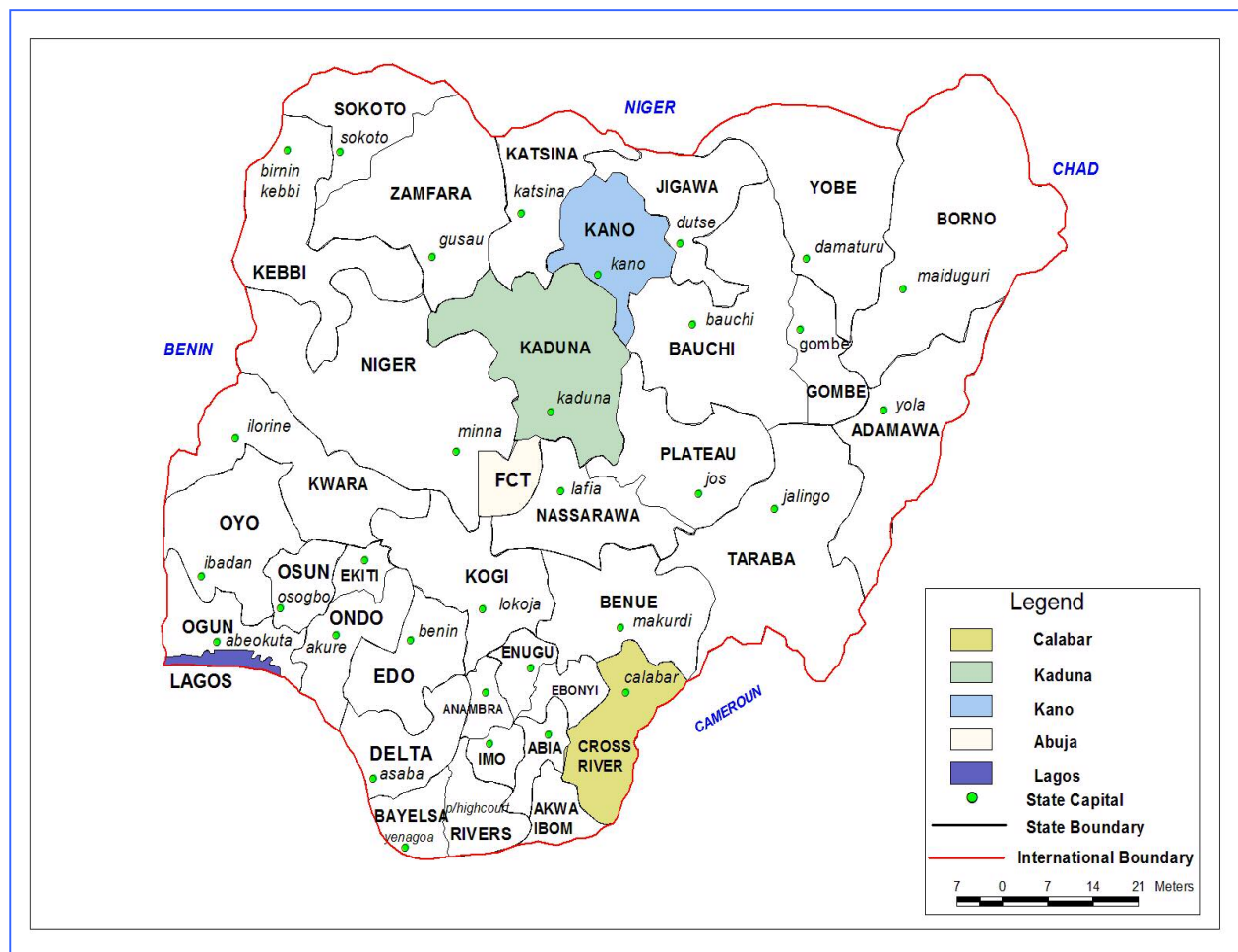


Figure 3.1: Map of Nigeria showing the project states

3.2. Description of Selected State

Kaduna State

Kaduna state was created in 1976, and was the capital of the former northern region of Nigeria. It is located on the southern end of the high plains of northern Nigeria and bounded by parallels 9°03'N and 11°32'N, and extends from the upper River Mariga on Longitudes 06°05'E to 08°48'E on the foot slopes of the scarp of Jos Plateau.

3.2.1 Physical Environment

Climate

Kaduna State experiences a typical tropical continental climate with distinct seasonal regimes, oscillating between cool to hot dry and humid to wet. The climatic seasonality is pronounced with the cool to hot dry season being longer, than the rainy season. Again, the spatial and temporal distribution of the rain varies, decreasing from an average of about 1530mm in Kafanchan-Kagoro areas in the Southeast to about 1015mm in Ikara and Makarfi districts in the northeast. High evaporation during the dry season, however, creates water shortage problems especially in Igabi, Giwa, Soba, Makarfi and Ikara LGAs.

Geology

The bedrock geology in Kaduna State is predominantly metamorphic rocks of the Nigerian Basement Complex consisting of biotite gneisses and older granites. In the south-eastern corner, younger granites and batholiths are evident. The valleys in Kaduna are shallow but wide, stretching several tens of kilometres into the headwater areas with gentle sloping valley sides; imperceptibly grading into flat moist to marshy alluviated bottomlands or floodplains, called "fadamas" in Hausa. Although stream valley incisions and dissections of the high plains are evident in several areas, especially in the Zaria region, they are due to anthropogenic influences and climatic factors than regional geologic instability.

Soils and Vegetation

Generally, the soils in Kaduna State are typical red-brown to red-yellow tropical ferruginous soils and the vegetation is made up of savannah grassland with scattered trees and woody shrubs. The soils in the upland areas are rich in red clay and sand but poor in organic matter.

3.2.2 Population

The 2006 census provisional result puts the population of Kaduna State at 6,066,562 persons. Although majority live and depend on the rural areas, about third of the state's population are located in two major urban centres of Kaduna and Zaria. However, except in the northwestern quadrant of the state, the rural population concentration is moderate, reaching a high of over 500 persons per sq. km. in Kaduna and Zaria town and the neighboring villages are as follows;

- ③ Jaba, Igabi and Giwa 350 persons per sq. km
- ③ Ikara LGAs 200 persons per sq. km

3.2.3 Agriculture

In Kaduna the agriculture and forest resources are enormous. On the gentle rolling high plains, the tropical ferruginous soils have been intensively used for cereal and cotton cultivation. Although the soils are poor because of leaching and poor cover management, but with good conservation and land management practices, it is capable of supporting calcium-rich annual grass for livestock development. In the north of latitude 10° N, the soil is good for production of large quantities of cotton lint and seed for which Soba, Makarfi, Kudan, Ikara, Kubau, Kauru and Lere LGAs are known. Yam and maize have successfully been

producing high yields with the use of fertilizer in recent times, especially in Igabi, Giwa and Birnin Gwari LGAs. In the well-watered southeastern part, the rich darker soils are used for cultivating cereals, cassava, rice and the famous southern Kaduna ginger ("Chitta" in Hausa).

In the fadamas, the dark grey clay soils (vertisols) have become highly valued and are focused on for intensive agricultural activities especially during the dry season. Large areas of such fadamas are being used for economically valuable market gardening for growing tomatoes, chillies, sweet pepper, okra, onion, Irish potato and sugar cane using traditional "shadoof" irrigation (in the floodplains/fadama of Galma and Tubo basins).

3.2.4 Transport Network

Kaduna State is served with 2,820km stretch of trunk "A" Federal, well surfaced roads radiating from Kaduna City in five cardinal directions westwards to Tegna, northward to Kano, eastwards to Jos, south and south-eastwards to the Federal Capital Territory.

The State Government has also constructed good tarred surface roads comparable to the trunk "A" totaling 1,200km; and several other road development projects are still going on. Again, in order to open up the large rural areas, the former Federal Government Agency, Directorate For Foods, Road and Rural Infrastructure (DFRRI), constructed feeder roads to specific project locations. For example, the road linking Rigachikun to Sabon Bimin and Gumel to Jere in Igabi and Kachia LGAs respectively, are good feeder roads. Several other stretches have been constructed in Zango Kataf and Jama'a LGAs in order to gain access to the state's rural agriculture lands.

3.2.5 Environmental Issues

As in most part of Northern Nigeria, the major environmental problems are soil degradation, rapid deforestation, urban air and water pollution, desertification, loss of arable land and rapid urbanization.

3.3 Description of Cross River State

Cross River State is a coastal state in South Eastern Nigeria, created in May 1967 from the former Eastern Region. The State which occupies 20,156m² is located on latitude 05° 53.083'N and longitude 8° 8.25'E, and shares boundaries with Benue State in the north, Enugu and Abia States to the west, Cameroon Republic to the east and Akwa-Ibom and the Atlantic Ocean to the south. Fig 2.2 shows the location of Cross River in Nigeria map.

3.3.1 Physical Environment

Geology

The Coastal Plain of Cross River State is generally characterized by sandstones with lenses of clay and gravel. The major aquifers are mainly sandstone.

Cross River State is blessed with abundant surface water (natural lakes, artificial reservoirs ponds, small perennial streams, springs and rivers) and ground water. The vast majority of the rural people obtain water for domestic use from the rivers, streams and wells. Ground water resources may vary depending on the location. On the coastal plain, in Akpabuyo, Calabar Municipality and part of Odukpani, there are excellent aquifers. Calabar and the other towns of Ogoja, Obudu, Ikom and Obubra are served by piped water from rivers and boreholes manned by the Cross River State Water Board Limited. From its name it is apparent that Cross River State occupies the catchment of River Cross which crosses down the Cameroon Mountain, across the flat-lying Cross River Basin, into vast estuary located along the Southern Nigeria- Cameroon boarder.

Climate

The state is situated in the tropical rain forest belt, characterized by monsoon rains, with dry periods in the part and a periodically dry savannah climate in the northern part. In Calabar the annual rainfall was about 3,300 mm, of which about 70% occurred during the months of June to October; the mean daily maximum and minimum temperature varies between 21.°C to 32°C in January and 25.05°C and 27.4°C in July and August respectively; the relative humidity ranges between a maximum of 98% throughout the year and a minimum of 60% in February; the average monthly evaporation ranges between 4.3 mm/day in February and 2.3 mm/day in July.

Soil and Vegetation

The soil type in Cross River state is predominantly heavily leached, reddish-brown, loamy-sandy soils and the vegetation of Cross River State is made up of tropical forest and the mosaic forest vegetation for most part of the southern areas which also extends to Itigidi, Obubra and Okpoma, while Ogoja has a combination of savannah and forest vegetations.

3.3.2. Population

Cross River State has a total population of 2,888,966 persons (2006 population census) made up of 1,492,565 males and 1,396,501 females spread across the 18 local government areas of the state.

3.3.3 Agriculture

The state is one of the most richly endowed agricultural lands in Nigeria. Natural rubber, pineapple and palm oil are already established plantation products and the main raw materials export in the state. Cocoa, soya beans, food crops such as cassava, yam, rice, plantain, banana and maize are produced in abundant quantities.

3.3.4 Transport Network

Cross River State enjoys excellent road network with the rest of Nigeria. It has a direct road link with the middle belt and the north-eastern part of the country. Its location on the south-eastern extremity of the country, almost entirely isolated by rivers, warrants the maintenance of good road networks.

The two major road transportation arteries are the east-west Ikang-Calabar-Itu road and the north-south Calabar-Ikom-Yola road which are both currently in a state of disrepair. Cross river towns have good intra-city transportation, in addition to a good system of inter-city and inter-local government transportation. Sometimes canoes, tree trunks and ropes are the only means used by the local people to cross large rivers in remote settlement.

3.3.5 Environmental Issues in Cross River State

As in most part of Southern Nigeria, the major environmental problems are soil degradation, urban air and water pollution, and rapid urbanization.

3.4 Description of Kano State

Kano state was created in July 1967 out of the defunct Northern region. The state has a location advantage as the centre of commerce and terminus of trade with some African regions as well as the Arab world. It is located between Latitude 12° 40' and 10° 30' and longitude 7° 40' and 9° 30'.

3.4.1. Physical Environment

Geology

The project area is located within the Savannah region which is an integral part of older crystalline basement complex of central part Nigeria.

There are three major rock formations namely the basement complex rocks comprising of crystalline igneous and metamorphic rocks dating back to the Precambrian age. Younger granite rocks were intruded later in the Jurassic. The youngest formation is the Chad sediment deposited from the quaternary including recent deposits.

The Basement Complex

Rocks of the basement complex underline over 70% of the Kano environment. The rock types in the area are older granites, met a sediments and older basement. The older basement is composed of migmatite, biotite gnciss, and banded gneiss. Migmalite is composite gneiss produced by injection of granite magma in to schist host. Gneiss is metamorphosed granite and is granitic in composition while biotite gneiss is a foliated crystalline rock with high biotite content. Banded gneiss has light and dark bands with a light fraction of quartz while the dark fraction or band consists of biotite, plagioclase and quartz minerals.

Climate

The annual motion of the ITD is northwards between February and August and southwards between September and January. The north-south movement of the ITD influences weather pattern. Maximum rainfall is recorded in an area of considerable disturbance (air movement) 8 to 9⁰ southwards of the ITD. However, when disturbance is limited or when the northward movement of the ITD is restricted drought is recorded. The level of disturbance and the northward movement of the ITD is influenced by the global pattern of pressure and winds as well as the interaction of the surface air and the upper air mass (the jetstreams). When the ITD is southwards, the state is under the north easterlies and there is weather change. The weather changes arising from the movement of the ITD gives four seasons.

- hot and dry season (rani)
- warm and wet season (damina)
- warm and dry season (kaka)
- cool and dry season (bazara)

Soil and Vegetation

The soils in this state have marked differentiation of horizons, frequently has a leached A horizon and always contain a textural or structural B horizon.

The soil has appreciable reserves of weatherable minerals with moderately low CEC. Clay is mainly kaolinite but small amounts of illite may be present. Free iron oxides may form mottles and concretions. Differences from the dominant characteristics are attributed to other soil farming factors. For example, in the dry areas where there is appreciable amount of sand drift, there is developed what is known as the brown and reddish brown soils of semi arid areas.

The brown and reddish brown soils are called Xerosols, and Aridisols. The soil exhibit profile development heaving a textural, structural or colour B horizon. There is considerable reserve of minerals due to the slight weathering and leaching arising from low rainfall.

On poorly drained sites one finds hydromorphic soils. These are in concave slope segments; the mineral soils exhibit no profile development. They are vertisol soils, which show deep and wide cracks in the dry season due to high content of clay (more than 30%).

Soil fertility

The soils are deep, well drained except for hydromorphic soils, and poorly structured. The texture ranges from sandy loam in the south to loamy sand in the north.

The climatically defined vegetation types in the state are the northern Guinea savanna and Sudan savanna. Northern Guinea Savanna is an open woodland or bush land with grasses shorter than in the southern guinea where grasses are 1.5 to 3m tall. The Sudan Savanna has scattered trees in open grassland with grasses under 1.2m tall.

The vegetation has been largely cleared for cultivation to form cultivated parkland. Parkland has scattered protected trees at some distance apart in open cultivated land. Small trees and shrubs are more common on fallow land where regeneration may take place. About 75% of the land is cultivated parkland with average tree densities of less than 25 per hectare.

Within the two broad types of vegetation identified, there are pockets of other structural types. Thicket vegetation is found along large river channels and floodplains and it is described as impenetrable shrubby vegetation. Surviving savanna woodland is found as forest/game reserve such as the falgore reserve (370km²). Here the trees and limited number of shrubs form a light canopy. Where the woodland reserve is degraded due to uncontrolled exploitation it changes into scrub vegetation or bush which is made of shrubs and herb and it is not closed. Gazetted grazing reserves may be grassland where trees and shrubs do not exist. The grazing reserve is degraded, through uncontrolled exploitation, when woody vegetation encroaches.

3.4.2 Agriculture

Agriculture is the largest sector in Kano state in term of provision of employment and income to its populace. Over 70% of the working populations are directly or indirectly engaged in agricultural activities which include clearing of Lands, Wet season farming, irrigation Farming, storage and distribution of farm produce and annual husbandry.

The state has the following as the main crops being produced: groundnut, Guinea corn, Maze, Sugarcane, Gum Arabic, Rice, honey, ginger, pepper, coloring leaves, sugarcane herbs and different kinds of vegetables. The Livestock comprise Cattle, Sheep, Goats, and Donkeys Camels and Horses are reared in the state.

About 90% of the Land in Kano state is arable. There are very few areas covered with rocks, thick forests or water that can not be used for faming.

Kano state has the largest irrigation projects in Nigeria. The irrigation infrastructure includes the following:

- i). Kano River irrigation project phase 1 which arrears 22,000 hectares.
- ii). Water River irrigation project
- iii). Gwarzo Road Dams project
- iv). Kafi chiri Dam irrigation project

- V). Thomas River project
- vi). Gari River irrigation project

3.4.3 Population

According to the 2006 national Population and housing Census conducted throughout the country, Kano was rated as the Most Populated State in the federation with a population of 9,401,288 persons (4,947,952 males and 4,453,336 females).

3.4.4 Environmental Issues

In Kano, the major environmental problems are soil degradation, rapid deforestation, urban air and water pollution, gully erosion, Slop wash, desertification, loss of arable land and rapid urbanization.

3.5 Description of F.C.T. Abuja

Abuja is the capital city of Nigeria, established by decree 6 of 1976. Abuja is bordered to the North by Niger and Kaduna States, to the west by Niger state, to the east by Nassarawa and to the south by Kogi state. It has a land mass of 7,315 kmsquare . It lies between latitudes 8o 25'N and 9o 20'N and longitude 6o39'.

3.5.1 Physical Environment

Geology

The FCT is almost predominantly underlain by high grade metamorphic and igneous rocks of Precambrian age. The rocks consist of gneiss, migmatites and granites. A schist belt outcrops along the eastern margin of the area. The belt broadens southwards and attains a maximum development to the south-eastern sector of the area where the topography is rugged and the relief is high. In general, the rocks are highly sheared.

Climate

The FCT has two main seasons, rainy (April to October) and dry (November to March). The high altitude and undulating terrain of the territory act to provide a regulating influence on its weather. During the dry season, the typical month being March, the temperature varies between 30^o C in the northeast to about 37^o C in the southwest.

This period is characterized by high diurnal ranges when drops of as high as 17^oC may be recorded between the highest and lowest temperatures in a day. During the rainy season, temperatures drop considerably due to dense cloud cover. The annual range also drops to around 7^oC, especially between July and August. The Federal Capital Territory records relative humidity, in the dry season, of some 20 % in the afternoon at higher elevations and at more northern locations but about 30% in the extreme south.

This rather low relative humidity, coupled with the high afternoon temperatures, account for the desiccating effect of the dry season which is also marked by the presence of the harmattan haze. During the rainy season, the after noon relative humidity rises everywhere to above fifty percent. In terms of physiological comfort, the high relative humidity in the extreme south of the Territory gives the area a heat trap effect which makes it uncomfortably hot.

Soils and Vegetation

The soils of the territory are generally shallow and sandy in nature, especially on the major plains such as lkuGurara, Roboes, and Rubochi. The high sand content particularly makes the soils to be highly erodible. The shallow depths is a reflection of the presence of stony lower horizons. Those on the famous Gwagwa plains are however deep and clayey, perhaps reflecting the influence of parent materials like gabbro and fine the tomedium textured biotite granite.

Thus, the soils rich of the Gwagwa plains are the most fertile. In addition, their being more or less from ally exposed interfluvial summits, makes them ideal for urban development.

The FCT falls within the guinea savannah vegetation zone of Nigeria. Patches of rain forest, constituting about 7.4 per cent of the total mass of vegetation, however, occur in the Gwagwa plains, especially in the gullied terrain to the south and rugged south-eastern parts of the territory.

The dominant vegetation of the territory is classified into three savannah types, as follows:

Park or Grassy Savannah: This occupies about 53 percent of the total area of the FCT. It is characterized by a few trees such as Albiza, Zygia, ain Butrospermum paradoxum, Daniellia olively and parkia clapperfoniana.

Savannah Woodland: This covers about 12.85 percent of the total area and occurs mostly in the rugged and less accessible parts of the territory, especially in the Gurara, Robo and Rubochi half plains and surrounding hills. The commonest tree species found include Afzela hen africana, Anogeissus leicarpus.

Shrub Savannah: Occurs extensively in rough terrain close to hills and ridges in all parts of the territory, and cover about 12.9 per cent of the total area. Specie composition varies extensively.

3.5.2 Environmental issues

The major ecological problems that are thus inflicted on Abuja include:

- **Soil Erosion and Gullyng:** Human activities like urban growth, vegetation clearance and cultivation have pushed land use activities towards highly fragile areas, and increased the fragility of the less fragile ones. Today, there are several areas of heavily eroded badlands' surfaces and numerous gullies of varying dimensions, some of which cover up to about 0.1 sq. km in area
- **Soil Degradation:** This occurs as a result of the increased pressure being exerted on land for food production, construction and human activities including indiscriminate use of chemicals.

3.5.3 Population

According to the 2006 national Population and housing Census conducted throughout the country, Abuja has a population of 2.8 million person (2006 population census).

3.5.4 Agriculture

Being centrally located, Abuja is blessed with a mix of agricultural produce such as tubers and root crops of the south (yams, cassava, maize and plantains) and grain (sorghum, guinea corn and rice) of the north.

3.5.5 Transportation

Abuja enjoys excellent intra road network and also with the rest of Nigeria. It has a direct road link with Kaduna, Niger, Nassarawa and Kogi states. It also has an international airport for travelers by air within and outside Nigeria.

3.6 Description of Lagos State

Lagos State was created on May 27th, 1967 by virtue of the state Decree No. 14 of 1967 which restructured Nigeria into a Federation of twelve states. The state is composed of the old Federal Territory of Lagos which remains the financial hub and was the Federal Capital of Nigeria (up to December 12, 1991), and the old Colony Province of the defunct Western Region of Nigeria comprising Badagry, Ikeja, Ikorodu and Epe Divisions.

Situated in the southwestern corner of the country, this elongated state spans the Guinea coast of the Atlantic Ocean for over 180km., from the Republic of Benin on the west to its boundary with Ogun state in the east. It extends approximately from latitude 6, 2'North to 6, 4'North, and from longitude 2, 45'East to 4, 20'East. It has a total area of 3,577sq. km., in which about 787sq. km. or 22 percent is water.

3.6.1 Physical Environment

Geology

Recent coastal deposits occur widely in Lagos State. Also, tertiary beds from the Benin Formation stretch from Calabar in the far East through Lagos state to the borders of Benin Republic in the west. Topographically, Lagos state lies entirely within the coastal plain which is characterized by sand bars, lagoons and creeks. Only very thin terised by sand bars, lagoons and creeks.

Climate

Annual rainfall ranges from 1524 beach erosion, 2031mm in the western half of the state to 2032 The Rivers, creeks and lagoons in the state ram 2540mm in the eastern half. However, very small ify and join each other in a rather intricate fashion, portions in the extreme west have annual precipitation From the west, the Badagry creek enters from the volumes of 1270mm to 1524mm only.

Temperatures are generally high in Lagos flowing in from the north, the more important ones State, the mean annual maximum being about 30°C being the Owo, Ogun, SolodeBarre, Owa and (86°F) and the mean annual minimum being of the Osun rivers.

During the wet season months, the south west winds prevail as the front moves to the north. But as from October when the front moves south wards, the northeast winds sweep in the dry season. Lagos State, however, experiences predominantly south-westerly wind and sea breezes all year round.

Soil and Vegetation

The soil type in Lagos state is predominantly heavily leached, reddish-brown, loamy-sandy soils Two main vegetation types are identifiable in Lagos State: Swamp Forest of the coastal belt and dry lowland rain forest. The swamp forests in the state are a combination of mangrove forest and coastal vegetation developed under the brackish conditions of the coastal areas and the swamp of the freshwater lagoons and estuaries.

Lying to the north of the swamp forests is the lowland (tropical) rain forest zone. This zone, which stretches from the west of Ikeja through Ikorodu to an area slightly north of Epe has been modified by man. Yet this is the area of the state where such economically valuable trees as teak, tripochiton, seletrocylon (Arere), bancia diderrichil (Opepe) and terminahia (Idigbo) are to be found. The creeks, lagoons and rivers act as arteries which carry huge quantities of logs from out of state

3.6.2 Population

According to the 2006 population census, the population of Lagos is put at 7,937,952 persons. This is however, in contrast with the figure of 17,552,942 persons recorded from the state conducted population census at about the same period.

3.6.3 Agriculture

Lagos has more coastal land than arable land. Palm crops/trees (within Palm grove area) and vegetables (in Isheri area) are grown in large quantities.

3.6.4 Transport Network

The forms of transportation in Lagos state include road transport, air transport and water transportation. There is also railway transport, but this has been on very low scale in the past two decades due to the grounding of the railway transportation in Nigeria.

3.6.5 Environmental Issues

Environmental issues like soil erosion and gully resulting from human activities like urban growth, vegetation clearance and cultivation. Increase in land use activities as a result of increase in population has resulted to soil degradation. Also issues like de-vegetation and urban waste management problems are also on the increase.

4.0 ENVIRONMENTAL POLICY AND REGULATORY FRAMEWORK

In Nigeria, the power to enforce activities that might impact the environment is vested in the Federal Ministry of Environment (FME_{env}). Internationally, agencies such as the World Bank and other development partners usually set environmental criteria for projects they intend to finance in addition to the country's national policies.

4.1 National Policies

4.1.1 National Policy on the Environment (1988)

The National Policy on the Environment aims to achieve sustainable development in Nigeria, and in particular to:

- secure a quality of environment adequate for good health and well being;
- conserve and use the environment and natural resources for the benefit of present and future generations;
- restore, maintain and enhance the ecosystems and ecological processes essential for the functioning of the biosphere to preserve biological diversity and the principle of optimum sustainable yield in the use of living natural resources and ecosystems;
- raise public awareness and promote understanding of the essential linkages between the environment, resources and development, and encourage individuals and communities participation in environmental improvement efforts; and
- co-operate with other countries, international organizations and agencies to achieve optimal use of trans-boundary natural resources and effective prevention or abatement of trans-boundary environmental degradation.

4.2 Legislations

4.2.1 Environmental Protection Agency Decree No 58 (1988)

The Federal Environmental Protection Agency (FEPA) was established by Decree No. 58 of 1988 and charged with the responsibility for environmental protection. Following the upgrading of the agency to a Federal Ministry of Environment (FME_{env}) in January 2007, the Ministry was mandated to coordinate environmental protection and natural resources conservation for sustainable development.

FME_{env} has developed statutory documents to aid in the monitoring, control and abatement of industrial waste. These guidelines stipulate standards for industrial effluent, gaseous emissions and hazardous wastes. Table 4.1 summarizes the existing regulations applicable to environmental protection while Table 4.2 presents a list of proposed legislations.

Table 4.1: Existing National Environmental Protection Regulations

S/N	Regulations	Year	Provisions
1	National Environmental Protection (Effluent Limitation) Regulations	1991	The regulation makes it mandatory for industrial facilities to install anti-pollution equipment, makes provision for effluent treatment and prescribes a maximum limit of effluent parameters allowed.
2	National Environmental Protection (Pollution and Abatement in Industries in Facilities Producing Waste) Regulations	1991	Imposes restrictions on the release of toxic substances and stipulates requirements for monitoring of pollution. It also makes it mandatory for existing industries and facilities to conduct periodic environmental audits.
3	National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations.	1991	Regulates the collections, treatment and disposal of solid and hazardous wastes from municipal and industrial sources.
4	Harmful Wastes (Special Criminal Provisions etc) Decree No. 42	1988	Provides the legal framework for the effective control of the disposal of toxic and hazardous waste into any environment within the confines of Nigeria
5	Environmental Impact Assessment Act (Decree No. 86).	1992	The decree makes it mandatory for an EIA to be carried out prior to any industrial project development
6	National Guideline and Standard for Environmental Pollution Control	1991	The regulations provide guidelines for management of pollution control measures.
7	Workmen Compensation Act	1987	Occupational health and safety
8	Urban and Regional Planning Decree No 88	1992	Planned development of urban areas (to include and manage waste sites)
9	Environmental Sanitation edicts, laws and enforcement agencies		General environmental health and sanitation. Enforcing necessary laws
10	State waste management laws		Ensure proper disposal and clearing of wastes
11	Public Health Law		Covering public health matters

Table 4.2: List of Proposed Environmental Legislation

Nos	Regulation	Year
1	Waste Prevention and Recycling Bill	1999
2	Response, Compensation and Liability For Environmental Damage Bill	1999
3	Waste Prevention and Recycling Bill	2000
4	Federal Environmental Protection Agency (Amendment) Bill	2001
5	Pollution Abatement and Waste Generation Facilities (control) Bill	2001
6	Federal Environmental Protection Agency Bill	2003
7	Industrial Wastewater Pollution and Control Bill	2003
8	Environmental Managers Registration Council of Nigeria Bill	2003
9	Amendment of EIA Decree No. 86 of 1992 Bill	2005

4.2.2 National Air Quality Standard

The World Health Organization (WHO) air quality standards were adopted by the then Federal Ministry of Environment (FMEnv) in 1991 as the national standards. These standards define the levels of air pollutants that should not be exceeded in order to protect public health.

Table 4.3: National Ambient Air Quality Standards (NAAQS)

Air Pollutants	Emission Limits
Particulates	250 (ug/m ³)
SO ₂	0.1 (ppm)
Non-methane Hydrocarbon	160 (ug/m ³)
CO	11 (ug/m ³) or 10 (ppm)
NO _x	0.04-0.06 (ppm)
Photochemical Oxidant	0.06 (ppm)

4.2.3 Land Use: (Land Use Act (1978))

This act provides a legal basis for land acquisition in Nigeria. The major provisions include:

- Section 1: all land comprised in the territory of each state in the Federation is vested in the Governor of the state and such land shall be held in trust and administered for the use and common benefit of all.
- Section 2: (a) all land in urban areas shall be under the control and management of the Governor of each State; and
- Section 2 (b) all other land shall be under the control and management of the local government within the area of jurisdiction in which the land is situated.

State governments have the right to grant statutory rights of occupancy to any person for any purpose; and the Local Government has the right to grant customary rights of occupancy to any person or organization for agricultural, residential and other purposes.

4.2.4 Workmen Compensation Act (1987)

The law provides for the payment of compensation to employees for injuries suffered in the course of their employment.

4.3 Assessment of the Legal Framework

The existing legal framework for environmental assessment in Nigeria is considered adequate. Detailed laws, regulations and guidelines have been developed and serve as the framework for environmental protection. The implementation has been poor due to poor enforcement.

4.3.1 Environmental Impact Assessment Act

The Environmental Impact Assessment (EIA) Act does not encourage the participation of people whose lives are likely to be affected by a project; rather, it encourages the collection and documentation of technical information which is confusing to most people.

4.3.2 Environmental Policy

The policy and its laudable institutional arrangements have not yielded the desired results. This is principally due to weak enforcement; inadequate manpower in the area of integrated environment management; insufficient political will; inadequate and mismanaged funding; low degree of public awareness of environmental issues; and a top-down approach to the planning and implementation of environmental Programme.

4.4 International Environmental Agreements

4.4.1 Basel Convention on the control of hazardous wastes and their disposal

This agreement aims to address the problems and challenges posed by hazardous waste. The key objectives of the convention are to:

- minimize the generation of hazardous wastes; and
- Reduce the movement of hazardous wastes by disposing of them as close as possible to the source.

The convention aims to protect human health and the environment by minimizing hazardous waste production whenever possible through ESM (Environmentally Sound Management), which controls the generation waste, storage, transport, treatment, reuse, recycling, recovery and disposal of a hazardous waste. Medical wastes are one of the categories of hazardous wastes covered by the Convention.

4.4.2 Bonn Convention on conservation of Migratory Species

The Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

4.4.3 Stockholm Convention on Persistent Organic Pollutants

This treaty aims to protect human health and the environment from persistent organic pollutants (POPs). POPs are chemicals that remain in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife.

Nigeria is also a signatory to the following relevant international conventions:

- The African Convention on the Conservation of Nature and Natural Resources, The African Convention, 1968;
- The Convention Concerning the Protection of the World Cultural and Natural Heritage, The World Heritage Convention, 1972;
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES, 1973;
- The Framework Convention on Climate Change, Kyoto Protocol, 1995;
- The Convention on Biological Diversity, 1992;
- The Convention on the Prevention of Marine Pollution by Dumping of Waste, MARPOL, 1972;

4.5 Institutional Framework

The following institutions and agencies are responsible for regulating and monitoring environmental issues, information and waste management standards applicable to the GEMS project.

1. Federal Ministry of Environment (FMEnv)
2. State Environmental Protection Agencies/Authorities (SEPA)
 - 1 Abuja Environmental Protection Board (AEPB)
 - 2 Cross River State Environmental Protection Agency (CRSEPA)
 - 3 Kaduna State Environmental Protection Agency (KEPA)
 - 4 Kano State Environmental Planning & Protection Agency
 - 5 Lagos State Environmental Protection Agency (LASEPA)

4.5.1 Federal Ministry of Environment

The Federal Ministry of Environment (FMEnv) has responsibility to administrate and enforce environmental laws in Nigeria. The specific responsibilities of the ministry include:

- Monitoring and enforcing environmental protection measures;
- Enforcing international laws, conventions, protocols and treaties on the environment
- Prescribing standards for and making regulations on air quality, water quality, pollution and effluent limitations, atmosphere and ozone protection, control of toxic and hazardous substances; and
- Promoting cooperation with similar bodies in other countries and international agencies connected with environmental protection.

4.5.2 State Environmental Protection Agencies or Authorities

Decree No. 58 of 1958, as amended by Decree No. 59 of 1992, which established FEPA, also issued a federal directive to the states to establish State Environmental Protection Authorities or Agencies

The broad functions of SEPAs include:

- Enforcement of all environmental legislations and policies;
- Coordination and supervision of environmental assessment studies;
- Minimization of impacts of physical development on the ecosystem;
- Preservation, conservation and restoration to pre-impact status of all ecological processes essential to the preservation of biological diversity;
- Protection of air, water, land, forest and wildlife within the states;
- Pollution control and environmental health in the states; and
- Co-operation with FMEnv and other agencies to achieve effective prevention of abatement of trans-boundary movement of waste.

Excerpts of the applicable state environmental protection agencies are stated below:

- **Kaduna State Environment Protection Authority (KEPA)**

The Kaduna State Environment Protection (KEPA) Edict came into operation on the 1st day of January, 1997. Under the edict, the authority (KEPA) has the general responsibility for all matters relating to environment. The main duties are to:

- Enact and enforce State regulations control criteria, procedures, guidelines and environmental standards for effective prevention, remediation, control and prevention of point and non-point sources of pollution and degradation;
- Formulate, implement, and review environmental policy in the State and in particular to demand and review Environmental Impact Assessment and Statements for new development projects and to also demand and review environmental audit reports for existing developments and such other operations which are deemed to have significant impact on the environment;

- Prepare, in accordance with the State Policy and Edict on the environment, periodic master plans for the development and the financial requirements for implementation of such plans;
 - Prevent, stop any act of omission or commission which consequences are likely to adversely affect the environment and to generally deal with any discharge solid, liquid or gaseous, deposited wilfully or otherwise in the environment and to deal generally with any violations which the Authority may deem hazardous to the environment and ecosystem.
- **Lagos State Environmental Protection Agency (LASEPA)**
 - LASEPA was established by the Lagos state executive council in April 1996. Its functions are as follows:
 - Enact and enforce State regulations control criteria, procedures, guidelines and environmental standards for effective prevention, remediation, control and prevention of sources of pollution and degradation;
 - Formulate, implement, and review environmental policy in the State including the review of Environmental Impact Assessment and Statements for new development projects and to also demand and review environmental audit reports for existing developments and such other operations which are deemed to have significant impact on the environment;
 - To initiate and promote policies, programmes and research for the development of environmental science and technology;
 - To liaise routinely and ensure effective harmonisation with the Federal Environmental Protection agency in order to achieve the objectives of the National Policy on environment;
 - co-ordinate the activities of ministries, parastatals, local government councils, departments, statutory bodies and research organizations on matters relating to the environmental protection and conservation;
 - To identify the ecological problems of the State including the devastating erosion and flood, brief the government on their causes and effect and find solutions to them;
 - To establish mechanisms to predict ecological disasters, identify these problems of drainage and sewage systems and carry out measures to improve, protect and remedy their ecosystems.
- **Cross River State Environmental Protection Agency (CRSEPA)**

The Cross River State environmental protection agency edict is established by Edict No 4 of 1996. The functions of the agency are:

 - To prepare and up-date periodic master plans for the development of environment science and technology and advise the Government on the material and financial requirements for the implementation of such plans;
 - To initiate and promote policies, programmes and research for the development of environmental science and technology;
 - To liaise routinely and ensure effective harmonisation with the Federal Environmental Protection agency in order to achieve the objectives of the National Policy on environment;
 - co-ordinate the activities of ministries, parastatals, local government councils, departments, statutory bodies and research organizations on matters relating to the environmental protection and conservation;
 - To identify the ecological problems of the State including the devastating erosion and flood, brief the government on their causes and effect and find solutions to them;
 - To establish mechanisms to predict ecological disasters, identify these problems of drainage and sewage systems and carry out measures to improve, protect and remedy their ecosystems;
 - To identify water, air and soil pollution and their sources and carry out measures to prevent them;

- To monitor the implementation of Environmental Impact Assessment (EIA) and the Environmental Audit Report Guidelines and Procedures on all policies and projects within the State.

- **Kano State Environmental Planning & Protection Agency (KASEPPA)**

KASEPPA was established by the state Edict No.15 of 1990. The functions of the agency are:

- Urban centre planning;
- Control of development in urban centres;
- Granting of building, designing and construction permission;
- Pollution control and abatement;
- Provision of amenities, conveniences and infrastructures.

- **Abuja Environmental Protection Board (AEPB)**

The AEPB was established under AEPB Decree No. 10 of 1997 and serves as the regulatory authority charged with the responsibility for the protection and management of the environment. The board's specific functions include but are not limited to:

- Enforcement of all environmental legislations and abatement of all forms of environmental degradation and nuisance.
- Minimizing the impacts of physical development of the ecosystem
- Preserving, conserving and restoration to pre impact status of all ecological processes essential for the preservation of biological diversity.
- Protection and improvement in air, water, land, forest, and wildlife in the ecology of the federal capital territory.
- Municipal liquid and solid waste collection and disposal/sanitation management services including connection of plot to the central sewer line.
- Pollution control and environmental health – fumigation and vector control services.

5.0 POTENTIAL IMPACTS

Most of the project impacts would be site-specific, localized and relatively of small scale. Nevertheless, there are some issues of concern that cut across the range of proposed interventions. Discussed below are both the potential *positive* and *negative* impacts of the GEMS projects.

5.1 Potential Positive Impacts

The potential positive impacts of the GEMS project include the following:

- Increased investment and poverty reduction: Business environment reforms and interventions in support of strategic clusters should help to increase investment leading to employment creation and poverty reduction. Potentially this could help to reduce the extent to which young people become economically inactive or are unemployed which is an important contributory factor to crime and violence.
- House provision: *GEMS* Business environment reforms could help to release more land for development addressing the acute housing shortage in the country. More transparent land administration could reduce the disadvantages that women and the poor currently face in obtaining title to land.
- Increased incomes: Improved competitiveness of strategic clusters could help to increase the incomes of participants;
- Skills development: Targeted skills development to build human capital in selected industries;
- Improved Health and safety standards in the work place could be realised in targeted industries; and the improvement of food production, wholesaling and retailing facilities could help to reduce health risks for consumers; and
- Creating environmental awareness and effective monitoring and evaluation of impacts could improve the environmental footprint selected industries.
- Increase in internally generated revenue of the states,
- Sustainable economic diversification and attraction of foreign direct investment.

5.2 Negative Environmental and Socio-Economic Impact

The potential negative impacts of the GEMS project include:

Land Degradation

- ③ Land degradation resulting from the use of pesticides
- ③ Leakage of oil and fuel during civil works

Noise:

- ③ Resulting from the use of heavy equipments/machine during construction/ refurbishing works

Air quality:

- ③ Emission of pollutants from mobile (vehicles) and stationary (mixers, generators etc) sources.
- ③ Allergy from emission of offensive pesticides
- ③ Air pollution from burning of domestic waste e.g. wood, paper etc.

Soil:

- ③ Point source contamination from hydrocarbon leaching
- ③ Increased soil erosion due to vegetation damage, soil trampling and compaction during civil work
- ③ Increased rapid run off due to vegetation clearing and soil compaction diminishing infiltration

Water quality:

- ③ Potential pollution of surface and ground water through runoff of pollutants
- ③ Water pollution due to seepage from tanks (diesel, sanitary waste etc)

Vegetation:

- ③ Vegetation extinct resulting from IRS and larvicide's treatment
- ③ Impacts on protected areas; critical habitats for rare species or of ecologic or domestic importance
- ③ Coloration of green plants due to contact with chemicals

Solid/Hazardous Waste Management:

- ③ Solid waste generated from demolition and construction activities containing potentially hazardous materials (e.g asbestos).
- ③ Waste generated during building works piling on the roadside
- ③ Risk of road accidents during works
- ③ Contamination risk by HIV from the labour force
- ③ Allergy resulting from chemical inhalation

5.3 Cumulative Impacts of the Project

On a long term scale, the Project has the potential to result in a number of cumulative impacts, such as:

- Deforestation due to access to land for real estate construction work.
- Groundwater contamination owing to the construction of numerous civil works, the introduction of numerous small scale irrigation works and potential cumulative impacts on water users (especially downstream users of potential river and streams), and pollution resulting from spillage or leakages of chemicals used in abattoirs.
- Resettlement due to the acquisition of land for real-estate work, induced migration of people due to increased degradation of natural resources in an area and attraction of large migrant populations to communities that have successfully introduced improved infrastructure (i.e. rehabilitated roads).
- Displacement of PAPs (minimal if any), Loss of shelter, and access to source of livelihood as a result of land acquisition
- Waste production due to multiple waste and dumping sites from uncoordinated waste management.
- Encroachment into protected areas of the project communities due to increase in population as a result of improved infrastructure

- Increase migration as result of better market, employment opportunities, better quality of life etc. these in turn result to social vices in the project environment.

These can be mitigated through careful design of the project, implementing the required mitigation measures for different types of investments, and ensuring through monitoring that activities and their outputs meet permissible limits (e.g. air emissions, chemical use, effluent treatment) under national law and international best practice.

6.0. MITIGATION MEASURES

Environmental mitigation consists of measures that can reduce the negative environmental impacts associated with implementation (construction, expansion, rehabilitation etc) of the project.

6.1. Mitigation Measures

Mitigation measures for the potential impacts associated with the GEMS project are stated as follows:

Table 6.1: Summary of Environmental Mitigation Measures

Potential Impacts	Recommended Mitigation Measures
Physical	
Land Use	
<ul style="list-style-type: none"> ④ Land degradation resulting from use of pesticides ④ Leakages of oil and fuel during civil works 	<ul style="list-style-type: none"> ④ Proper maintenance of equipment and machines
Noise	
<ul style="list-style-type: none"> ④ Resulting from use of heavy equipment/machines during construction /refurbishing works 	<ul style="list-style-type: none"> ④ Installation of sound insulation. ④ Schedule work periods not more than 8 hours for personnel operating heavy machines.
Air Quality	
<ul style="list-style-type: none"> ④ Emission of pollutants from mobile (vehicles) and stationary (mixers, generators etc) sources. ④ Allergy from emission of offensive pesticides ④ Air pollution from burning of demolition wastes e.g. wood, paper etc 	<ul style="list-style-type: none"> ④ Introduction of dust reduction measures in construction sites ④ Safety measures put in place including the wearing of PPEs
Soil	
<ul style="list-style-type: none"> ④ Point source contamination from hydrocarbon leaching ④ Increased soil erosion due to vegetation damage , soil trampling and compaction during civil work ④ Increased rapid runoff due to vegetation clearing and soil compaction diminishing infiltration capacity 	<ul style="list-style-type: none"> ④ Proper storage of diesels ④ Proper maintenance of machines/equipments
Water Quality	
<ul style="list-style-type: none"> ④ Potential pollution of surface and ground water through runoff of pollutants ④ Water pollution due to seepage from tanks (diesel, sanitary wastes etc) ④ Lack of water for sanitation or toilet facilities 	<ul style="list-style-type: none"> ④ Maintain equipment regularly ④ Ensure proper storage of oil, diesels and fossils ④ Ensure the availability of portable water in the project area.
Vegetation	
<ul style="list-style-type: none"> ④ Vegetation extinct resulting from IRS and larvicide treatment ④ Impacts on protected areas; critical habitats for rare species or of ecologic or domestic importance. ④ Coloration of green plants due to contact with chemicals 	<ul style="list-style-type: none"> ④ Careful planning and selection of sites ④ Cultural heritage sites protection enforced. ④ Appropriate seasonal implementation
Solid/Hazardous Waste Management	
<ul style="list-style-type: none"> ④ Solid waste generated from demolition and construction activities containing potentially hazardous materials (e.g. asbestos). ④ Waste generation during building works piling on the roadside 	<ul style="list-style-type: none"> ④ Quick sorting, collection and disposal of waste removed from the sites in accordance with applicable regulations.
Health and Safety	
<ul style="list-style-type: none"> ④ Risks of road accidents during work ④ Contamination risk by HIV from the labour force. ④ Allergy resulting from chemical inhaling 	<ul style="list-style-type: none"> ④ Ensuring the use of nose guard ④ Conduct awareness raising campaigns on HIV/AIDS

6.2. Mitigation Funding

Cost of Design Measures

The quantities, specifications and estimated costs of design measures to avoid or mitigate negative impacts of each project site will be assessed by the civil design contractor and the Environmental and social Specialist in all the state PMUs and incorporated into their bidding documents. The contractor will execute all required works and will be reimbursed through pay items in the bill of quantities, which will be financed by the project.

7.0 INSTITUTIONAL/IMPLEMENTATION ASSESSMENT AND FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT

7.1 Institutional Roles and Responsibilities

The main institutions with key responsibilities in this ESMF are:

7.1.1 Federal Ministry of Commerce and Industry (FMOCI)

One of the primary responsibilities of the (FMOCI) will be to have overall responsibility for the execution of the project. The ministry will act through the Directorate of Trade that will maintain day-to-day relations with the financing institutions. The project's administrative, financial and implementation arrangements will be handled by the project coordination unit and the regional steering committees in each of the participating states.

7.1.2 State GEMS Committees

The State GEMS Committees will ensure state level ownership and coordination. They will be made up of representatives from government and the private sector and will ensure that state specific work plans are agreed and delivered in a timely fashion, are coordinated with the policy thrust of state government and meet the evolving needs of the private sector.

The state Committees will report through the PMU to the GEMS Board. The State Committees will be serviced by advisers who will support them in ensuring that a cohesive program of activities is developed and implemented effectively.

7.1.3 World Bank

The World Bank has overall responsibility to ensure that its Safeguard Policies is complied with. In addition, will be responsible for the final review and clearance of EMPs; as well as review and give "no objection" to EMP TORs. The responsibility for preparing the TORs for EIAs/EMPs resides with the State Agencies.

The Bank will provide specialists to support Federal and State level agencies that are promoting and facilitating investment based on its experience worldwide. The bank has the expertise in the service industries of ICT, entertainment, wholesale & retail and tourism and will appoint specialist service providers who can command the respect of stakeholders for these industries. Its loan instrument is particularly appropriate to these industries as they require large scale investment in market infrastructure

7.1.4 Department for International Development (DFID)

DFID will lead on establishing effective State Committee and appoint Advisers to service them. DFID has established a sound partnership with Kano, Kaduna, and Lagos states supporting improvements in governance (SPARC) and health and education. The partnership represents a major asset for GEMS.

DFID will appoint the service provider to support business environment reforms at the state level in Nigeria through the Security, Justice and Growth (SJG) program and the ICP. Its grant instrument, flexible procurement procedures and ability to switch resources are well suited to the unpredictable process of supporting policy and institutional change.

DFID will also appoint service providers to support stakeholders in the meat & leather and construction industries. DFID has a track record in making commodity markets works better in Nigeria and has been working on land issues that are central to the construction industry.

7.2 Implementation Roles and Responsibilities.

7.2.1 Federal Ministry of Commerce and Industry (FMOCI)

The role of the FMOCI in this project will be that of monitoring.

Although the staffing levels at the EIA division of the FMOCI and the Impact Mitigation and Monitoring (IMM) Branch of the EIA division are sufficient with adequate experience to carry out these roles, there is a need for further training.

7.2.2 GEMS Programme Board

The GEMS Programme Board constituted by representatives of the Ministry of Finance, Commerce, Information and Communication, the national planning commission, each focal state and eminent people from the private sector will set overall policy and ensure the programme is coordinated within FGN and state government interventions. The board will be served by a PMU, a lean secretariat responsible for coordinating the work of all components of the programme and providing M&E, lesson learning and communication functions. The PMU at this stage will recruit an Environmental specialist to be responsible for safeguard issues of the RPF and he or she will be supported by a consultant to be hired as required.

It will also procure all service providers and process payments for GEMS activities financed by the World Bank. The PMU is also expected to work closely with the three designated committees operating at the State level.

7.2.2 State GEMS Committees

All technical assistance, institutional building, and investment sub-projects will be managed and supervised by the State GEMS Committee. It will be headed by a General Manager who will manage an inter-disciplinary staff that will also include an Environmental specialist. To successfully implement this ESMF, it is recommended that the State GEMS Committee designate a staff for environmental and social management.

The designated Environment/social specialist will be responsible for day to day monitoring and reporting feedback throughout the life of the project, specifically the monitoring of

- ④ The environment and social assessment work to be carried out by the specialist him/herself or by the service providers;
- ④ Overseeing the implementation of the EMPs and RAPs (if applicable); and
- ④ Monitoring of environmental issues during operations..

Table 7.1: Summary Table of Institutional Framework for Environmental and Social Management Plan

Institution	Tasks/Activities
State GEMS Committees	Project Coordination and Oversight; responsible for providing oversight over the Technical Committees that have been established by the ICP program.
GEMS Programme Board	Preparation of TORs for EMPs; monitoring activities of EMPs.
Federal Ministry of Commerce and Industry (FMOCI)	Maintaining day-to-day relations with the financial institutions.
World Bank, FMOCI, State Ministries of Commerce	Review, approve and clearance of ESMPs; Monitoring State GEMS Committees and reporting to FMOCI and State Project Advisory Board.

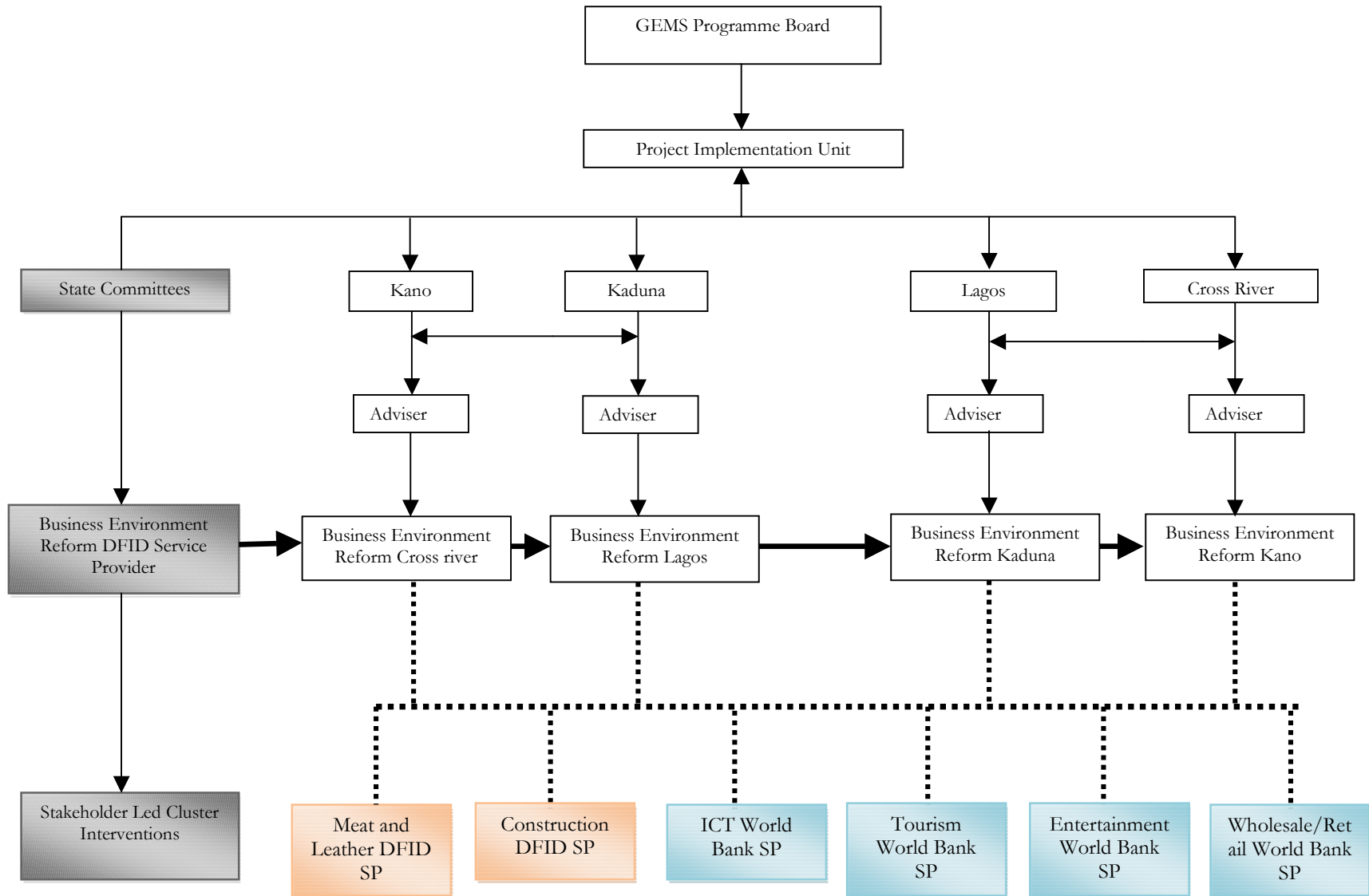


Figure 7.2 Implementation Organogram for the GEMS project across the relevant agencies and Ministries

8.0 ENVIRONMENTAL AND SOCIAL PLANNING, REVIEW AND CLEARING PROCESS AND PROCEDURES FOR SUB-PROJECTS

This chapter identifies and illustrates the specific steps involved in environmental and social assessment process leading towards the clearance and approval of the EA process for sub-projects. The steps incorporate both relevant Nigerian guidelines/requirements and the World Bank's policy OP 4.01 Environmental Assessment.

8.1 Environmental Screening Process

The purpose of the screening process is to determine whether sub projects are likely to have potential negative environmental and social impacts; to determine appropriate mitigation measures for activities with adverse impacts; to incorporate mitigation measures into the sub project design; to review and approve sub project proposals and to monitor environmental parameters during implementation. The extent of environmental and social work that might be required for the sub project prior to implementation will depend on the outcome of the screening process.

Environmental Screening will be done using information provided on Environmental and Social Screening Form (Annex 4A). The GEMS SSC and PMU will guide and facilitate the communities to fill and complete this form during sub project identification process. A checklist (Annex 4B) is provided to guide the SSC/PMU teams identify appropriate mitigation measures for the sub project identified.

For situations where the environmental and social screening process identifies land acquisition needs, that would trigger OP 4.12 Involuntary Resettlement, then the provisions of the Resettlement Policy Framework (RPF) would apply. This would require the State Steering Committee (SSC)/PMU teams to advise communities to choose an alternative land site that does not trigger this policy. Any sub projects that land acquisition will not be resolved at the community level will be ineligible for funding.

8.2. Categorization of GEMS projects for EA

As a general rule all projects regardless of their size are supposed to be screened. Screening provides information which is the basis for classification of projects into categories A, B, or C depending on the nature, type, scale, location, sensitivity and magnitude of the potential / envisaged environmental impact of the project or sub-project.

The groups are as follows:

- ③ **Category A project** is the one that is likely to have significant adverse environmental impacts that is sensitive, diverse or unprecedented. Such a project falls under the Mandatory List, which means they must be subjected to a full EIA.
- ③ **Category B project** is the one whose potential adverse environmental impacts are less adverse than those of Category A, and are few, site specific and in most cases have mitigatory measures can be designed readily. Category B projects/subprojects require Limited Environmental Impact Assessment (LEA)
- ③ **Category C project** is that one that is likely to have minimal or no adverse environmental impacts. Apart from registration and screening no further EA action is required.

In light of the above categorization, and given the fact that the prime objective of GEMS is to improve the business environment in selected states and support job creation and increased incomes in selected economic clusters, then GEMS funded sub projects falls under category B according to World Bank Operational Manual and Category 2 of the Nigerian EIA Procedures and Guidelines

8.3. Assigning appropriate environmental category

The screening process will lead to four safeguard requirements:

- ③ No further action if the sub project has no impacts on the environment.
- ③ Carry out simple Environmental Review if sub project may create a few minor and easily mitigated environmental problems.
- ③ Carry out Limited Environmental Review if sub project may create minor environmental problems that require frequent site visit or construction modifications to minimize or eliminate impact.
- ③ Carry out full EIA if sub project will result into potentially significant direct or indirect adverse impact.

8.4 Conduct ER, LEA or EIA

After reviewing the filled Environmental Social Screening Form (ESSF) and the sub project environmental checklist, the SSC/PMU teams will determine the extent of the environmental and social work required, i.e. whether the application of mitigation measures outlined in the environmental checklist will suffice or not. Some design modifications can be incorporated at this stage in order to minimize or avoid environmental impacts.

Depending on the magnitude of the environmental impact identified, then the designated local government environmental Officer will carry Environmental Review.

In some cases, the results of the environmental and social screening process may indicate the need to carry out a full EIA. In this case, the more complex environmental procedures shall be followed. Such full-fledged EIA requires inputs from teams of specialists/consultants as well as from other stakeholders. The steps for carrying out an environmental impact assessment are outlined in Annex 5.

8.5 Review and Approval

Under the guidance of the PMU Environmental specialist, the SSC team will review the Environmental and Social Screening Form as well as the Environmental Checklists that were completed in the course of sub-project preparation to ensure that all environmental and social impacts have been identified and successfully mitigated. The SSC must also ensure that the sub-project designs include monitoring and institutional measures to be taken during implementation and operation.

If the application has satisfactorily addressed these issues, the SSC will then clear the sub-project and recommends for approval and subsequent funding.

If the SSC finds that the submitted design is not consistent with the requirements of the environmental screening form and the environmental checklist, then the sub-project implementer would be requested to re-design (e.g. make additional modifications and /or choose other sites) and re-screen the project until it is consistent and then re-submit it for review.

Any proposed sub-projects that do not comply with the requirements of Nigeria and the World Bank safeguard policies will not be cleared for approval.

8.6. Environmental Management Plan:

The sub-project proposals must contain an EMP that will consist of a set of mitigation measures, monitoring and institutional measures to be taken during the implementation and operation of the sub-projects to eliminate adverse environmental and social impacts, offset them or reduce them to acceptable levels.

However, at this stage the EMP cannot be comprehensive given that sub-project activities are not yet identified. The right step therefore, is to state the EMP process. This is found in Table 8.1.

Table 8.1 Summary of Environment and Social Management Process Phases and Responsibilities.

Cycle	Phase	Activities	Responsibilities
PLANNING	Scoping and Screening	<ul style="list-style-type: none"> ✓ Initial site visit & consultations. ✓ Identification of technical, environment and social issues and applicable safeguards policies ✓ Categorization ✓ Action plan ✓ Screening Report ✓ <i>WB No-Objection</i> 	Consultant; Supervision by SSC/SEPA/State Ministry (FMOCI)
DESIGN	Preparation of ESIA and RAP (if applicable) and consultations	<ul style="list-style-type: none"> ✓ Draft ESIA ✓ Draft RAP (if applicable) ✓ Consultations ✓ <i>WB No-Objection</i> 	Consultant; Supervision by SEPA/State Ministries FMOCI
	Disclosure	<ul style="list-style-type: none"> ✓ Disclosure of ESIA / RAP locally & to WB InfoShop 	GEMS State Agencies FMOCI; World Bank
	Finalization and Incorporation	<ul style="list-style-type: none"> ✓ Final version of ESIA /RAP ✓ Incorporation of ESIA into contract documents ✓ <i>WB No-Objection</i> 	Consultant; Supervision by State Agencies
EXECUTION	Implementation and monitoring	<ul style="list-style-type: none"> ✓ Implementation ✓ Monitoring & reporting on environmental and social mitigation measures 	Contractors Supervision by State Agencies /LGRC & the Community
OPERATIONS (POST-COMPLETION)	Operations maintenance and	<ul style="list-style-type: none"> ✓ Maintenance ✓ Monitoring & reporting on environmental and social mitigation measures 	Contractors Supervision by SSC/PMU, SEPA/ FMOCI

8.7.

Public consultations are critical in preparing an effective and sustainable sub-project. Earthguards team therefore, held public consultations with the stakeholders in the selected states. These consultations identified key issues and determined how the concerns of all parties will be addressed in the terms of reference of the design of sub-projects activities.

At this stage of project development, when specific project activities and sites are not identified, stakeholder consultation was mainly carried out within the level of project management unit and programme coordinators. The purpose at this is to unearth necessary issues ranging from the nature of proposed interventions, project stakeholders and concerns.

Abuja:

The first- level consultation was made at the project management Unit (PMU), Abuja. The focus of the consultation was to identify stakeholders as well as GEMS component(s) for Abuja.

The consultation held at the project co-ordinator's office, Federal Ministry of Commerce on Thursday 28 January 2010.

Concerns rose in the meeting and outcomes are:

Components for intervention in Abuja	Tourism, Real Estate development
Proposed project sites	Yet to be identified
Evidence of PMU meetings	None PMU members and activities still evolving

Cross River:

The consultation involved a meeting with the ICP programme coordinator for Cross River State. The meeting held in Abuja and subsequent communication ensued via telephony and email.

- The list of GEMS technical Steering committee was given as attached in appendix 2.
- GEMS will intervene in tourism in the State
- Other issues including activities to be undertaken and proposed sites for development were unknown

Lagos:

The consultation involved a meeting with the Entertainment and Real Estate coordinator for Lagos State.

The meeting held in Abuja and subsequent communication ensued via telephony and email.

- The list of GEMS technical Steering committee was given as attached in appendix 2.
- GEMS will intervene in Entertainment and Real Estate in the State
- Other issues including activities to be undertaken and proposed sites for development were unknown

Kano and Kaduna:

The consultation involved a meeting with the Meat and Leather coordinator for Kano and Kaduna State. The meeting held in Abuja and subsequent communication ensued via telephony and email.

- The list of GEMS technical Steering committee was given as attached in appendix 2.
- GEMS will intervene in Meat and Leather in the State
- Other issues including activities to be undertaken and proposed sites for development were unknown

The consultant also proposes the need for continued public consultation, especially, when sub-projects would have been fully identified, and locations known. The consultations should also include vulnerable groups within the community, specifically the poorest of the poor, elderly, widows and widowers, and women. To facilitate meaningful consultations, the local governments and the State PMU will provide all relevant material and information concerning the sub-projects in a timely manner prior to the consultation, in a form and language that are understandable and accessible to the groups consulted.

9.0 CAPACITY BUILDING AND TRAINING REQUIREMENTS FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT

In order to ensure proper implementation of environmental and social screening and mitigation measures, as well as effective community development, GEMS will undertake an intensive programme of environmental training and institutional capacity building spread out over the life cycle of the project

9.1 Environmental Training and Sensitization

Training and sensitization will be required at the levels of the State Steering Committee and PMU. The Sp at the State and the GEMS environment/social specialist will be responsible for providing the required technical training on environmental and social issues to these groups.

For each group, training will be provided to bring them to a different level of expertise in different areas, and would include:

- ☒ In-depth training to a level that allows trainees to go on to train others, including technical procedures where relevant;
- ☒ Sensitization, in which the trainees become familiar with the issues to a sufficient extent that it allows them to demand precise requirement for further technical assistance; and
- ☒ Awareness-raising in which the participants acknowledge the significance or relevance of the issues, but are not required to have technical or in-depth knowledge of the issues

The objectives of the training/capacity building efforts under GEMS project will be to:

- Support communities to mainstream environmental and social issues in their sub-projects.
- Ensure that LGAs have the capacity to assist communities in preparing sub-project proposals, to appraise, approve and supervise the implementation of sub-projects; and
- Strengthen the capacity of local NGOs and other services providers to provide technical support to communities in environmental and social aspects of the sub-projects.

The target audience for training, sensitization and capacity building, will inter-alia include the following:

- GEMS Project Coordinators
- PMU Team
- NSC
- SSC Team
- LGAs Staff involved in environmental and social concerns
- Environment/social specialist at the SA
- NGO's/CBOs
- Local Service Providers

The training will follow the programme in table 9.1 below:

Table 9.1 Institutional Capacity Strengthening Program

Target Audience	Description	Application	Duration
SPs, ICP staff, FMOCI staff, State Ministry Staff, Members of the Private Sector	General environmental awareness seminar that will include ecological and social science principles, legal responsibilities, consequences of non-sustainable development, costs of poor environmental decisions, and introduction to the EIA process.	Personnel require appreciation of WB's, Federal/State environmental policies, as well as, an appreciation for the need to support environmentally sustainable development.	3 days
SA's Environmental specialist, SEPAs and LGA environmental and social specialists	An in-depth comprehensive course on environmental management including legal requirements, EIA methodology, Impact determination (methods) and mitigation analysis, public involvement methods, ESMP preparation, monitoring techniques, preparation of EIAs, TORs, and other. Course will include field visits and classroom exercises.	The target audience will be responsible for EA review at the State level and for preparing TORs for EIA consultants as well as monitoring consultants' work and final approval of EIAs. Target audience will also be responsible for conducting environmental audits on selected sub-projects and for periodic monitoring of sub-project implementation to ensure compliance.	5 days
CBOs/NGOs, local government staff	General environmental awareness seminar that will include ecological and social science principles, legal responsibilities, consequences of non-sustainable development, costs of poor environmental decisions, and introduction to the EIA process.	Local Government level staff requires an appreciation for the WB's and Nigerian environmental requirements, as well as, an appreciation for the need to support sustainable development.	1 day

The cost estimates are based on the assumption that resource persons are likely to come from other parts of the country and therefore require travel allowances; participants will come from local communities and attend during the day only but will receive a per diem. These estimates include an allowance for travel expenses. It is proposed that the training programme will be implemented two times a year, over first four years of the project cycle. The total cost is estimated at US \$ 150,000.

10. COST ESTIMATES AND BUDGET

10.1 Indicative Budget

The table below shows a budget breakdown and responsibility of the cost for implementing the Environmental and Social Management Framework (ESMF), Pest Management Plan (PMP) and the Resettlement Management Framework (RPF) instruments.

Details of the breakdown of the PMP and the RPF can be seen in the respective documents.

Table 10.1: Indicative Budget

ITEM	RESPONSIBILITY	COST BREAKDOWN	COST ESTIMATE IN NIGERIAN NAIRA (₦)	COST ESTIMATE IN US DOLLARS (US\$)
Mitigation	GEMS State Agencies /SEPAs		15,000,000	100,000
Management	GEMS State Agencies /SEPAs	5% of Mitigation Cost	3,000,000	20,000
Monitoring	GEMS State Agencies /SEPAs	25% of Mitigation Cost	1,800,000	12,000
Training/ Capacity Building	GEMS State Agencies /SEPAs		3,000,000	20,000
Sub- Total			22,800,000	152,000
Contingency		10% of Sub-Total	2280000	15200
Total			23028000	167200

The total cost for implementing the ESMF is estimated at One Hundred and Fifty two Thousand US Dollars only (\$152,000).

Therefore the total indicative cost for the implementation of the ESMF, RPF and PMP is estimated at **Seven Hundred and Seventeen Thousand, Two Hundred US Dollars (\$717,200)**.

REFERENCES

Environmental & Social Assessment Procedures for African Development Banks; Public Sector Operations (June 2001)

Environmental Protection Edicts for Kano, Lagos, Cross River, Kaduna and Abuja

Project Appraisal Document for GEMS (2009)

Project Implementation Manual (2009)

The Draft General Environmental Management Conditions for Construction Contracts;

World Bank Safeguard Policies Guideline 2002

ANNEXES

Annex 1 - Summary of World bank Environmental and Social Safeguard Policies.

- ③ ***Environmental Assessment (OP 4.01)***. Outlines Bank policy and procedure for the environmental assessment of Bank lending operations. The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA process. This environmental process will apply to all sub-projects to be funded by GEMS.
- ③ ***Natural Habitats (OP 4.04)***. The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. If the environmental assessment indicates that a project would significantly convert or degrade natural habitats, the project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss (e.g. strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area. The Bank accepts other forms of mitigation measures only when they are technically justified. Should the sub-project-specific ESMPs indicate that natural habitats might be affected negatively by the proposed sub-project activities with suitable mitigation measures, such sub-projects will not be funded under GEMS.
- ③ ***Pest Management (OP 4.09)***. The policy supports safe, affective, and environmentally sound pest management. It promotes the use of biological and environmental control methods. An assessment is made of the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. This policy applies to the GEMS project.
- ③ ***Involuntary Resettlement (OP 4.12)***. This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) the involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets, or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons. The RPF report discusses the applicability of this policy in detail.
- ③ ***Indigenous Peoples (OD 4.20)***. This directive provides guidance to ensure that indigenous peoples benefit from development projects, and to avoid or mitigate adverse effects of Bank-financed development projects on indigenous peoples. Measures to address issues pertaining to indigenous peoples must be based on the informed participation of the indigenous people themselves. Sub-projects that would have negative impacts on indigenous people will not be funded under GEMS.
- ③ ***Forests (OP 4.36)***. This policy applies to the following types of Bank-financed investment projects: (a) projects that have or may have impacts on the health and quality of forests; (b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and (c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned. The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures. Sub-projects that are likely to have negative impacts on forests will not be funded under GEMS

- ③ **Cultural Property (OPN 11.03).** The term “cultural property” includes sites having archaeological (prehistoric), paleontological, historical, religious, and unique natural values. The Bank’s general policy regarding cultural property is to assist in their preservation, and to seek to avoid their elimination. Specifically, the Bank (i) normally declines to finance projects that will significantly damage non-replicable cultural property, and will assist only those projects that are sited or designed so as to prevent such damage; and (ii) will assist in the protection and enhancement of cultural properties encountered in Bank-financed projects, rather than leaving that protection to chance. The management of cultural property of a country is the responsibility of the government. The government’s attention should be drawn specifically to what is known about the cultural property aspects of the proposed project site and appropriate agencies, NGOs, or university departments should be consulted; if there are any questions concerning cultural property in the area, a brief reconnaissance survey should be undertaken in the field by a specialist. GEMS will not fund sub-projects that will have negative impacts on cultural property.
- ③ **Safety of Dams (OP 4.37).** For the life of any dam, the owner is responsible for ensuring that appropriate measures are taken and sufficient resources provided for the safety to the dam, irrespective of its funding sources or construction status. The Bank distinguishes between small and large dams. Small dams are normally less than 15 m in height; this category includes, for example, farm ponds, local silt retention dams, and low embankment tanks. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. This policy does not apply to GEMS since the policy is not triggered under the project.
- ③ **Projects on International Waterways (O 7.50).** The Bank recognizes that the cooperation and good will of riparians is essential for the efficient utilization and protection of international waterways and attaches great importance to riparian’s making appropriate agreements or arrangement for the entire waterway or any part thereof. Projects that trigger this policy include hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial, and similar projects that involve the use or potential pollution of international waterways. This policy will not apply to GEMS
- ③ **Disputed Areas (OP/BP/GP 7.60).** Project in disputed areas may occur the Bank and its member countries as well as between the borrower and one or more neighbouring countries. Any dispute over an area in which a proposed project is located requires formal procedures at the earliest possible stage. The Bank attempts to acquire assurance that it may proceed with a project in a disputed area if the governments concerned agree that, pending the settlement of the dispute, the project proposed can go forward without prejudice to the claims of the country having a dispute. This policy is not expected to be triggered by sub-projects. This policy is unlikely to be triggered by sub-projects to be funded by GEMS.

Annex 2 –List of Stakeholders and Persons Consulted During Field Work

Cross River State ICP/GEMS Technical Steering Committee

S/No	Name	Designation	Establishment
1	Lillian Oyama	ICP Programme Coordinator, CRS	World Bank
2	HE, Barr Efiok Cobham	Deputy Governor/Chairman	Gov's office
3	High Chief Edem Duke	President/Vice Chairman	Calabar Chamber of Commerce
4	Dr Ndem Ayara	EA/VC/Member	State Planning Commission
5	Mr Gerald Ada	Special Adviser/Member	Dept. of Investment Promotion
6	Mr Odo Effiong	Special Adviser/Member	ICT Dev Dept
7	Mr Roy Ndoma-Egba	Special Adviser/Member	International Donor Support
8	Hon Edward Ogon	A.G /Member	Ministry of Justice
9	Dr Peter Oti	Special Adviser/Member	Dept of Budget, M & E
10	Mr Kelly Ayamba	Commissioner/Member	Ministry of Finance
11	Engr Bassey Ogua	Commissioner/Member	Ministry of Lands & Housing
12	Barrister Elias Abua	Chief Registrar/Member	High Court of Justice
13	Mr Essien B. Ukorebi	Executive Chairman/Member	Internal Revenue Service
14	Mr Charles E. Achu	SPC Secretary/ Member	State Planning Commission
15	Mr Gabe Onah	Special Adviser/Member	Tourism Development
16	Engr William Akogu	GM/Member	Calabar FTZ
17	Arc Bassey Ndem	MD/CE/Member	TINAPA
18	Elder Chief Ogban	Branch Chairman/Member	Manufacturers Association of Nigeria
19	Alh Mamman Bah	Dty Compt/Member	Nigeria Custom Service
20	Mr Agbaragba Godwin Esq	Zonal Head/Member	Corporate Affairs Commission
21	Mr Kingsley Iheanacho	GM/Member	ECM Terminals
22	Barr. Mba Ukweni	Chairman/ Member	Nigerian Bar Association, CRS
23	Alh Ahmed Dandare	Team Coordinator/Member	Nigerian Ports Authority
24	Mr Aliyu Abubakar	Tax Controller/Member	Federal Inland Revenue Service

Kano State ICP/GEMS Technical Steering Committee

S/No	Name	Designation	Establishment
1	Sani Ali	ICP Programme Coordinator, Kano	World Bank

Kaduna State ICP/GEMS Technical Steering Committee

S/No	Name	Designation	Establishment
1	Aisha Mujaddadi	ICP Programme Coordinator, Kaduna	World Bank

Lagos State ICP/GEMS Technical Steering Committee

S/No	Name	Designation	Establishment
1	Niyi Oladoja	ICP Programme Coordinator, Lagos	World Bank

LIST OF Project Management Unit (PMU) Members

S/No	Name	Designation
1	Mr Y.S Labaran	Project Coordinator
2	Mr B.N Nwabueze	Asst Project Coordinator
3	Mr A.K. Akanya	Project Officer 1
4	Miss A.A. Adedugbe	Project Officer 11
5	Mr S. I. Oghayei	M & E 1
6	Mr Paul Ugbahe	M & E 11
7	Mr Ndah Ali	M & E 111
8	Mr J.A Adekunle	Project Accountant
9	Miss Uche Aneke	Project Auditor
10	Mr F.O. Bajowa	Procurement Officer

Annex 3.0a: Screening Report for Standard Format and Screening Checklist

1. GENERAL DESCRIPTION

- 1.1. Overview of the Local Government
- 1.2. List of Selected Health Care Facilities/Centers

2. PROJECT-SPECIFIC SCREENING (FOR EACH HCF/HEALTH CARE CENTRE):

- 2.1. Existing alignment
- 2.2. Proposed Works
- 2.3. Estimated Cost
- 2.4. Summary of Environment and Social Issues
 - 2.4.1. Land Resources
 - 2.4.2. Hydrology and Water Resources
 - 2.4.3. Air and Noise
 - 2.4.4. Biological Resources
 - 2.4.5. Socio-Economic and Cultural
 - 2.4.5.1. Population
 - 2.4.5.2. Employment and Other Benefits
 - 2.4.5.3. Resettlement
 - 2.4.5.4. Other site-specific issues
- 2.5. Environment Screening Category
- 2.6. Applicable Safeguard Policies

3. LOCAL GOVERNMENT PACKAGE EMP ACTION PLAN

4. ATTACHMENTS

- 4.1. Construction Maps/ Drawings
- 4.2. Photos
- 4.3. Location and Administrative Maps
- 4.4. Environment and Social Checklist

Annex 3b: Screening Report Environment and Social Checklist

Local Government:	Facility:	Date:
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Issue	Degree*	Comment
Land Resources		
Worksite/Campsite Areas		
Excavation/Borrow Areas		
Disposal Areas		
Other		
Water Resources & Hydrology		
Sources of Water for Construction		
Drainage Issues		
Other		
Biological Resources		
Special Trees/Vegetation on sSte		
Protected Areas directly affected		
Other		
Air Quality & Noise		
Special issues (e.g. quiet zone for hospital)		
Socio-Economic & Cultural		
Involuntary Resettlement**		
Graveyards and Sacred Areas affected		
Cultural Resources		
Population affected/provided access		
Other		

*Degree: N = Negligible or Not Applicable
 L = Low
 M = Moderate
 H = High

**If yes, indicate # of persons affected and nature of the effect

Annex 4: Draft EIA/ESIA Terms of Reference

Introduction and context

This part will be completed in time and will include necessary information related to the context and methodology to carry out the study.

Objectives of study

This section will indicate (i) the objectives and the project activities; (ii) the activities that may cause environmental and social negative impacts and needing adequate mitigation measures.

Tasks

The consultant should realize the following:

- 1 Describe the biophysical characteristics of the environment where the project activities will be undertaken; and underline the main constraints that need to be taken into account at the field preparation, during the implementation and exploitation/maintenance of equipments.
- 2 Assess the potential environmental and social impacts related to project activities and recommend adequate mitigation measures, including costs estimation..
- 3 Review political, legal and institutional framework, at national and international level, related to environmental, identify the constraints and suggest recommendations for reinforcement
- 4 Identify responsibilities and actors for the implementation of proposed mitigation measures
- 5 Assess the capacity available to implement the proposed mitigation measures, and suggest recommendation in terms of training and capacity building, and estimate their costs.
- 6 Develop a Environmental Management Plan (EMP) for the project. The EMP should underline (i) the potential environmental and social impacts resulting from project activities (ii) the proposed mitigation measures; (iii) the institutional responsibilities for implementation; (iv) the monitoring indicators; (v) the institutional responsibilities for monitoring and implementation of mitigation measures; (vi) the costs of activities; and (vii) the calendar of implementation.
- 7 Public consultations. The EIA/ESIA results and the proposed mitigation measures will be discussed with population, NGOs, local administration and other organisations mainly involved by the project activities. Recommendations from this public consultation will be include in the final EIA or ESIA report.

Plan of the EIA report

- 1 Cover page
- 2 Table of contents
- 3 List of acronyms
- 4 Executive summary
- 5 Introduction
- 6 Description of project activities
- 7 Description of environment in the project area
- 8 Description of political, legal and institutional framework
- 9 Description of methodology and techniques used in assessment and analyse of project impacts.
- 10 Description of environmental and social impacts for project activities
- 11 Environmental Management Plan (EMP) for the project

- including the proposed mitigation measures;
 - Institutional Responsibilities for Implementation;
 - Monitoring indicators;
 - Institutional responsibilities for monitoring and implementation of mitigation;
 - Summarized table for EMP
- 12 Recommendations
- 13 List of persons / institutions meet

Duration of study

The duration of study will be determined according to the type of activity

Production of final report

The consultant will produce the final report one (1) week after receiving comments from the World Bank, SEPAs/FMEnv (Impact Monitoring Unit) and the PMU. The report will include all the comments from all.

Supervision of study

The consultancy will be supervised by the Environmental and Social Specialist at the State PMU.

Annex 5: Contract Provisions: Environmental and Social Impacts

1. General Provisions and Precautions

The contractor shall all necessary measure and precautions and otherwise ensures that the execution of the works and all associated operations on the work sites or off site are carried out in conformity with statutory and regulatory environmental requirement of Nigeria. The contractor shall take all measures and precautions to avoid any nuisance or disturbance arising from the execution of the work. This shall, wherever possible, be achieved by suppression of the nuisance at source rather than abatement of the nuisance once generated. In the event of any soil or debris or silt from the work sites being deposited on any adjacent land, the contractor shall immediately remove all such spoil debris or silt and restore the affected area to its original state to the satisfaction of the responsible authorities.

2. Water Quality

The following conditions shall apply to avoid adverse impacts to water quality:

- 1 The contractor shall prevent any interference with supply to, or abstraction from, water resources and the pollution of water resources (including underground percolating water) as a result of the execution of the works.
- 2 The contractor shall not discharge or deposit any matter arising from the execution of the work into any waters except with the permission of the contractor and regulatory authorities concerned.
- 3 The contractor shall at all times ensure that all existing stream courses and drains within and adjacent to the site are kept safe and free from any debris and any material arising from the works.
- 4 The contractor shall protect all water courses, waterways, ditches, canals, drains, lakes and the like from pollution, silting, flooding or erosion as a result of the execution of the works.

3. Air Quality

The following conditions shall apply to avoid adverse impacts to air quality:

- 1 Open burning will be prohibited.
- 2 Blasting (If any) will be carried out using small charges, and dust – generating items will be conveyed under cover.
- 3 In periods of high wind, dust- generating operations shall not be permitted within 200 meters of residential areas having regard to the prevailing direction of the wind.
- 4 Asphalts and hot- mix plants sites shall not be established prior to the approval of the contractor and shall be located at least 500 meters away from the nearest sensitive receptor(e.g. ,schools and hospitals).Operators will be required to install emission controls.
- 5 Water sprays shall be used during the delivery and handling of materials when dust is likely to be created and to dampen stored materials during dry and windy weather.
- 6 Stockpiles of materials shall be sited in sheltered areas or within hoarding, away from sensitive areas. Stockpiles of friable material shall be covered with tarpaulins.

- With application of sprayed water during dry and windy weather. Stockpiles of material or debris shall be dampened prior to their movement whenever warranted.
- 7 Vehicle with an open load – carrying area used for transporting potentially dust-producing material shall have proper fitting side and tailboards. Materials having the potential to produce dust shall not be loaded to a level higher than the side and tail boards, and shall be covered with a clean tarpaulin in good condition. The tarpaulin shall be properly secured and extend over the edges of the side and tailboards.
 - 8 In periods of adverse weather adverse impacts to adjacent residents or site employees during construction will be mitigated by either discontinuing until favourable conditions are restored, or, if warranted, sites may be watered to prevent dust generation, particularly at crushing plants.
 - 9 Machinery and equipment will be fitted with pollution control devices, which will be checked at regular intervals to ensure that they are in working order. Best available pollution control technologies will be used

4. Protection of soils

Borrow pits. The following conditions shall apply to borrow pits:

- 1 Borrow areas will be located outside the ROWs.
- 2 Pit restoration will follow the completion of works in full compliance all applicable standards and specification.
- 3 The excavation and restoration of the borrow areas and their surroundings, in an environmentally sound manner to the satisfaction of the contractor is required before final acceptance and payment under the terms of contracts.
- 4 Borrow pit areas will be graded to ensure drainage and visual uniformity, or to create permanent tanks\dams.
- 5 Topsoil from borrow pit areas will be saved and reused in re-vegetating the pits to the satisfaction of the contractor.
- 6 Additional borrow pits will not be opened without the restoration of those areas no longer in use.

Quarries. To ensure adequate mitigation of potential adverse impacts, only licensed quarrying operations are to be used for material sources. If licensed quarries are not available the contractors may be made responsible for setting up their dedicated crusher plants at approved quarry sites.

Erosion. To avoid potential adverse impacts due to erosion, the contractor shall:

- 1 Line spillage ways with riprap to prevent undercutting.
- 2 Provide mitigation plantings and fencing where necessary to stabilize the soil and reduce erosion.
- 3 Upgrade and adequately size, line and contour storm drainage to minimize erosion potential.
- 4 To avoid erosion and gullyng of road formations, the contractor should reduce his earthworks during the peak of rainy seasons, use gabions and miter drains and avoid angle termination at the intersections of cuts and fills.
- 5 As noted in elsewhere in these specifications, ditches shall be designed for the toe of slopes in cut sections with gutters or drainage chutes being employed to carry water down slopes to prevent erosion. Interceptor ditches shall be designed and constructed near the top of the back of slopes or on benches in the cut slopes as well as when there is a slope on adjacent ground toward the fill. When

the roadway has a steep longitudinal slope, a drain is to be designed and constructed at the down – slope end of the cut to intercept longitudinal flow and carry it safely away from the fill slopes.

5. Avoidance of Social Impacts

To avoid adverse social impacts, the Contractor shall:

- 1 Coordinate all construction activities with neighboring land uses and respect the rights of local landowner. If located outside the ROW, written agreements with local landowners for temporary use of the property will be required and sites must be restored to a level acceptable to the owner within a predetermined time period.
- 2 Maintain and cleanup campsites.
- 3 Attend to health and safety of their worker by providing basic emergency health facilities for workers and incorporate Programs aimed at the prevention of sexually transmitted diseases as a part of all construction employee orientation Programs.
- 4 Obtain approval of all diversions and accommodation of traffic. A stipulated by section- which states that “the Contractor shall provide the contractor with a written traffic control plan which is to include when and where flagmen shall be employed and when and where traffic cones or other devices such as barricades and \or lights will be used. Wheretraffic diversions area planned foradditional areas (will be determined and the diversions clearly defined for travel.”
- 5 Construct and maintain by – passes around bridges to be reconstructed until such time as the bridge is open for traffic. By- passes will be removed and the affected areas re-graded so as to blend in with the existing contour when the bridge is opened.

6. Noise

To avoid adverse impacts due to noise, the contractor shall:

- 1 Consider noise as an environmental constraint in his planning and execution of the works.
- 2 Use equipment conforming to international standards and directives on noise and vibration emissions.
- 3 Take all necessary measures to ensure that the operation of all mechanical equipment and construction processes on and off the site shall not cause any unnecessary or excessive noise, taking into account applicable environmental requirements.
- 4 Maintain exhaust systems in good working order; properly design engine enclosures, use intake silencers where appropriate and regularly regular maintain noise – generating equipment.
- 5 Use all necessary measures and shall maintain plant and silencing equipment in good condition so as to minimize the noise emission during construction works.
- 6 Schedule operations to coincide with periods when people would least likely be affected and by the contractor having due regard for possible noise disturbance to the local residents or other activities. Construction activities will be strictly prohibited between 10pm and 6pm.
- 7 Incorporate noise considerations in public notification of construction operations and specify methods to handle complaints. Disposal sites and routes will be coordinated with local officials to avoid adverse traffic noise.

7. Protection of Historic and Cultural resources

To avoid potential adverse impacts to historic and cultural resources, the contractor shall; in the event of unanticipated discoveries of cultural or historic artifacts (movable or Immovable) in the course of the work, the sub-contractor shall take all necessary measures to protect the findings and shall notify the contractor and provincial- level representatives of the Archaeological committee under the ministry of Information and culture. If continuation of the work would endanger the finding, project work shall be suspended until a solution for preservation of the artifacts is agreed upon.

8. Protection of Utilities

To avoid potential adverse impacts to utilities, the Contractor shall:

- 1 Ascertain and take into account in his method of working the presence of utility services on and in the vicinity of the site.
- 2 Take into account in his programme the periods required to locate, access, protect, support and divert such services, including any periods of notice required to effect such work in consultation with authorities operating such services.
- 3 Assume all responsibility to locate or to confirm the details and location of all utility services on or in the vicinity of the site.
- 4 Exercise the greatest care at all times to avoid damage to or interference with services.
- 5 Assume responsibility for any damage and \or interference caused by him or his agents, directly or indirectly, arising from actions taken or a failure to take action, and for full restoration of the damage.

9. Waste Disposal and Hazardous materials

Water and waste products shall be collected, removed via suitable and properly designed temporary drainage systems and disposed of at a location and in a manner that will cause neither pollution nor nuisance. Insofar as possible, all temporary construction facilities will be located at least 50 metres away from a water course, stream or canal.

The contractor shall not dispose of used pavement material on the road or highway side, nor in water courses or wetlands. Such material shall be utilized or disposed of in places approved by the CSC.

Whenever large amounts of asphaltic concrete are to be removed from a highway, the material should be reused or disposed of by burial to a minimum of one meter depth. The contractor shall not dispose of any surplus material on private land unless authorized by in writing by the owner(s), authenticated before a notary public, and with previous authorization of the CSC.

10. Environmental Monitoring

Monitoring or direct impact will be carried out by the CSC and will include, but not restricted to, the following concerns:

- 1 Erosion along highway segments and borrow sites during and after construction;
- 2 Silting and increased sediment loads to streams crossed by the highway.

- 3 Prevention of damage to undiscovered significant archeological or historical findings;
- 4 Verification that proper waste disposal at construction sites and road camps is done;
- 5 Assurance that construction sites and road camps are cleaned after construction and
- 6 Inspection of vegetation covers (removal and re- growth) on the basis of field examinations.