SFG2111

**Federal Republic of Nigeria**

# Updates of Environmental and Social Management Framework FOR

# West Africa Regional Disease Surveillance Systems Enhancement Project (REDISSE)

## FINAL REPORT

**APRIL, 2016**

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**LIST OF ACRONYMS**

| | |
|---|---|
| ABIR | Agribusiness Investment Region |
| ARAP | Abbreviated Resettlement Action Plan |
| ARAR | Applicable or Relevant and Appropriate Requirements |
| ATA | Agricultural Transformation Agenda |
| CADP | Commercial Agriculture Development Program |
| CEFC | Community and Farmer Environment Committee |
| DFI | Development Finance Institution |
| EA | Environmental Audit |
| EMC | Executive Management Committees |
| EMP | Environmental Management Plan |
| ESMF | Environmental and Social Management Framework |
| ESIA | Environmental and Social Impact Assessment |
| EIA | Environmental Impact Assessment |
| FEPA | Federal Environmental Protection Agency |
| FGN | Federal Government of Nigeria |
| FMARD | Federal Ministry of Agriculture and Rural Development |
| FMEnv | Federal Ministry of Environment |
| FMEH | Federal Ministry of Health |
| GEMS3 | Growth and Employment in States |
| GES | Growth Enhancement Support |
| GON | Government of Nigeria |
| GRM | Grievance Redress Mechanism |
| ILO | International Labor Organization |
| IUCN | International Union for Conservation of Nature |
| KSG | Kogi State Government |
| SEPB | State Environmental Protection Board |
| SMENR | State Ministry of Environment and Natural Resources |
| LGA | Local Government Area |
| LGDO | Local Government Desk Officer |
| LNG | Liquefy Natural Gas |
| MDA | Ministries Departments and Agencies |
| NWRI | National Water Resources Institute |
| NESREA | National Environmental Standards and Regulations Enforcement |
| NOSDRA | National Oil Spill Detection and Response Agency |
| NGO | Non-Government Organization |
| NIRSAL | Nigerian Incentive-based Risk Sharing for Agricultural Lending |
| NIPC | Nigerian Investment Promotion Council |
| NIWA | Nigeria Inland Water Authority |
| NTPF | None Timber Forest Product |
| PAPs | Project Affected Persons |
| PCU | Project Coordinating Unit |
| PDO | Project Development Objectives |
| PPP | Public Private Partnership |
| RAP | Resettlement Action Plan |
| RPF | Resettlement Policy Framework |
| RBDA | River Basin Development Authorities |
| SEPA | State Environmental Protection Agency |
| SCPZ | Staple Crop Processing Zone |
| SCPZA | Staple Crop Processing Zone Authority |
| SMEs | Small and Medium Scale Enterprises |
| SMEDAN | Small and Medium Enterprises Development Agency of Nigeria |
| SON | Standards Organization of Nigeria |
| SPV | Special Purpose Vehicle |
| TA | Technical Assistance |
| WAAPP | West Africa Agricultural Productivity Program |
| WHO | World Health Organization |

## EXECUTIVE SUMMARY

### *Background*

The West Africa Regional Disease Surveillance Systems Enhancement Project (REDISSE) will be implemented as an interdependent series of projects (SOP) that will eventually engage and support all 15 ECOWAS member countries. This is the first project in the series, REDISSE-SOP1 which targets both extremely vulnerable countries (Guinea, Sierra Leone and Liberia) and countries which have more effective surveillance systems and serve as hosts for important regional assets (Nigeria and Senegal). Phase 2 (REDISSE-SOP2) is expected to be delivered in the second quarter of Fiscal Year 17 (FY17). The estimated project financing for REDISSE-SOP2 is US$102 million. FY17 delivery of this project will allow additional time for consultations, assessments and planning needed to ensure country readiness. REDISSE-SOP2 countries will include: Cote d'Ivoire, Guinea Bissau, Ghana, Togo, Benin and possibly The Gambia. Together, REDISSE SOP 1&2 constitute a block of equatorial, coastal countries with shared borders and similar epidemiologic profiles which extends from Senegal in the west to Nigeria in the east. The series of projects will be implemented in the context of the African Integrated disease surveillance and Response Strategy, international standards and guidelines of World Health Organization (WHO), World Organization for Animal Health (OIE), and Food and Agriculture Organization of the United Nations (FAO), fostering a One Health Approach.

The animal health sector in the ECOWAS region is characterized by a high incidence and prevalence of infectious diseases communicable diseases, both zoonotic and non-zoonotic, impacting veterinary and public health, trade, rural development and livelihoods. Among the most serious infectious diseases, contagious bovine pleuropneumonia (CBPP), foot and mouth disease (FMD), African Swine Fever (ASF), Rift Valley Fever (RVF), Peste des Petits Ruminants (PPR), African Animal Trypanosomiasis (AAT), highly pathogenic avian influenza (HPAI), and rabies are highlighted by ECOWAS and the GF-TADs for Africa.

Animal health is seen as a priority by the two regional economic communities in West Africa. ECOWAS and WAEMU have set a target of harmonizing national animal health systems. WAEMU, which covers 8 countries in the region, has moved forward on a number of fronts in particular on the harmonization of regulations on veterinary medicinal products, but progress has been slow due to administrative, human, organizational and financial constraints. In 2012, ECOWAS member countries declared the Regional Animal Health Center (RAHC)—an informal platform originally set up in 2006 by OIE, FAO and AU-IBAR as the ECOWAS specialized technical center for animal health. An operational plan for RAHC was developed in August 2014. However, delays in staff recruitment and establishment of a dedicated operational budget have kept the institution from implementing this plan and rolling-out activities in accordance with its mandate. The RAHC is currently supported through a limited number of initiatives with specific objectives, including to further develop the One Health agenda in the region, and to develop Integrated Regional Coordination Mechanisms for the Control of TADs and Zoonoses (IRCM). The WB-financed Regional Sahel Pastoral Support project (PRAPS), which supports the improvement of animal health in 6 West African Sahel countries, also specifically aims at contributing to the operationalization of the RAHC.

The Development Partner landscape in the sub-region is complex, particularly in the three countries most affected by the 2014-2015 EVD epidemic. The Ebola outbreak triggered a significant international response that brought many partners together to address the crisis and support the post-Ebola agenda of health systems recovery and strengthening. It also highlighted the need to focus attention on building the capacity for disease surveillance and response in the sub-region for both human and zoonotic diseases. The development partners engaged on these issues in the sub-region include major donor organizations including development banks, multilateral and bilateral donors and private foundations; UN systems agencies; technical agencies such as the US and China Center for Disease Control and Prevention; academic and research institutions and large numbers of international and local non-governmental organizations. As noted in Annex 2, in this type of environment duplication of effort, inefficient use of resources and failure to address resource, policy and programmatic gaps is a substantial risk. It is expected that there will continue to be an influx of funds and other forms of support to the region, in particular, to the three EVD affected countries (Guinea, Sierra Leone, and Liberia) in the next three to five years. As a result, coordination of resources and activities offered by the various partner organizations will remain a significant challenge for national governments. Therefore, coordination mechanisms at both national and regional levels that engage both the human and animal health sectors need to be developed to

maximize the impacts of the increasing support and foster sustainability of the anticipated outcomes. The World Bank's convening power will be highly instrumental in forging a coalition of national, regional, and global technical and financial institutions to support the disease surveillance and epidemic preparedness agenda in West Africa.

The World Bank is well placed to mobilize substantial financing for this multi-sector initiative and to convene premier technical and financial partners engaged in the field of disease surveillance and epidemic preparedness. The World Bank has strategically engaged with a core group of development partners including those implementing the Global Health Security Agenda (GHSA) in the development of the REDISSE project. The REDISSE project itself will provide resources to regional institutions and national governments to establish the needed coordinating mechanisms

***Project Development Objective (PDO)***

The project's development objective (PDO) is to strengthen national and regional cross-sectoral capacity for collaborative disease surveillance and epidemic preparedness in West Africa.

It will address systemic weaknesses within the animal and human health systems that hinder effective disease surveillance and response.

The REDISSE Project has five components as follows:

*Component 1: Surveillance and Information Systems:*

- support the enhancement of national surveillance and reporting systems and their interoperability at the different tiers of the health systems.
- support national and regional efforts in the surveillance of priority diseases (including emerging, re-emerging and endemic diseases) and the timely reporting of human public health and animal health emergencies in line with the IHR (2005) and the OIE Terrestrial Animal Health code.

*Component 2: Strengthening Laboratory Capacity*:

- establish networks of efficient, high quality, accessible public health, veterinary and private laboratories for the diagnosis of infectious human and animal diseases, and
- establish a regional networking platform to improve collaboration for laboratory investigation.
- address critical laboratory system weakness systems weaknesses across countries, fostering cross-country and cross-sectoral (at national and regional levels) collaboration.

*Component 3: Preparedness and Emergency Response:*

- support national and regional efforts to enhance infectious disease outbreak preparedness and response capacity.
- support (i) updating and/or development of cross-sectoral emergency preparedness and response plans (national and regional) for priority diseases, and ensuring their integration into the broader national all-hazards disaster risk management framework; (ii) regular testing, assessment, and improvements of plans; (iii) expansion of the health system surge capacity including the allocation and utilization of existing pre-identified structures and resources (at the national and regional level) for emergency response, infection prevention and control.

*Component 4Human resource management for effective disease surveillance and epidemic preparedness:*

- Cross-cutting given that animal and human health workers form the backbone of Disease Surveillance (Component 1), Laboratories (Component 2) and Preparedness and Response (Component 3) ensure effective human resource management aims at bringing the right people with the right skills to the right place at the right time.

*Component 5: Institutional Capacity Building, Project Management, Coordination and Advocacy:*

- focus on project management which includes fiduciary aspects (financial management and procurement), M&E, knowledge generation and management, communication, and management (capacity building, monitoring and evaluation) of social and environmental safeguard mitigation measures.

**Rationale for Preparation of Relevant Safeguard Documents**

The REDISSE project which has placed in category B, triggers two World Bank safeguards policies dealing with Environmental Assessment (OP/BP 4.01) and Pest management (OP/BP 4.09) respectively. Thus three safeguards instruments would be required: (i) Medical waste Management Plan; (ii) Integrated Pest Management Plan; and (iii) Environment and Social Management Framework.

***Purpose of the ESMF***

At this time of project preparation, the specific sites that the project would be implemented are not known in sufficient details. Hence the preparation of this framework document that outlines the principles and procedures that would be followed to ensure that implementation of REDDISSE meets with the existing EIA law in Nigeria and World Bank Safeguards policies.

The ESMF spells out the Environmental and Social (E & S) safeguards, institutional arrangements and capacity required to use the framework. The ESMF sets out basic principles and processes within which the sub-projects are implemented agreeable to all parties.

The other objectives of the ESMF include:

- Assessment of potential adverse E&S impacts commonly associated with the sub-projects and the way to avoid, minimize or mitigate them;
- Establishment of clear procedures and methodologies for the E&S planning, review, approval and implementation of sub-projects;
- Development of an ESA screening/initial assessment system to be used for sub-projects; and
- Specification of roles and responsibilities and the necessary reporting procedures for managing and monitoring sub-project E&S concerns.

To realize the objectives of this ESMF, the scope of work include the following tasks:

- Task 1: Describe the activities that will be financed by the REDISSE program
- Task 2: Identify and analyse relevant Environmental policy and regulatory framework;
- Task 3: Identify the Potential positive and negative environmental and social impacts;
- Task 4: Design corresponding environmental and social mitigation principles in relation to the impacts identified;
- Task 5: Develop a generic environmental and social management plan to mitigate negative impacts; Outline the steps and procedures for screening and scoping for potential environmental and social impacts as soon as the specific activities and sites are identified during implementation;
- Task 6: Establish the Institutional framework managing the framework ;
- Task 7: Develop a Training needs for the project; and
- Task 8: Institute and carry out Public consultation.

***Approach for the preparation of ESMF***

In order to avoid re-inventing the wheel, the approach for prepaing this updated ESMF was to adopt the existing safeguards instruments such as the ESMF for the SCPZ and FADAMA, which had earlier before cleared and disclosed as Bank supported projects with adjustments as needed, to suit the REDISSE program

- ESMFs will provide guidance on managing the environmental impacts of building rehabilitation and laboratory investigations which are the main environmental aspects of the REDISSE project

***Environmental and Social Screening and Assessment Process***

The screening process is the first step in operationalizing the ESMF process. The objective of screening is to identify the environmental and social safeguards category of sub-projects on the basis of the type of environmental or social concerns and expected impacts. As the overall project is category B no sub-projects could be category A. A checklist of items that are required to be adhered to conform to the provisions of this ESMF has been developed. Thus the various subprojects shall be cleared for implementation after undertaking the necessary environmental and social assessments, as mandated by the Environmental laws of Nigerian Governments (national and state) and conforming to the safeguard policies of the World Bank. The process for conformance to these

procedures is defined in this framework and the criteria established as per the checklist of items to enable the identification of such projects.

The report on the outcome of the screening, scoping and EA category exercises for the first five sub-projects will be sent to the World Bank for review and clearance. In addition, all EAs/ESMP prepared will be sent to the World Bank for review and clearance to ensure compliance with OP4.01 and any other relevant safeguard policies, procedures and guidelines.

***Potential Environmental and Social Impacts and Mitigation Principles***

The project is envisaged to have a range of positive environmental and social impacts. Some of these are a function of the objectives of the project, while others are a function of the way in which the project is designed to meet its objectives. The project beneficiaries are the population of poor rural communities living aside in the vicinity of intervention areas. Specifically, the following are some of the benefits that could be due to the project: improved infrastructure, improved health care, , etc

As a rule of the thumb, conversely, it is anticipated that the project would exert some negative impacts on the social and physical environment within which they are implemented. These impacts have been identified, albeit, generically but contains issues relevant to or applicable to the local environments of the proposed project area as outlined in the ES Tables a. In the Table the corresponding mitigation principles have been identified as well and this would be made more robust by the ESIA/ESMP that shall be prepared for each subproject when the sufficient details are known.

***Cumulative Environmental and Social Impacts***

No long term or cumulative adverse environmental and social impacts of sub-projects are envisaged. However, the combination of multiple impacts from existing projects, the proposed project, and/or anticipated future subprojects may result in significant negative and/or positive environmental and social impacts that would not be expected in case of a standalone project.

The cumulative impacts of the project may potentially affect other areas coterminous to the project area but the mitigation measure for this risk is that in depth technical and spatial analysis will be conducted to model the impact of the proposed subprojects once sufficient details are known and thus limit the risks. In addition, the proposed screening of subprojects with the site specific **ESIAs/ESMPs for** the various potential subprojects would give priority to assessing cumulative impacts stemming from each proposed undertakings or subproject activities.

**ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles***

| **Envisaged Activities** | **Potential Impact/Concerns** | |
|---|---|---|
| Rehabilitation of buildings and diagnosis of infectious human and animal diseases, and laboratory investigation. | **A. <u>Environmental</u>** | **B.** |
| | **<u>Biodiversity</u>**<br>• Interference on biodiversity conservation (changes in flora and fauna) | • Avoid environmentally sensitive sites and unnecessary exposure or access to sensitive habitat; |
| | **<u>Water Resources</u>**<br>• Alterations of local natural water cycles/ hydrology<br>• Water quality issues | • Promote buffer zones of at least 500m along the local streams to serve as natural filters for surface runoff from project activities .<br>• Consider the safety of all parties from the outset. |
| | **Air quality**<br>• Degradation due to vehicular movement, mobilization of equipment<br>• Deterioration from burning of biomass of cleared forest and addition of carbon into atmosphere<br>• Burning waste release noxious and GHG gases | • Ensure that vehicles and other equipment are regularly inspected according to scheduled maintenance for proper exhaust emission.<br>• Train drivers to minimize speed limits on earthen roads in dry periods, especially<br>• do not burn any waste |

| ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles* | | |
|---|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** | |
| | **Climate Change**<br>Burning waste release noxious and GHG | • Avoid burning of waste when there are risks of air contamination |
| | **<u>Pesticides and Chemical Use</u>**<br>• Lethal and sub-lethal impacts on other non-target biota;<br>• Washed out of soils, and pollute rivers and groundwater<br>• Intake of toxic chemicals by plants, animals and humans<br>• Improper use, contamination by high exposure due to no or poor precautionary measures leading to health impacts | • Encourage eco-friendly technologies-Integrated Pest Management (See IPMP prepared for this REDISSE)<br>• Intercrop with legumes as much as possible.<br>• Avoid uncontrolled mass spraying of fungicides will be avoided.<br>• Develop research and extension programs addressing plant disease problems<br>• Environmental Agency assist farmers and Extension services on Safe handling, Storage and Disposal |
| | **<u>Animals and Infectious Agents</u>** | • Personnel conducting animal research with infectious agents or working with<br>animals that carry potential zoonoses, must utilize isolation procedures that are<br>• appropriate to the infection risk.<br>• Conduct work with infectious agents according to good laboratory procedures and<br>• Implement containment practices.<br>• The employees shall be trained to know at least:<br>• when is PPE necessary for the task<br>• what PPE is necessary for the task<br>• how to properly put on, take off, adjust and wear the Personal Protection Equipment (PPE)<br>• The limitation of the PPE and proper care, maintenance and disposal of the used PPE |
| | **<u>Waste Management</u>**<br>Waste generation of spoil and other construction waste;<br>>Unsafe and improper disposal of spoil and<br>>construction waste.<br>>Soil contamination<br>>Water contamination<br>>Injury to personnel<br>• | • Develop a waste management plan describinghow to deal with all types of wastes |
| | **<u>Animals and Animal Tissue Disposal</u>** | • Place carcass and/or tissue into a plastic bag and seal with tape or by tying.<br>• Place bagged carcasses and tissues into a sturdy box.<br>• Seal the box with tape.<br>• Limit the weight of each box to 40 kg and write the weight on the box.<br>• Animal carcasses larger than 40 kg must be sectioned unless approved by<br>• Safety. Provide risk assessment guidance for sectioning is available from the Biological<br>• Safety Office. Contact them prior to sectioning any biohazardous animals.<br>• Animal tissue must be frozen. Freezing is |

| ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles* | | |
|---|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** | |
| | | required to prevent putrefaction and<br>• Avoid aerosols or dripping from liquids.<br>• Complete an Animal Tissue Disposal Service form and attach it to the box. These<br>• Ensure forms are available from the Safety Department or from Safety's web site (see annex 19 for details): |
| | • **SOCIAL** | |
| | **Cultural Heritage**<br>• Chance finds of cultural resources<br>• Interference with local cultural identity and heritage | • Avoidance of impacts due to project |
| | **Social Tension,& conflict**<br>• Social exclusion of women or the vulnerable persons | • Continual engage in public consultation |
| | **Traffic and Transportation**<br>• Increase in traffic on the roads<br>• Accident to people and animals<br>• Transportation of Research Animals | • Indicate speed limits on the road<br>• Use seep breakers with adequate signage<br>• Animals must not be transported by public transportation |
| | **Public and Occupational health and safety**<br>• Lack of awareness creation programs on health and safety including chemical handling.<br>• Unavailability and poor use of personal protective equipment<br>• *Psychosocial disorder* | • Prepare and implement an Environmental, Health and Safety (EHS) plan which will outline procedures for avoiding health and safety incidents and for emergency medical treatment.<br>• Make it mandatory for all workers within the zone and region to wear suitable Personal Protective Equipment (PPE) as appropriate.<br>• Train workers sufficiently in safe methods of work<br>• Conduct safety training for pesticide handlers and all agricultural workers which includes handling of agro-chemicals, use of PPE and what to do in the case of pesticide exposure.<br>• Develop Emergency Response plan and ensure provisions of First Aids boxes<br>• Create public awareness on HIV/AIDS awareness and treatment and other communicable diseases.<br>• Conduct health screening<br>• Conduct Occupational Health Risk Assessment for contractors, personnel and project affected communities (broader effects/health impacts of project activities on communities) |
| | **Safety and security**<br>• Safety and security of community informants/ whistle blowers<br>• Safety and security of project field staff | • Utilize the services of local security in addition to the Nigerian Police<br>• Train staff on security issues and continually reinforce the awareness. |

| ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles* | | |
|---|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** | |
| | Fire and other Emergencies | • Train staff for operation of fire extinguishers and evacuation procedures;<br>• Develop facility for fire prevention or emergency response and evacuation plans<br>• The worksite shall be equipped with adequate signage on escape routes and the provision of fire extinguishers and emergency equipment<br>• Ensure maintenance of all fire safety systems<br>• Ensure prompt response and evacuation in the event of any emergencies<br>• Primary Emergency Procedures for Fires, Spills and Accidents (Gas Leaks)<br>• Special Procedures for Radioactive Hazards<br>• Building Evacuation Procedures |
| | Hazardous Materials in the laboratory | Develop a General Rules that include:<br>• Risk Assessment<br>• Standard Operating Procedures (SOPs)<br>• Laboratory Protocol<br>• Accidents and Spills<br>• Steps to Prevent Routine Exposure<br>• Equipment and Glassware<br>• Personal Protective Equipment (PPE)<br>• Unattended Operations<br>• Use of Fume Hoods<br>• Storage of Chemicals in the Lab<br>• Working with Allergens<br>• Working with Embryotoxins<br>• Working with Chemicals of Moderate Chronic or High Acute Toxicity<br>• Working with Substances of High Chronic Toxicity (see annex 19 for details) |

***Assessment of a No Project and Go Ahead Project Alternatives***

The Analysis of Alternatives is an analytical comparison of multiple alternatives and has long been a part of environmental assessment practice. The purpose of the analysis of the alternatives is to determine which alternative best meets the threshold criteria of sustainable development. The following alternative actions were considered in relation to the proposed project-

In all ESIAs/ESMPs should contain an analysis of alternatives is done to establish the preferred or most environmentally sound, financially feasible and benign option for achieving project objectives. This requires a systematic comparison of proposed investment design in terms of site, technology, processes etc in terms of their impacts and feasibility of their mitigation, capital, recurrent costs, suitability under local conditions and institutional, training and monitoring requirements. For each alternative, the environmental cost should be quantified to the extent possible and economic values attached where feasible, and the basic for selected alternative stated. The analysis of alternative should include a NO ACTION alternative.

The two scenarios should be considered herewith are with the preferred or most environmentally sound, financially feasible and benign option for achieving project objectives and ensuring economic growth and sustainable development being the option to choose.

***ESMF Implementation and Management***

The successful implementation of the ESMF depends on the commitment of the sector and related institutions, and the capacity within the institutions to apply or use the framework effectively, and the

appropriate and functional institutional arrangements, among others. Hence these key ESMF areas relevant to its successful implementation were included in the ESMF, namely: institutional arrangements, capacity building, environmental and social monitoring. . The roles and responsibilities of these levels of institutions with regard to this ESMF are outlined in the ES Table d.

**Table b: Safeguard Responsibilities**

| S/No | Category | Roles |
|---|---|---|
| **1** | PMU | Implementing authority, has the mandate to ensure:<br>- Compliance with World Bank Safeguards Policies and other relevant laws in Nigeria in line with this ESMF<br>- Smooth and efficient implementation of the project<br>- Faithful implementation of the ESMF and other safeguard instruments developed for each subproject |
| **2** | PMU Safeguards Unit/Safeguards Officer | - Assists PMU to comply with and fully implement World Bank Safeguards Policies and other relevant laws in Nigeria.<br>- Take lead in ensuring adequate screening and scoping of project for the appropriate safeguard instrument.<br>- Ensure adequate review of all safeguard reports before sent to the Bank<br>- Supervision of the contractors, supervisors, training of contractors and workers, monitoring of the implementation of the ESMF and other safeguard instruments. |
| **3** | Federal Ministry of Environment and her agencies (Such as NESREA) | - Lead role -provision of advice on screening, scoping, review of draft EA/ESMP report (in liaison with State Ministry of Environment), receiving comments from stakeholders, public hearing of the project proposals, and convening a technical decision-making panel, Project categorization for EA, ensuring conformity with applicable standards, Environmental and social liability investigations, Monitoring and evaluation process and criteria |
| **4** | State Ministry of Environment/EPA | - Collaborate FMEnv and participate in the EA processes and in project decision-making that helps prevent or minimize impacts and to mitigate them and ensures conformity with applicable standards, environmental and social liability investigations, monitoring and evaluation process, etc. |
| **5** | Federal Ministry of Health | - Provides overall leadership and direction to the other MDAs by engaging all the critical stakeholders to support, cooperate with and participate in established policy direction; and<br>- Pursues an agenda of encouraging and ensuring investors comply with all environmental laws and policies |
| **6** | State Ministry of Health | - Coordinates state-wide emergency response programmes including creation of awareness on the appropriate chemicals/pesticides to use in consonance with this ESMF and IPMP |
| 7 | World Bank | - Provides guidance on the compliance of safeguards policies<br>- Will be involved in monitoring compliance with its safeguard policies via its oversight missions<br>- Maintains an oversight role, review and provide clearance and approval for the ESMF and other relevant safeguard instruments developed for subprojects.<br>- Conducts regular supervision for satisfactory |

| Table b: Safeguard Responsibilities | | |
|---|---|---|
| **S/No** | **Category** | **Roles** |
| | | ESMF/ESMP implementation, fulfillment of community liaison and provide support role throughout the project implementation, and monitor the progress of the project implementation.<br>- Recommend additional measures for strengthening the management framework and implementation performance.<br>- capacity building of the proponent as needed |
| 8 | Local government | - Appoints Local Government Desk Officers (LGDOs) who visit communities on a regular basis to facilitate intensive participatory process and compliance to the local environmental laws<br>- Support and work with the PMU by participating in environmental and social screening and scoping process of subprojects and public review of ESIA and ESMPs |
| **9** | **NGOs/CSOs/CDA** | - Assist to ensure effective response actions to relevant environmental and social issues,<br>- Conducts scientific researches alongside government groups to evolve and devise sustainable environmental strategies and rehabilitation techniques,<br>- Organizing, coordinating and ensuring safe use of chemicals and pesticides through awareness creation<br>- Providing wide support assistance helpful in management planning, institutional/governance issues and other livelihood related matter, Project impacts mitigation and monitoring |
| **10** | **NEMA** | - Support with all the necessary emergency logistics and coordinate incident command system |
| **11** | **State Waste Management Agencies** | - Provide logistics for waste management |

***Capacity Building and Training***

Based on the public consultation, the capacity assessment of implementing federal and state level Ministries, Departments and Agencies (MDAs) as well as the PMU, were carried out. The effective functioning of the MDAs is hindered by limited technical skills and resource constraints. Thus, institutional barriers include:

- Limited knowledge of the relationship between World Bank Safeguards policies and the extant environmental and social laws in Nigeria;
- Lack of enforcement of development control regulations;
- Limited knowledge on EIAs and Environmental and Social Audits during construction/rehabilitation of structures
- Limited knowledge on Strategic Environmental and Social Assessment;
- Limited technical capacity on waste management;

In order to achieve the goal of the ESMF, there is a need for capacity building and strengthening of relevant competencies on environmental and social management at federal and state level MDAs State Ministry of. It involves organizational development, the elaboration of management structures, processes and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private and community).

The environmental and social management requirements and provisions outlined in this ESMF, competencies and capacity building will be required in the following areas:

- Environmental Impact Assessment Process - screening, scoping, impact analysis, mitigation measures and monitoring, reviewing ESIA reports;
- Environmental Due Diligence - types of due diligence, screening projects for liabilities, scoping due diligence investigations and reviewing due diligence reports; and

- Monitoring and Evaluation - understanding the importance of monitoring and evaluation (M&E) in project implementation, M&E requirements for environmental and social sustainability of projects.

Specific areas for effective institutional capacity needs are given in c.

| Table c.: Training/Capacity Building Needs | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Programme/Description** | **Participants** | **Form of Training** | **Duration** | When | **Conducted by** | **Agency Coordinating** | **Estimated Costs USD** |
| Environmental and Social Accountability | | | | | | | |
| WB Safeguards Awareness Training of Environmental Safeguards Policies triggered | PMU, Ministry of Environment and , project affiliated MDAs, | Workshop | ½ Working day | During project preparatory stage | World Bank | World Bank | Not inclusive |
| World Bank Social Accountability System | PMU, Ministry of Women Affairs, Community Development, Social Welfare and Poverty reduction, Project affiliated MDAs | Workshop | ½ Working day | During project preparatory stage | World Bank | World Bank | Not inclusive |
| Nigerian Environmental Guidelines Introduction to Environment Basic Concept of Environment Environmental Regulations and Statutory requirements as per Government. | PMU, Ministry of Environment and project affiliated MDAs, | Workshop | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Ministry of Environment and | |

| Table c.: Training/Capacity Building Needs | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Programme/Description** | **Participants** | **Form of Training** | **Duration** | When | **Conducted by** | **Agency Coordinating** | **Estimated Costs USD** |
| Environmental Considerations in subproject activities: Environmental components affected during construction and operation stages; Environmental management and Best practice; Stakeholder participation | PMU, Ministry of Environment and project affiliated MDAs | Workshop | 1 Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Project Screening and Scoping | PMU, Ministry of Environment and project affiliated MDAs, | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Review of EIA and its integration into designs EIA methodology; Environmental provisions Implementation arrangements | PMU, Ministry of Environment and project affiliated MDAs | Lecture and Field visit | ½ Working day | | | PMU, Environmental specialist, | |
| Preparation of ESIA, EA and | | Training of | ½ Working day | During project | Relevant Consultant | PMU, Environmental | |
| EMP Term of Reference/Implementation | | Trainers | | preparatory stage | | specialist, Ministry of Environment and | |
| Preparation and administration of questionnaires and stakeholders consultation/FGD | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |

Table c.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Project Management (scope, implementation, time, budget, costs, resource, quality, procurement, monitoring and evaluation) | PMU, Ministry of Environment and project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Project Management Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Environmental and Social Audits | PMU, Ministry of Environment and project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Strategic Environmental and Social Assessment (SESA) | PMU, Ministry of Environment and project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Logistic and planning | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Total | | | | | | | 15,000 |
| Pesticides Use, Storage and Disposal of containers | PMU, Project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Agriculture | |
| Total | | | | | | | 10,000 |

| Table c.: Training/Capacity Building Needs | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Programme/Description** | **Participants** | **Form of Training** | **Duration** | When | **Conducted by** | **Agency Coordinating** | **Estimated Costs USD** |
| Training program (Health Impact Assessment) - HIA | | | | | | | |
| Overview of HIA | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | **7,500** |
| Screening—How to Decide Whether to Conduct an HIA | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Environmental Health Areas | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Scoping—How Comprehensive Should the HIA Be | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Baseline Data—What, When, and How Much? | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Risk Assessment—Assessing and Ranking Impacts | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Health Action Plan | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Monitoring and Verification | | | | | | | |
| Monitoring and Verification | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Resourcing | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |

Table c.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Training Programs [Occupational Health and Safety Management Plan (OHSMP) | | | | | | | |
| Occupational Health and Safety(OHS) Leadership Management | PMU, Ministry of Environment and , project affiliated MDAs Contractors, Project affected Community representatives | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | **7, 500** |
| Safety performance assessment | PMU, Ministry of Environment and , project affiliated MDAs, Contractors | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and Habitat | |
| Hazard Analysis and Control | PMU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | |
| Hazard Communication Program | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | |
| Effective Accident Investigation | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | | During project initiation stage (Before commencement of | Relevant Consultant | PMU, State Ministry of Environment and | |

| Programme/Description | Participants | Form of Training | When | Training to be conducted by who | Training Conducting Agency | Training Costs USD |
|---|---|---|---|---|---|---|
| | | | civil works) | | | |

Table c.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Conducting Health and Safety Audits | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | |
| Job Hazard Analysis | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | |
| Occupational Health Risk Assessment | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | |
| Work Stress Risk Assessment | PMU, Ministry of Environment and , project affiliated MDAs, Contractors | Training of Trainers | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | |
| Pesticides and other Chemicals Management and Waste Management | Health workers, Waste Managers | Hands on | | During project initiation stage (Before farming activities | Relevant Consultant | PMU, State Ministry of Environment and Ministry of Agriculture | |
| Emergency Planning and Management | PMU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors | | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, SEMA | |
| **GRAND TOTAL** | | | | | | | **$35,700** |

***Estimated Budget for Implementing the ESMF***

To effectively implement the environmental and social management mitigation measures as part of the ESMF, necessary budgetary provisions have to be made for sub-projects. It is important to identify financial requirements even if indicative. This ensures upfront appreciation of the financial requirements and allows early planning and budgeting accordingly.

Tentative budget for each of the project includes the environmental and social mitigation cost, management costs, cost of environmental monitoring and capacity building. All administrative costs for implementing the ESMF shall be budgeted for as part of the project costing.

Table ES e below shows an indicative budget breakdown of the cost for implementing the due diligence in the project. The total cost for implementing the ESMF is estimated att **N56.54m ($10,459.9)**) (Table ES f).

| **ES Table e: Estimated Annual Budget to Implement ESMF** | | | |
|---|---|---|---|
| **1** | **ESMF Requirements** | **Budget Basis and Assumptions** | **Total Cost per Annum (N)** |
| **2** | Capacity Building for PMU Personnel | Training Programs held in-country | N5M |
| | Meetings, Workshops and Stakeholder Engagement | Monthly estimated expenses of N35,000/person for 10persons/per year | N4.2m (to based on actual expenses) |
| **3** | Environmental Screening of transactions | No additional budget | No additional budget |
| | Engagement of Specialists | Assume specialists may be engaged times to investigate issues | To be worked out when is to be engaged |
| | Field Visits to facility locations | Field visits estimated for 2 PMU personnel per year. Covers, transport, accommodation and daily allowances | N1.5m |
| | Meetings, Workshops and Stakeholder Engagement | No additional budget | Based on actual expenses |
| **4** | ESIA Scoping Workshops | ESIA Scoping workshops per year | As part of the ESIA/EMP preparation |
| | Typical ESIA Report for subprojects | Assume average cost of each ESIA depending on the extent of the road | N20m |
| | Typical ESMP for subproject | | N12m |
| | Engagement of Environmental and Social Specialists | | As part of the ESIA/EMP preparation |
| **5** | Monitoring Compliance with ESMP on E&S Issues during pre-operations activities | Assume quarterly monitoring activities over 5 days each quarter per year | N2m |
| **6** | Monitoring Compliance with ESMP and on E&S Issues during operations | Assume quarterly monitoring activities over 5 days each quarter per year | As part of item 5 |
| **7** | Training/Capacity Building Needs | | N6.7M |
| **8** | **TOTAL Estimated Budget** | | **N**51.4m |
| **9** | **Contingency** | **10% of sub-total** | **5.14** |
| | **Grand Total** | | **N56.54m ($10,459.9)** |

**$1=N185**

***Stakeholders Consultation***

In accordance with World Bank safeguards policy governing EA Category A projects, the GoN recognizes that stakeholder consultation is an important element of the REDDISEE and the EA process.

The objectives of the consultations were to:

- Inform the affected communities within the about the project development objective,
- Give them opportunity to express their perceptions and concerns about the project impact;
- Collect useful local data/information/solutions that will help in the ESMF/ESMP/ESIA project preparation (e.g. Local grievance redress procedures).
- Receive from, and deliberate with the stakeholders on measures to avoid or mitigate impacts as well as facilitate rehabilitation of affected persons
- Empower their voice by mainstreaming their inputs into ESMF/ESIA implementation plan

***Strategy for Stakeholder Identification and Engagement***

Stakeholders have been and are being considered at two broad levels:1) those that the project will directly or indirectly affect positively or negatively including those who will lose land, farms, grazing land, buildings, crops, economic trees, businesses, etc. and 2) those that will support project with data, capacity and other forms of technical support before and during implementation (, Government Ministries and Agencies).

The consultation process which is considered as a continuum for the entire project life cycle began on 13th August 2014 and continued till 27th August for the first phase which covered the stakeholder government agencies and the communities for the safeguard instruments (ESMF, WMPF and IPMP) preparation.

The second phase was the combined World Bank and FMARD mission which took place from October 13th to October 17th 2014, and provided a platform to validate earlier data and deepened discussions and engagement with the relevant stakeholders, especially Federal Ministry of Environment, Helaht Ministry, Forestry Dept, etc. on essentially safeguard concerns of the project.

The third phase of the consultation at this stage captured four other LGAs and affected groups and communities from 27th to 3rd November 2014. These communities and LGAs visited are Iwaa and Oshokosho in Lokoja LGA, Iresuare/Osara-Gada in Adavi LGA, Ohu and Irukura in Okehi LGA and Iyara in Ijumu LGA. in Kogi State.

This requirements and phasing of consultations are as follows:

- Consultation on the finalization of ESMF – to include:
    - Circulation of the draft ESMF for comments toll relevant institutions (Federal Ministry of Environment, Federal Ministry of Health, State Ministry of Environment, State Ministry of Health, etc.)
    - Organization of public stakeholder workshops and comments incorporated in the final ESMF document
    - Public disclosure of Final ESMF (cleared by WB) in-country at designated centres accessible to stakeholders and at the WB info shop prior to appraisal
- During the preparation of individual ESIA/ESMP
    - Potential investors, s, interested groups and communities with LGCs affected will be consulted and informed about the proposed subproject activities and how they stand to be impacted environmental and socially speaking
    - Identification of impacts and appropriate mitigation measures shall be sought through consultation with the relevant local stakeholders community members and expert knowledge gained elsewhere and judgement in the light of best practice
    - Consultation of the proponent and implementing government agencies on relevant policy terms.
- During the Implementation of the ESMP
    - Stakeholder communities will be informed about the date/schedule of project commencement who will be involved in site selection, screening and planning administration of needed mitigation measures and monitoring and evaluation

- During audit/monitoring and evaluation of the ESMP to determine the performance of the ESMP
    - s Community members will be consulted to appreciate their understanding of the impacts that have been generated and whether the mitigation measures are working or if there will be need to change the entire ESMP. This will take place 6months after the start of the implementation of ESMP and 2 years after for the audit.

**Grievance Management Process**
There is no ideal model or one-size-fits-all approach to grievance resolution- *localized mechanisms that take account the specific issues, cultural context, local customs, and project conditions and scale works better. Nevertheless,* an outline of the Grievance Redress Flow Path/process that could be followed includes,

- Receive, register and acknowledge complaint
- Screen and establish the foundation of the grievance
- Implement and Monitor a redress action
- Advise for a judicial proceedings as last resort if necessary
- Document the experience for future reference essentially, registration of complaints, acknowledgment, follow-ups, mediation and corrective actions is presented.

**Environmental and Social Monitoring**
Monitoring is a key component of the ESMF during project implementation. Monitoring verifies the effectiveness of impact mitigation measures, including the extent to which mitigation measures are successfully implemented. Monitoring specifically helps to:

- Improve environmental and social management practices;
- Check the efficiency and quality of the ESMP processes;
- Establish the scientific reliability and credibility of the ESMP for the project and
- Provide the opportunity to report the results on safeguards and impacts and proposed mitigation measures implementation.

Some indicators that could be used to ensure participation process involved in subproject activities include:

- Number and percentage of affected households/individuals/institutions consulted during the planning stage;
- Levels of decision-making of affected people;
- Level of understanding of project impacts and mitigation;
- Effectiveness of local authorities to contributing and making relevant decisions;
- Frequency and quality of public meetings;
- Degree of involvement of women or disadvantaged groups in discussions

***Disclosure***
The ESMF has been prepared in consultation with the relevant stakeholders. Copies of this ESMF and other safeguard instruments (ESIA/EMP) that would be prepared for the subprojects shall be disclosed in compliance with relevant Nigerian regulations and the World Bank operational policy. It will be disclosed in-country designated sites at FEDERAL MINISTRY OF HEALTH, Federal Ministry of Environment, State Ministry of Environment, headquarters of affected LGAs and at the primary/secondary schools in the project areas, translated as much as possible into main local language. It will also be disclosed in 2 daily newspapers for 21 days as required by the Nigerian extant laws, while the World Bank will disclose the document at its info shop.

## CHAPTER ONE

## PROJECT DESCRIPTION

### 1.1 Project Context:

The West Africa Regional Disease Surveillance Systems Enhancement Project (REDISSE) will be implemented as an interdependent series of projects (SOP) that will eventually engage and support all 15 ECOWAS member countries. This is the first project in the series, REDISSE-SOP1 which targets both extremely vulnerable countries (Guinea, Sierra Leone and Liberia) and countries which have more effective surveillance systems and serve as hosts for important regional assets (Nigeria and Senegal). Phase 2 (REDISSE-SOP2) is expected to be delivered in the second quarter of Fiscal Year 17 (FY17). The estimated project financing for REDISSE-SOP2 is US$102 million. FY17 delivery of this project will allow additional time for consultations, assessments and planning needed to ensure country readiness. REDISSE-SOP2 countries will include: Cote d'Ivoire, Guinea Bissau, Ghana, Togo, Benin and possibly The Gambia. Together, REDISSE SOP 1&2 constitute a block of equatorial, coastal countries with shared borders and similar epidemiologic profiles which extends from Senegal in the west to Nigeria in the east. The series of projects will be implemented in the context of the African Integrated disease surveillance and Response Strategy, international standards and guidelines of World Health Organization (WHO), World Organization for Animal Health (OIE), and Food and Agriculture Organization of the United Nations (FAO), fostering a One Health Approach. It will support the countries to establish a coordinated approach to detecting and swiftly responding to regional public health threats. Cooperation among West African countries to prevent and control potential cross-border diseases is a regional public good. The regional benefits and positive externalities of effective disease surveillance and response are substantial. The West African Health Organization (WAHO) and the Regional Animal Health Center (RAHC) (Centre Régional de Santé Animale-CRSA, based in Bamako) , both of which are affiliated with ECOWAS, will be responsible for the regional coordination, as well as implementation of specific regional activities and day-to-day oversight of the Project. Collective action and cross-border collaboration are emphasized throughout the Project: (i) the Project will support countries' efforts to harmonize policies and procedures; (ii) countries will be empowered to engage in joint planning, implementation and evaluation of program activities across borders at regional national and district levels, and; (iii) the Project will promote resource sharing of high cost specialized assets such as reference laboratories and training center and pooled procurement of difficult to access commodities.

Most recent estimates show that communicable diseases (CDs) account for more than one third of the global disease burden and that most of this burden falls on the countries of West Africa. Countries in this region are at high-risk for infectious disease outbreaks including those of animal origins (zoonotic diseases). The World Health Organization (WHO) has documented that of the 55 disease outbreaks that were reported in Africa over the last decade, 42 took place in West Africa. Some common outbreaks in the region include Cholera, Dysentery, Malaria, Hemorrhagic fevers (e.g. Ebola virus disease, Rift Valley fever, Crimean-Congo fever, Lassa fever, and Yellow fever), and Meningococcal Meningitis. West Africa also bears a disproportionate burden of malaria, TB, HIV and neglected tropical diseases, many of which are at risk of resurgence due to drug and insecticide resistance.

Over the last four decades, the world has witnessed one to three newly emerging infectious diseases annually. Of infectious diseases in humans, the majority has its origin in animals ("zoonotic" diseases), with more than 70% of emerging zoonotic infectious diseases coming from wildlife. Recent outbreaks such as Ebola Viral Disease (EVD), H7N9 avian influenza, Middle East Respiratory Syndrome (MERS-CoV), Marburg virus, Nipah virus infection, bovine spongiform encephalopathy and HIV/AIDS showcase the catastrophic health and economic effects of emerging zoonotic diseases. The West Africa region is both a hotspot for emerging infectious diseases (EIDS) and a region where the burden of zoonotic diseases is particularly high. In this region, emerging and re-emerging diseases at the human-animal-ecosystems interface are occurring with increased frequency. As evidenced by the recent Ebola epidemics in Guinea, Sierra Leone, and Liberia, and the re-occurrence and spread in of Highly Pathogenic Avian Influenza (HPAI) (H5N1), highly contagious diseases can easily cross borders in the region through the movements of persons, animals and goods.

The major drivers of the emergence of novel infectious diseases are human behavior, demographic change, technology and industry, economic development, land use, international travel and trade, microbial adaptation and change, breakdown of public health measures and bioterrorism. The population of sub-Saharan Africa has doubled between 1975 and 2001, and the African Population and Health Research Center predicts a further increase, up to 1.9 billion by 2050. Urban population densities have dramatically increased, by 223%, 178%, and 275% respectively in Guinea (1960-2012), Sierra Leone and Liberia (1961-2013) due largely to migration from rural to urban areas. The link between deforestation and infectious disease outbreaks is well documented; deforestation and encroachment into natural habitats is also claimed to be responsible for EVD outbreak in West Africa. According to FAO data, Western Africa is suffering deforestation at twice the world rate approximately. Deforestation has been particularly severe in Nigeria, but also in Guinea and Sierra Leone, with much of the landscape being replaced with forest-agricultural mosaics. Civil war and social turmoil have also been common in West Africa. The social instability and its consequential population relocation and breakdown of governments provide fertile ground for the rampant spread of infectious diseases.

The impacts of infectious disease outbreaks can be devastating to the fragile social and economic situation of countries. The WB estimated a global cost of US$3 trillion in the case of a severe pandemic such as the 1918 Spanish Flu; an estimate that is comparable to the impact of the 2008 global financial crisis. In the West Africa region, the recent Ebola Virus Disease outbreak clearly eroded hard-won gains in the fight against poverty, including gains in human development and economic growth in Guinea, Liberia and Sierra Leone, as well as in the entire region. In these three countries, the estimated forgone output reached US$1.6 billion, which represents over 12% of the countries' combined outputs. The outbreak also resulted in school closure for at least 6 months and over 16,600 children lost one or both parents to the epidemic. Overall, the estimated loss in Gross Domestic Product (GDP) for the 15 countries in the ECOWAS region was approximately US$1.8 billion in 2014, and was expected to rise to US$3.4 billion in 2015 and US$4.7 billion in 2016. These add to the ongoing burden of neglected and endemic human and animal diseases, including zoonoses.

Animal health is critical to public health and to the sustainable growth of the livestock sector. Livestock farming plays an important role in the ECOWAS region, contributing an average of 44% to its agricultural GDP. Livestock farming concerns virtually all rural households and is a crucial factor in combating rural poverty (see map below), both directly, through the income it generates, and indirectly, in allowing agriculture intensification and contributing to food security, nutrition and broader economic development. ECOWAS as a whole has a trade deficit in animal products and this trade deficit is particularly acute in the coastal countries. Demand for livestock products is expected to continue to grow significantly in the next decades, based on demographic trends, and propelled by increased urbanization and incomes. This evolution implies higher risks of occurrence of disease (frequency and/or severity), and higher impact of these diseases.

### 1.2 Project Development Objective (PDO) and Guiding Principles

The REDISSEE project's development objective (PDO) is to strengthen national and regional cross-sectoral capacity for collaborative disease surveillance and epidemic preparedness in West Africa. It will address systemic weaknesses within the animal and human health systems that hinder effective disease surveillance and response.

### 1.3 Sectoral and institutional Context

Like in other developing countries, the performance of health systems in many countries in West Africa is weak. They suffer from chronic insufficient financial and human resources, limited institutional capacity and infrastructure, weak health information systems, prevailing inequity and discrimination in availability of services, absence of community participation, lack of transparency and accountability, and a need for management capacity building. Public sector spending on health is generally low. Only Liberia exceeded the Abuja target of 15% of Gross Government Expenditure (GGE) allocated to health. Out of pocket spending on health was high ranging from a low of 21% in Liberia to a high of 76% of total health expenditure in Sierra Leone. Guinea, Liberia and Sierra Leone have low density and inequitable distribution of health services and health workers as a result of low production, low motivation, inadequate training, lack of quality supplies and the loss of health workers, particularly physicians and nurses to emigration (a.k.a. brain drain). This was further aggravated during the EVD outbreak, which took a high toll on the lives of health workers.

Country led self-assessment on disease surveillance, preparedness and response capacity in Guinea, Liberia, Nigeria, Senegal and Sierra Leone as well as the lessons learnt from the EVD outbreak revealed some key weaknesses of health systems in terms of infectious disease surveillance, epidemic preparedness and response. These include: (i) a fit for purpose health workforce for disease surveillance, preparedness and response is lacking at each level of the health pyramid; (ii) community level surveillance and response structures either do not exist or need significant improvement; (iii) there is limited availability of laboratory infrastructure in place for timely and quality diagnosis of epidemic-prone diseases; (iv) lack of interoperability of different information systems hampers analysis and utilization of information for decision making and actions for disease mitigation measures; (v) infection prevention and control standards, infrastructure and practices are generally inadequate; (vi) management of the supply chain system is weak and inefficient; and (vii) there are significant gaps in regional level surge capacity for outbreak response, stockpiling of essential goods, information sharing and collaboration. Similar findings were also documented by the Global Health Security Agenda baseline assessments in a number of countries including Liberia, and Sierra Leone.
After the EVD outbreaks, health system recovery and strengthening plans were developed for at least the next five years in Guinea, Liberia and Sierra Leone. Building up a resilient health system to effectively respond to health emergencies has universally been identified as one of the strategic pillars in the plans. At the national level, broad-based health system strengthening committees or similar structures have been established to lead and coordinate the efforts for strengthening the national health system in the three countries. With the help from USAID, a plan for health system strengthening was also developed in Senegal. In all five countries REDISSE will build on and complement the ongoing health system strengthening initiatives of the national governments that are supported by the Bank and other development partners.

Animal Health
The animal health sector in the ECOWAS region is characterized by a high incidence and prevalence of infectious diseases communicable diseases, both zoonotic and non-zoonotic, impacting veterinary and public health, trade, rural development and livelihoods. Among the most serious infectious diseases, contagious bovine pleuropneumonia (CBPP), foot and mouth disease (FMD), African Swine Fever (ASF), Rift Valley Fever (RVF), Peste des Petits Ruminants (PPR), African Animal Trypanosomiasis (AAT), highly pathogenic avian influenza (HPAI), and rabies are highlighted by ECOWAS and the GF-TADs for Africa. A recent summary of evaluations of Veterinary Services by the World Organization for Animal Health (OIE) in ECOWAS countries highlighted the services' lack of budgetary resources and mismatch between the human resources required and those actually available for preventing and controlling animal diseases. In terms of the strategic action required to sustain animal health, all of the countries identified the need to improve the coverage of their surveillance programs as well as the control of high-priority animal diseases. Lack of preparedness, insufficient human, physical and financial resources, and the lack of cross-sector collaboration were again emphasized by the FAO and OIE as causes for failure to address promptly and efficiently the resurgence of highly pathogenic avian influenza in the region.

Improvement of animal health requires increased and sustained investments in national Veterinary Services to meet international standards of quality defined by the OIE. Any country failing to prevent, detect, inform, react and control sanitary issues, such as infectious diseases or antimicrobial resistance places other countries at risk, hence the importance of regional approaches. All countries in the region have engaged in the OIE Performance of Veterinary Services (PVS) Pathway, a program which provides independent qualitative (PVS evaluation) and quantitative (PVS Gap Analysis) evaluations of Veterinary Services, identifying their strengths and weaknesses, prioritizing interventions and costing activities needed to address deficiencies. Some countries have also received support to review their veterinary legislation.

Insufficient government funding and limited interest from donors to support Veterinary Services have not allowed significant progress to date in addressing systemic issues. Some important programs are worth noting though in the animal health sector, such as the EPT2 program, financed by USAID and implemented in many of the ECOWAS countries, through FAO and other implementing agencies; FAO support to HPAI infected countries; and, AU-IBAR support through the Vet-Gov program. In the last 15 years, two main regional and global programs significantly contributed to strengthening national Veterinary Services, namely the PACE program and the World Bank financed Avian Influenza Global Program which were implemented in many countries of the region. The lessons and best practices derived from these two programs are reflected in this project. The RESEPI and

RESOLAB networks were also supported and facilitated by FAO under different projects and handed over in 2012 to ECOWAS.
Animal health is seen as a priority by the two regional economic communities in West Africa. ECOWAS and WAEMU have set a target of harmonizing national animal health systems. WAEMU, which covers 8 countries in the region, has moved forward on a number of fronts in particular on the harmonization of regulations on veterinary medicinal products, but progress has been slow due to administrative, human, organizational and financial constraints. In 2012, ECOWAS member countries declared the Regional Animal Health Center (RAHC)—an informal platform originally set up in 2006 by OIE, FAO and AU-IBAR as the ECOWAS specialized technical center for animal health. An operational plan for RAHC was developed in August 2014. However, delays in staff recruitment and establishment of a dedicated operational budget have kept the institution from implementing this plan and rolling-out activities in accordance with its mandate. The RAHC is currently supported through a limited number of initiatives with specific objectives, including to further develop the One Health agenda in the region, and to develop Integrated Regional Coordination Mechanisms for the Control of TADs and Zoonoses (IRCM). The WB-financed Regional Sahel Pastoral Support project (PRAPS), which supports the improvement of animal health in 6 West African Sahel countries, also specifically aims at contributing to the operationalization of the RAHC.
Tackling multisectoral issues efficiently requires working across sectors and disciplines. Yet, very few countries have adopted coordinated approaches, along the lines of the “One Health” concept. The response to the HPAI crisis since 2005 contributed to enhancing cooperation between the human and veterinary health sectors in many countries in the region, but in the absence of a dedicated program incentivizing such a joint approach, silos remain established. Nonetheless, important lessons have been learned and experience gained, and successful regional programs for the control of selected priority diseases, both within and outside the region, have demonstrated the efficiency of a regionally coordinated approach to diseases surveillance and response.

The Development Partner landscape in the sub-region is complex, particularly in the three countries most affected by the 2014-2015 EVD epidemic. The Ebola outbreak triggered a significant international response that brought many partners together to address the crisis and support the post-Ebola agenda of health systems recovery and strengthening. It also highlighted the need to focus attention on building the capacity for disease surveillance and response in the sub-region for both human and zoonotic diseases. The development partners engaged on these issues in the sub-region include major donor organizations including development banks, multilateral and bilateral donors and private foundations; UN systems agencies; technical agencies such as the US and China Center for Disease Control and Prevention; academic and research institutions and large numbers of international and local non-governmental organizations. As noted in Annex 2, in this type of environment duplication of effort, inefficient use of resources and failure to address resource, policy and programmatic gaps is a substantial risk. It is expected that there will continue to be an influx of funds and other forms of support to the region, in particular, to the three EVD affected countries (Guinea, Sierra Leone, and Liberia) in the next three to five years. As a result, coordination of resources and activities offered by the various partner organizations will remain a significant challenge for national governments. Therefore, coordination mechanisms at both national and regional levels that engage both the human and animal health sectors need to be developed to maximize the impacts of the increasing support and foster sustainability of the anticipated outcomes. The World Bank's convening power will be highly instrumental in forging a coalition of national, regional, and global technical and financial institutions to support the disease surveillance and epidemic preparedness agenda in West Africa.

The World Bank is well placed to mobilize substantial financing for this multi-sector initiative and to convene premier technical and financial partners engaged in the field of disease surveillance and epidemic preparedness. The World Bank has strategically engaged with a core group of development partners including those implementing the Global Health Security Agenda (GHSA) in the development of the REDISSE project. The REDISSE project itself will provide resources to regional institutions and national governments to establish the needed coordinating mechanisms

### 1.4 Project location

REDISSE will be implemented in five counties: Guinea, Liberia, Nigeria, Senegal and Sierra Leone. This ESMF covers Nigeria only.

### 1.5 Rationale for Preparation of Relevant Safeguard Documents

Based on the proposed REDISSE project activities, which inlcudes, essentially the rehabilitaiton of existing building structures and laboratory investigations, the project triggers two World Bank safeguards policies dealing with Environmental Assessment (OP/BP 4.01) and Pest management (OP/BP 4.09) respectively. Three safeguards instruments would be required: (i) Medical waste Management Plan; (ii) Integrated Pest Management Plan; and (iii) Environment and Social Management Framework.

Thus in full compliance to with the Bank;s categorisation of the project as a B project, there is need for project now full compliance with regard to safeguards and fiduciary policies To this end these required safeguards documents which are complimentary have been prepared, consulted upon and disclosed in-country and at World Bank Info Shop .

**This document (your are reading) represents the** *Environmental and Social Management Framework (ESMF) for the Nigeriataking . Although standalone, it is also complimentary to other ESMFs prepared for other participating West African countries taking into consideration their local prevailing context.*

### 1.6 Purpose of the ESMF

At the time of REDISSE project preparation, the specific sites that the project would be implemented are not known in sufficient details. Therefore, there is a need for an ESMFas one of the needed documents to outline the principles and procedures that would be followed to ensure that implementation of meets with the existing Environmental Impact Assessment (EIA) laws in the West African Countries and specifically with regard to Nigeria in this ESMF and World Bank safeguards policies. The ESMF spells out the Environmental and Social safeguards, institutional arrangements and capacity required to use the framework. This ensures that sub-projects under the project meet the national and local E&S requirements, and also consistent with World Bank safeguards. The ESMF sets out basic principles and processes within which the sub-projects are implemented agreeable to all parties.

The other objectives of the ESMF include:

- Assessment of potential adverse E&S impacts commonly associated with the sub-projects and the way to avoid, minimize or mitigate them;
- Establishment of clear procedures and methodologies for the E&S planning, review, approval and implementation of sub-projects;
- Development of an ESA screening/initial assessment system to be used for sub-projects; and
- Specification of roles and responsibilities and the necessary reporting procedures for managing and monitoring sub-project E&S concerns.

To realize the objectives of this ESMF, the scope of work include the following tasks:

- Task 1: Define Environmental screening and scoping procedures ;
- Task 2: Identify and analyse relevant Environmental policy and regulatory framework;
- Task 3: Identify the Potential positive and negative environmental and social impacts;
- Task 4: Design corresponding environmental and social mitigation principles in relation to the impacts identified;
- Task 5: Develop a generic environmental and social management plan to mitigate negative impacts;
- Task 6: Establish the Institutional framework managing the framework ;
- Task 7: Develop a Training needs for the project; and
- Task 8: Institute and carry out Public consultation.

### 1.7 Rationale for the ESMF *and other Safeguards Instruments*

At the time of project preparation, the specific sites that the project would be implemented in are not known in sufficient details.. Therefore, there is a need for an environment and social management framework that outlines the principles and procedures that would be followed to ensure that implementation of REDDISSE meets with the existing EIA law in Nigeria and World Bank Safeguards policies. This ESMF however, does not attempt to address site specific impacts related to individual undertakings (in any specific form) as the locations and extent of impacts or activities are not known at this preparatory stage.

This ESMF is prepared as a standalone document but aligned with two other standalone documents Healhcare (Medical) Waste Management Plan and Integrated Pest Management Plan (IPMP)]` prepared in parallel for this proposed project. The ESMF provides guidance for addressing potential environmental and social impacts that may result from civil works and the IPMP provides a comprehensive integrated management plan for pests and related, associated or induced activities in the eventual project locations. The objective of the HCWMP is to provide processes that the implementing agencies (Federal, States, Local Government Authorities, and Healthcare Facilities Managements) will follow to ensure the protection of healthcare workers, wastes handlers, animals and the community from the harmful impacts of hazardous healthcare wastes and to maximize project compliance with national, regional and international environmental regulations and best practices.

An RPF that establishes the resettlement and compensation principles, organizational arrangements and design criteria to be applied to meet the needs of the people who may be affected by the project activities requiring land acquisition and /or denial, restriction or loss of access to economic resources for the SCPZ. No landtake or displacement due to REDISSE Project and so this is not applicable.

### 1.8 Scope of the ESMF

This ESMF outlines the process and procedure to be followed when any activity that will be financed under the project has the potential to trigger any of the World Bank safeguard policies, especially Environmental Assessment, OP 4.01

This ESMF includes details of the existing environmental laws and regulatory framework in the country; World Bank safeguard policies, analysis of environmental and social impacts including alternatives; institutional arrangements for implementing the ESMF, capacity building needs; and public consultation carried out during project preparation. The ESMF clarifies the environmental mitigation principles, organizational arrangements and design criteria to be applied to the project. The report provides basic information about the scope of adverse environmental and social impacts to be induced by project operations; mitigation and monitoring actions to be taken and indicative cost implications.

Specifically, the ESMF focuses on:

- assessing the potential environmental and social impacts of sub-projects, whether positive or negative, and propose mitigation measures which will effectively address these impacts;
- establishing clear directives and methodologies for the environmental and social screening of micro-projects to be financed under the project;
- identifying the environmental policy, regulatory and institutional framework pertaining to the project;
- Establishing social inclusiveness, especially vulnerable groups and mitigation of social exclusion
- Guiding the development of specific Environmental and Social Impact Assessments (ESIAs) activity as might be needed for specific sub-projects.

1.9 Approach for the Preparation of ESMF

The ESMF has been prepared in accordance with applicable World Bank safeguard policies and Nigeria environmental assessment act and guidelines, and which involves the following activities summarized in Fig 1.2: It should be noted that the SCPZ ESMF and Fadama ESMF formed the some of the relevant documents in the updates and review of this REDISSEE ESMF.

- Data Gathering;

- Participatory Public consultations and discussions with relevant sector institutions, including non- governmental organizations (NGOs);
- Data collection and analysis, consisting of Literature reviews; Environmental and Social screening and scoping studies;
- Determination of potential impacts;
- Identification of impacts mitigation measures; Preparation of an Environmental and Social Management Plan;
- Review of comments from stakeholders; and
- Preparation and Submission of reports.

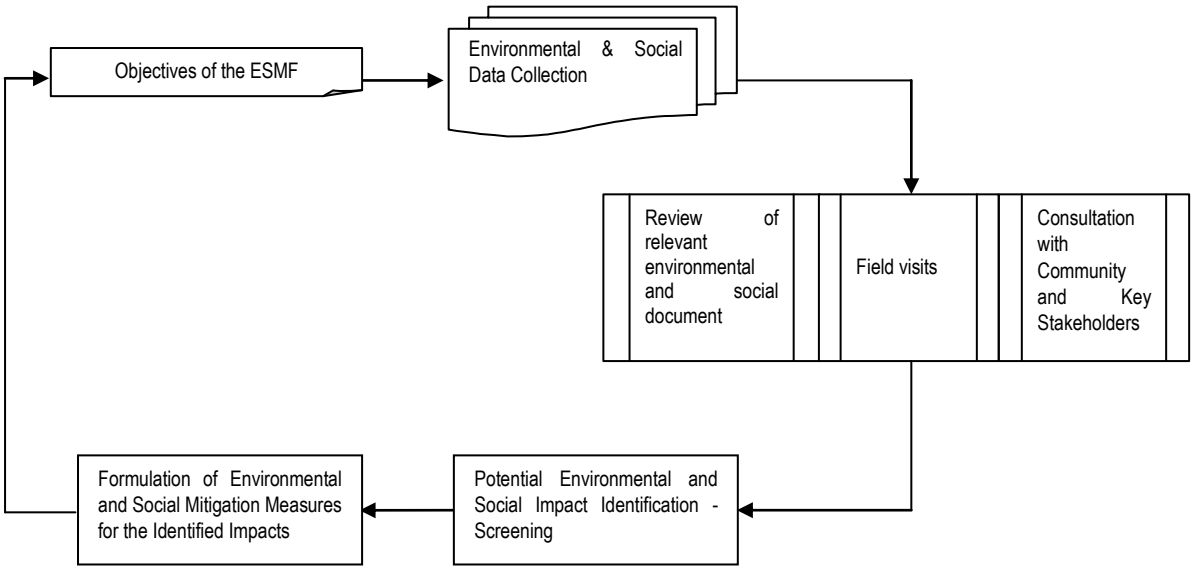



Figure1.2: ESMF Preparation Approach

## CHAPTER TWO
## PROJECT DESCRIPTION

### 2.1 Project Description

*Component 1: Surveillance and Information Systems:* The first component will support the enhancement of national surveillance and reporting systems and their interoperability at the different tiers of the health systems. This component will support national and regional efforts in the surveillance of priority diseases (including emerging, re-emerging and endemic diseases) and the timely reporting of human public health and animal health emergencies in line with the IHR (2005) and the OIE Terrestrial Animal Health code.

*Component 2: Strengthening Laboratory Capacity*: The objective of this component is to establish networks of efficient, high quality, accessible public health, veterinary and private laboratories for the diagnosis of infectious human and animal diseases, and to establish a regional networking platform to improve collaboration for laboratory investigation. The project seeks to address critical laboratory system weakness systems weaknesses across countries, fostering cross-country and cross-sectoral (at national and regional levels) collaboration.

*Component 3: Preparedness and Emergency Response:* This component will support national and regional efforts to enhance infectious disease outbreak preparedness and response capacity. Activities under this component will support the (i) updating and/or development of cross-sectoral emergency preparedness and response plans (national and regional) for priority diseases, and ensuring their integration into the broader national all-hazards disaster risk management framework; (ii) regular testing, assessment, and improvements of plans; (iii) expansion of the health system surge capacity including the allocation and utilization of existing pre-identified structures and resources (at the national and regional level) for emergency response, infection prevention and control.

*Component 4Human resource management for effective disease surveillance and epidemic preparedness:* Component 4 is cross-cutting given that animal and human health workers form the backbone of Disease Surveillance (Component 1), Laboratories (Component 2) and Preparedness and Response (Component 3). Effective human resource management aims at bringing the right people with the right skills to the right place at the right time.

*Component 5: Institutional Capacity Building, Project Management, Coordination and Advocacy:* This component focuses on all aspects related to project management. It includes fiduciary aspects (financial management and procurement), M&E, knowledge generation and management, communication, and management (capacity building, monitoring and evaluation) of social and environmental safeguard mitigation measures. It also provides for critical cross-cutting institutional support, meeting capacity-building and training needs identified in the five countries and at WAHO and RAHC on top of specific technical capacity-building activities undertaken within the four technical components. It will support the routine assessment of critical animal health and human health capacities of national systems using reference tools (such as OIE PVS and JEE) to identify weaknesses and monitor progress

## CHAPTER THREE

## POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

### 3.1 Introduction

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

Thus the main aim of this Chapter is to review Nigerian legislation, guidelines and International conventions that are relevant to the proposed project. The legislation outlined in the foregoing parts of this chapter are derived from Nigerian Government laws and regulations, State and local Government laws as well as international conventions and other instruments that Nigeria is signatory to. The World Bank Safeguard Policies are also discussed in addition to other relevant voluntary standard tools.
The Chapter is presented in Sections detailing, essentially, the relevant Administrative and legal framework/structure and then the relevant regulatory instrument and policies.

### 3.2 Administrative Framework

The relevant administrative structures are presented here below:

#### 3.2.1 Federal Level Institution

***1. National Council on Environment***

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

**2. *The Federal Ministry of Environment***

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

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

- Carries out the Federal Executive Council decisions on environmental matters.
- Mandated to co-ordinate the environmental protection and conservation of natural resources for sustainable development in Nigeria some of which are:
    - monitor and enforce environmental protection measures;
    - enforce international laws, conventions, protocols and treaties on the environment;
    - prescribe standards and make regulations on air quality, water quality, pollution and effluent limitations, the atmosphere and ozone layer protection, control of toxic and hazardous substances; and
    - Promote cooperation with similar bodies in other countries and international agencies connected with environmental protection.
- In response to her mandate the Ministry has developed far reaching legal reference instruments for

- Achieving environmentally sound management of resources and sustainable development across all major sectors of the economy.

For enforcement mechanism the Ministry has two agencies namely:

- National Oil Spill Detection and Response Agency set up by NOSDRA ACT, 2005 and National Environmental Standards and Regulations Enforcement Agency set by NESREA ACT 2007.

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

*3.* ***National Environmental Standards and Regulations Enforcement Agency***

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

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

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

***4. Federal Ministry of Agriculture and Rural Development (FMARD)***

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

As part of the Transformation Agenda for import substitution and creation of rural employment, saving foreign exchange, the Ministry has adopted a multi-disciplinary, private-public collaboration approach to increase crop yields such as for cassava and to organize s into cost-effective supply chains and link them to large scale factories; which in turn provides employment for landless labour and offers opportunity to develop the agro-service industry.

***5. Federal Ministry of Water Resources (FMWR)***

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

Specifically the functions of the FMWR include:

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

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

6. **Federal Ministry of Works**

a) Facilitate the rehabilitation of existing and construction of new structures,

Federal Ministry of Health

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

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

### 3.2.2 State Environmental Protection Agency or Authority

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

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

### 3.2.3 Legal and Administrative Structure at Local Government Area

The Local Government Councils in Nigeria, without any specific laws on environmental management are charged with the following responsibilities*, inter alia:*

- Co-ordinating the activities of Local Government Council;
- Maintenance of Law and Order in collaboration with Law Enforcement Agencies;
- Collection of taxes and fees;
- Establishment and maintenance of cemeteries, burial grounds and homes for the destitute or infirm
- Establishment, maintenance and regulation of markets, motor parks and public conveniences;
- Construction and maintenance of roads, streets, drains and other public highways, parks, and open spaces;
- Naming of roads and streets, and numbering of houses;
- Provision and maintenance of public transportation and refuse disposal; and
- Registration of births, deaths and marriages;

  The local government will be involved at project / sub project screening stage and ESIA review level.

### 3.2.4 International Level Institutions

The mandate of United Nations Conference on Environment and Development (UNCED) emanates from General Assembly resolution 44/228 of 1992 which, inter alia, affirmed that UNCED should elaborate strategies and measures to halt and reverse the effects of environmental degradation in the context of increased national and international efforts to promote sustainable and environmentally

sound development in all countries and that the promotion of economic growth in developing countries is essential to address problems of environmental degradation
Nigeria is a subscriber to these various mandates that have been enunciated and encouraged to maintain consistent positions in the various governing bodies and thus obliged to implement the various arrangements mandated, protocols, treaties and conventions through national legislation.
Also**,** International Development Partners/Agencies such as World Bank and other financial organizations interested in development projects have also sets of environmental categorizations, assessments and management standards. The framework provided by these international organizations must be complied with by project proponents before these institutions invest in them.

### 3.3 Relevant Regulatory Instruments and Policies

Below, an outline of the relevant regulatory instrument to the proposed project and this ESMF is given as they relate to the Federal, State and Local governments. Also highlighted are the applicable international protocols, treaties and conventions and the World Bank Safeguard Policies.

#### 3.3.1 Federal Level Environmental Regulatory Instruments

**1. National Policy on Environment**

The National Policy on Environment from 1989, which was significantly updated in 1999, provides "a viable national mechanism for cooperation, coordination and regular consultation, as well as harmonious management of the policy formulation and implementation process which requires the establishment of effective institutions and linkages within and among the various tiers of government – federal, state and local government". The objective of the policy is to foster the sustainable management of natural resources in Nigeria through the provision of guidelines and strategies that

- assure that the environment is of adequate quality to guarantee the health and well-being of citizens;
- manage natural resources for the benefit of present and future generations;
- maintains, enhances and restores ecosystems and ecological processes that are essential for the preservation of biological diversity;
- raise the public awareness and promote the understanding of essential linkages between the environment and development; and
- cooperate with other countries, international organizations and agencies on the trans-boundary environmental management.

**2. Environmental Impact Assessment (EIA) Act No. 86 of 1992, *CAP E12, LFN 2004***

The most relevant environmental regulations for the Support Project and the sustainable management of the natural resources in the project is the "EIA Act (No. 86 of 1992), which gives specific powers to the FMEnv to request and facilitate EIAs for all major public or private sector investments, i.e. any proposed physical work or activity that is likely to have significantly impacts on the environment. In effect, the decree deals with all EIA-related issues including: (a) timing and processing of EIA; (b) content of an EIA report including the factors to be considered in the EIA; (c) public involvement in the EIA process and public disclosure; (d) trans-boundary impact (covering state and international boundaries); (e) definition and requirement of environmental management plans for polluting development projects; (f) review of EIA and conflict resolution mechanisms; (g) powers of the FEPA now defunct to further regulate the EIA process; and, (h) lists of activities subject to mandatory EIA.

Further information on development project that requires an EIA based on the Act No. 86 of 1992 are provided in subsection 4.4 below.

As part of the effective utilization of the EIA tool, the Ministry has produced Sectoral guidelines detailing the necessary requirements of the EIA process from each Sector. One of these Sectoral Guidelines directly relevant to the proposed project is the 1995 *National EIA Sectoral Guidelines for Agriculture and Rural Development*. It contains a set of guidelines for the evaluation and mitigation of environmental impacts from a wide range of agricultural activities including but not limited to:

- agricultural land development (bush clearing, land preparation and consolidation);
- large-scale farming;
- agro-industrial projects;
- dams and reservoirs;
- irrigation and drainage programs; and

- use of agro-chemicals and fertilizers.

There are other Sectoral Guidelines such as on Infrastructure Development which are relevant to the proposed project activities

3. **National Environmental Standards and Regulation Enforcement Agency (NESREA) ACT 2007**

The Act enables the Agency to prohibit the process and use of equipment or technology that undermine environmental quality; to conduct field follow-up of compliance with set standards and take procedures prescribed by law against any violator;
Section 27 prohibits, without lawful authority, the discharge of hazardous substances into the environment.

Section 7 provides the Agency authority to ensure compliance with environmental laws, local and international, on environmental sanitation and pollution prevention and control through monitory and regulatory measures. While Section 8 (1)(K) empowers the Agency to make and review regulations on air and water quality, effluent limitations, control of harmful substances and other forms of environmental pollution and sanitation.

Regulations Gazette as supplementary to the NESREA Act and relevant to the proposed project are listed below:

- **National Environmental (Sanitation and Wastes Control) Regulations, 2009. S. I. No. 28:** The purpose of this regulation is to provide the legal framework for the adoption of sustainable and environment friendly practices in environmental sanitation and waste management to minimize pollution. This law will guide the general sanitation practices of different players throughout the phases of the proposed project.
- **National Environmental (Ozone Layer Protection) Regulations, 2009. S. I. No. 32**: These provisions seek to prohibit the import, manufacture, sale and the use of ozone-depleting substances. This law prohibits the use of Ozone depletion substances and will guide the kind of chemicals that the processing plants and other manufacturing activities within the project can use.
- **National Environmental (Noise Standards and Control) Regulations, 2009. S. I. No. 35**: The main objective of the provisions of this Regulation is to ensure tranquility of the human environment or surrounding and their psychological well-being by regulating noise levels. Since the proposed project activities is a mixed development including industrial and residential, this law will guide the noise level at all phases (pre-construction, construction, operation and decommissioning) by different activities .
- **National Environmental (Construction Sector) Regulations, 2010. S. I. No. 19:** The purpose of these Regulations is to prevent and minimize pollution from Construction, Decommissioning and Demolition Activities to the Nigerian Environment. This law will guide different construction and related activities within the proposed project so as to ensure that such activity do not lead to pollution of whatever kind.
- **National Environmental (Control of Vehicular Emissions from Petrol and Diesel Engines) Regulations, 2010. S. I. No. 20**: The purpose of this regulations is to restore, preserve and improve the quality of air. The standards contained herein provide for the protection of the air from pollutants from vehicular emission. This law will guide vehicular emissions and emission .
- **National Environmental (Surface and Groundwater Quality Control) Regulations, 2010. S. I. No. 22:** The purpose of this Regulation is to restore, enhance and preserve the physical, chemical and biological integrity of the nation's surface waters, and to maintain existing water uses. This law will guide the activities relation to water supply to the proposed project.

Furthermore, the work of NESREA is guided by its corporate strategic plan that describes the scale of the environmental and social challenges, and explains how NESREA, with the support of other key stakeholders, addresses these issues around the following policies :
Some Thematic (Area) Policies on Environment-
In addition to the National Policy on Environment, there are other policy documents on some thematic areas of the Ministry's mandate. These include:

- **Environmental Enforcement Policy:**

This policy aims at providing actions to take in enforcing environmental legislation, standards, regulations and guidelines fairly and appropriately in a manner that will protect environmental quality and safeguard public health.

- **National Environmental Sanitation Policy:**
  This policy seeks to stimulate, promote and strengthen all government regulations concerned with housing and urban development, food security water supply, sanitation related endemic diseases and illnesses, flood and erosion control, drought control, school health services and environmental education.
- **National Policy Guidelines on Sanitary Inspection of Premises:** This policy seeks to promote clean and healthy environment for the populace.
- **National Policy Guidelines on Solid Waste Management:**
  The aim of this policy is to improve and safeguard public health and welfare through efficient sanitary Solid Waste Management methods that will be economical, sustainable and guarantee sound environmental health.
- **National Policy Guidelines on Pest and Vector Control:**
  This policy is to establish and strengthen pest and vector control units at the three tiers of government.
- **National Policy Guidelines on Food Sanitation:**
  The main objective of the policy is to enhance food security, public health and quality of life through the promotion of sound food sanitation practices in all food premises in the country.
- **National Environnemental Sanitation Action Plan:**
  This plan is aimed at increasing National productivity and foster Economic Development through improved Environmental sanitation practices.

**4 The Harmful Waste (Special Criminal Provision Etc.) Act 1988**
The Act was enacted with the specific object of prohibiting the carrying, depositing and dumping of hazardous wastes on any land, territorial waters and matters relating thereto. This Act is essentially a penal legislation. The offences are constituted as doing any of the act or omission stated in the section 12 of the act. The jurisdiction of the Act is far reaching as it sought to remove any immunity conferred by diplomatic immunities and privileges Act on any offender for the purpose of criminal prosecution. Section 6 of the Act provides a very stringent sentence of life imprisonment and in addition the forfeiture of any aircraft, vehicle or land connected with or involved with the violation

**5. National Guidelines on Environmental Management Systems (1999):** The guidelines establish the requirement for an Environmental Management System (EMS) in 'all organizations/facilities in Nigeria'. They also state that this EMS should be audited annually or as deemed necessary.

**6. National Guidelines on Environmental Auditing (2001):** These are designed to serve as a reference for compliance with the Environmental Audit requirements of the FMEnv. It states that it is mandatory for a company to carry out an audit every 3 years or at the discretion of the Hon. Minister of the FMEnv.

**7. Natural Resources Conservation Council Act 286 of** 1990
This Act is aimed at establishing the Natural Resources conservation council to be responsible for the conservation of natural resources of Nigeria and to formulate national policy for natural resources conservation.

***2.5 Overview of the Nigeria Health Care Waste Management Policy, Plan and Guidelines:***
Presently, there is a new National Health-Care Waste Management Plan, National Health-Care Waste Management Guidelines and National Health-Care Waste Management Policy in Nigeria with specific legislation to regulate the management of healthcare waste in Nigeria. The implementation of safe practice of Healthcare Waste Management (HCWM) in public and private medical institutions is a priority issue, which the Federal Ministry of Environment in collaboration with Federal Ministry of Health and other stakeholders have decided to address.

In view of the challenges presented by healthcare waste and its management in Nigeria, the Federal Ministry of Health in collaboration with the Federal Ministry of Environment instituted the National

Healthcare Waste Management (NHCWM) Working Committee for the development of a National Healthcare Waste Management Policy, Guidelines and Plan of actions.

These documents which are standalone but complementary were validated by stakeholders at a National Stakeholders forum and are intended to address environmental and health problems associated with poor management of healthcare wastes. They provide the roadmap to introducing Safe Healthcare Waste Management (HCWM) practices to all Healthcare facilities in Nigeria. The development of this policy will set out clear guidelines for the national framework on HCWM in the country. The implementation of the Policy follows the existing governance and healthcare delivery system structures in the country. The operation of the HCWM plan and guideline covers activities at the national, state and local government levels. Both the public and private medical institutions in the country are expected to set up their HCWM plans following the guidelines provided and in line with national policy.

A brief highlight of the intended objectives of the three instruments designed to standardise Healthcare Wastes Management (HCWM) practices in Nigeria is presented below:

**National Healthcare Waste Management Policy, 2013**
The HCWM Policy subscribes to the vision, goals and principles and the regulatory approach set out in the National Environmental Policy.

The policy applies to both public and private medical/health institutions in Nigeria, and at the national, state and local Government levels. The healthcare waste management policy is to be implemented in a holistic manner in the generation, storage, collection, transportation, treatment, the final disposal of the waste, and after care of the disposal site. The Policy also serves as statement of intent by the Government of Nigeria on how to manage and minimize waste generated from both the public and private health institutions, in a way that takes cognizance of the health of those handling the healthcare waste, the environment and the community so affected.

The goal of the Policy is to create an enabling environment that contributes to effective and efficient healthcare waste management practices with minimal harmful environmental impact.

This policy which seeks to hold every Health Care facility accountable for the safe handling and disposal of health care waste it generates has specific objectives as follow:

- To promote best practices in healthcare waste management in all Health Care institutions in Nigeria
- To institute mechanisms for effective and sustainable healthcare waste management practices at all levels in Nigeria
- To promote the development of institutional and human capacities for effective implementation of healthcare waste management activities in all medical institutions in Nigeria.
- To provide a mechanism, for effective coordination of healthcare waste management activities in all medical establishments in Nigeria.
- To mobilize resources for effective and sustainable implementation of healthcare waste management activities in all medical institutions in Nigeria.
- To set standard of healthcare waste management practices that meet international requirements.
- To promote partnership among various key players involved in environmental protection/conservation efforts
- To promote/support operational research in healthcare waste management practices and their impact on environment/community.

The main features of the policy include: Justification for the HCWM Policy, Purpose of the HCWM Policy, Policy Goal & Objectives, Guiding Principles, Policy Statement, Safe Healthcare Waste Management Practices, Protection of Staff, Patients and Environment from risks associated with Healthcare Waste, Institutional Framework for Policy Implementation (Operational Guidelines), setting up of Infection Prevention and Control committees with Health Care Waste Management Committees as subset in all Health Care Facilities (HCFs), Infrastructural & Human Capacities

Development, Resource Mobilization, Public-Private Partnership (PPP), The Greenhouse Effect, Research, Monitoring & Evaluation and Legislation.

**National Healthcare Waste Management Strategic Plan (2013-2017)**
The National Healthcare Waste Management Plan (NHCWMP) is a five-year implementation plan for healthcare waste management in the country designed to provide an approach to the management of healthcare waste that is safe for HCFs, waste handlers, the public and the environment as well as being cost effective and practical.

The plan contains the following main parts or features situational analysis, organization of health system in Nigeria, legal and regulatory HCWM frameworks, characterization of HCW production in Nigeria, characterization of HCW practices in Nigeria, appraisal of the institutional capacities of the health system and recommendations for HCWM at all levels with national action plan *strategy and implementation, estimations of cost for NHCWMP and a* five-year calendar of activities

The NHCWMP objectives include:

- Develop and implement a *National Action Plan* based on the analysis of current HCW management and disposal practices;
- Develop standardized and simple HCWM procedures in the HCFs of the country and provide appropriate treatment and disposal technologies, taking into consideration the financial and institutional capacities of local, regional institutions;
- Develop a strategy for the implementation of the national HCWM Plan in Nigeria.
- The implementation of the objectives contained in the *National HCWM Plan* requires the development of specific actions included in the *National Action Plan* (NAP), which is recommended for periodic monitoring and review with a typical timeframe of around 5 years.

The NHCWM Plan recommends the establishment of a NHCWM steering committee, to ensure the coordination and supervision of the NHCWM Plan at the National level and State and LGA HCWM steering committees.

The Plan strongly recommended the following levels of supervision and coordination:

- At National level, the NSCHCWM is in charge of the monitoring and supervision of the National HCWM Plan. The PC is in charge of its implementation and supervises the activities of the Work Groups;
- At State level, the SSCHCWM is in charge of the monitoring and supervision of the HCWM plan. They nominate a state Coordinator who is responsible for the smooth implementation of the HCWM plans at state level. He/she reports to the PC and the SSC;
- At Facility level, Hospital Management is administratively responsible for the implementation of a HCWM plan within the institution. The Hospital Management nominates the HCWMO, who shall be a licensed Environmental Health Officer who has the entire responsibility with the HCWMC/IPCC to set-up Hospital HCWM Plans.

**National HealthCare Waste Management Guidelines, 2013**
The National HCWM Guidelines are intended to identify appropriate HCWM methods that can be applied to both public and private health care facilities in Nigeria. The guidelines are designed to provide better knowledge of the fundamentals of HCWM systems and planning, including a better understanding of the risks associated with health care waste.

Specifically, they are designed to:

- Identify HCWM procedures and plans that are protective for both human health and the environment, in compliance with current and pending environmental and health legislation in Nigeria and taking into consideration the characteristics of each health facility.
- Set priority actions in order to tackle the most sensitive problems related to HCWM (e.g. disposal of sharps).
- Review appropriate and sustainable technologies to treat and dispose of health care waste (HCW).

- Facilitate the analysis of HCWM problems and develop strategies for safe management of HCW at all levels

The National Health Care Waste Management Guidelines are to be implemented in all the medical institutions in Nigeria. The National HCWM Guidelines are intended for medical staff having "duty of care" at all levels of both private and public health facilities, namely: Directors, hospital heads of department, Chief Executive Officers of Tertiary health facilities, administrators, doctors, matrons, infection control officers, pharmacists, laboratory scientists, environmental health officers and waste handlers in addition to policy makers in charge of developing, implementing, and evaluating HCWM plans at Federal state and Local Government levels as well as Environmental Health Officers in charge of implementation and monitoring of HCWM plans. Others are; Teaching hospitals, schools of nursing and midwifery, schools of health technology and schools of hygiene, International Organizations, NGOs, and all Stakeholders in HCWM in Nigeria.

Essentially the guideline contained the following main features: The audience, definitions of health care waste in Nigeria, risks associated with health care waste principles of safe health care waste management, collection, storage, and transportation of HCW, health care waste treatment and disposal options in Nigeria, accidents and spillage, development and implementation of HCWM plans in HCF.

**7. National Policy on Flood and Erosion Control 2006 (FMEnv)**

This policy addresses the need to combat erosion in the country utilizing the procedures outlined in the National Action Plan for Flood and Erosion Control and Technical Guidelines, developed by the WIC Environmental Committee which was set up to plan an operational platform for these issues.

***8.*** ***N**igeria's Local Agenda 21***

- Nigeria's Local Agenda 21 programme seeks to:
  - integrate environment into development planning at all levels of government and the private sector;
  - commence a transition to sustainable development;
  - address sectoral priorities, plans, policies and strategies for the major sectors of the economy; and
  - Simultaneously foster regional and global partnership.

**9. Agriculture Sector related regulatory instruments**

Agriculture Sector Policies Sector-specific agricultural policies were largely designed to facilitate agricultural marketing, reduce agricultural production cost and enhance agricultural product prices as incentives for increased agricultural production. Major policy instruments for this purpose included those targeted at agricultural commodity marketing and pricing, input supply and distribution, input price subsidy, land resource use, agricultural research, agricultural extension and technology transfer, agricultural mechanization, agricultural cooperatives and agricultural water resources and irrigation development

**10. Land Use Act of 1978:**

The Land Use Act, which was modified in 1990, remains the primary legal means to acquire land in the country. This is more so as it vests all land comprised in the territory of each state in the Federation in the Governor of the state and requires that such land shall be held in trust and administered for the use and common benefit of all Nigerians in accordance with the provisions of this Act. According to the Act, administration of land area is divided into urban land which will be directly under the control and management of the Governor of each State; and non-urban land, which will be under the control and management of the Local Government. State Governors are given the right to grant statutory rights of occupancy to any person or for any purpose; and the Local Government will have the right to grant customary rights of occupancy to any person or organization for agricultural, residential and other purposes.

11. ***Draft National Building Code, 2006***

The need to evolve a National Building Code arose from the following existing conditions of Nigerian cities and environment:

- The absence of planning for our towns and cities;
- Incessant collapse of buildings, fire infernos, built environment abuse and other disasters;
- Dearth of referenced design standards for professionals;

- Use of non-professionals and quacks;
- Use of untested products and materials;
- Lack of maintenance culture
- The Code which is seen as opening a new vista in the Building Industry is aimed at eliminating or reducing to the barest minimum the incidents of collapsed buildings in Nigeria and as well promotes safety and qualitative housing for every Nigerian.
- State Governments are implored to integrate the provisions of this Code into their local laws particularly those relating to Design, Construction and Maintenance (Post Construction) and efficiently monitor the implementation of the code.

**12. Water Resources Act 101 of 1993**
This provision vests all water and water resources in the Federal Government of Nigeria and regulates the exploitation of water resources. It also vests in the Federal Government the rights and control of water in any water course affecting more than one state for the purpose, inter alia, of ensuring the application of appropriate standards and techniques for the investigation, use, control, protection, management and administration of water resources.

**13. National Water Supply and Sanitation Policy (NWSSP) was adopted in January 2000.** The centerpiece of this policy is the provision of sufficient potable water and adequate sanitation to all Nigerians in an affordable and sustainable way through participatory investment by the three tiers of government, the private sector and the beneficiary.
The Policy sets consumption standards for Semi – urban (small towns) and Urban Water supply

***14. Nigerian Standard for Drinking Water Quality, 2007***
- This standard is based on general principles of preventive, integrated and collaborative multi-agency approach.
- This standard sets parameters and maximum allowable limits in drinking water in Nigeria.
- It also includes normative references/laws guiding drinking water quality, definition of terminologies, institutional roles and responsibilities, monitoring, data management and compliance criteria.
- In developing this Standard, references were made to the Nigerian Industrial Standards for Potable Water and Natural Mineral Water, the National Guidelines and Standards for Water Quality in Nigeria, the World Health Organization (WHO) guidelines for drinking water quality (3rd Edition) and International Standard Organization of Nigeria (ISO).
- The principles **-** The effective protection of public health against water related diseases requires a preventive integrated management approach.

**15. Labour Act (1990):**
- ❖ Nigeria has ratified all eight core Labor-Standard-Conventions of the International Labor Organization. While Nigeria has ratified the core conventions and enacted laws to enforce the provisions, there are indications of restrictions on the trade union rights of workers in Nigeria, discrimination, child labor and forced labor. The Labor Act as the primary law protecting the employment rights of individual workers covers protection of wages; contracts; employment terms and conditions; recruitment; and classifies workers and special worker types. Union membership is governed by the Trade Union Amendment Act (1995). The 1999 Constitution further includes the objective for "equal pay for equal work without discrimination on account of sex, or any other ground whatsoever", but implementation is reported to be slow.

**16. Criminal Code:**
- ❖ The Nigerian Criminal Code makes it an offence punishable with up to 6 month imprisonment for any person who:
  - o Violates the atmosphere in any place so as to make it noxious to the health of persons in general dwelling or carry on business in the neighborhood, or passing along a public way: or
  - o Does any act which is, and which he knows or has reason to believe to be likely to spread the infection of any disease dangerous to life, whether human or animals.

***17 Public Health Law (L.N 47 of 1955, Cap 103)***
- Provides justification for the execution of developmental projects under guidelines that promote health by protecting the environment and safeguarding the health of humans.

- The Public Health laws empower Medical Officers of Health (operating at the Local Government Council, under supervision of the State and Federal Ministries) to require, by implication, that individuals and groups ensure that their activities promote an environment that fosters good health (subsections 6 and 7(m).

### 3.3.2 State Level

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

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

### 3.3.3 Applicable International Legal and Administrative Instruments

Several international regulations, protocols, treaties and conventions have been signed by the World aimed at halting environmental degradation and thus protecting human health against possible adverse effects. Nigeria subscribes to a number of this International Regulations and Conventions relating to Environmental Protection.

Some of the guidelines/conventions/treaties to which Nigeria is a signatory are below outlined:

- Both the Vienna convention for the protection of the Ozone Layer and Montreal protocol for Control of Substances that deplete the ozone layer
- Basel convention on the prevention of trans-boundary movement of hazardous wastes and their disposal.
- Convention on climate change
- Convention on Persistent Organic Pollutants
- World Health Organization (WHO) Health and Safety Component of EIA, 1987
- E.t.c.

## 3.4 World Bank Safeguards Policies

The World Bank has 10+3Environmental and Social Safeguard Policies to reduce or eliminate the adverse effects of development projects, and improve decision making for supported projects. These are summarized in shown in Box 2.1 are described in greater detail in Annex 1

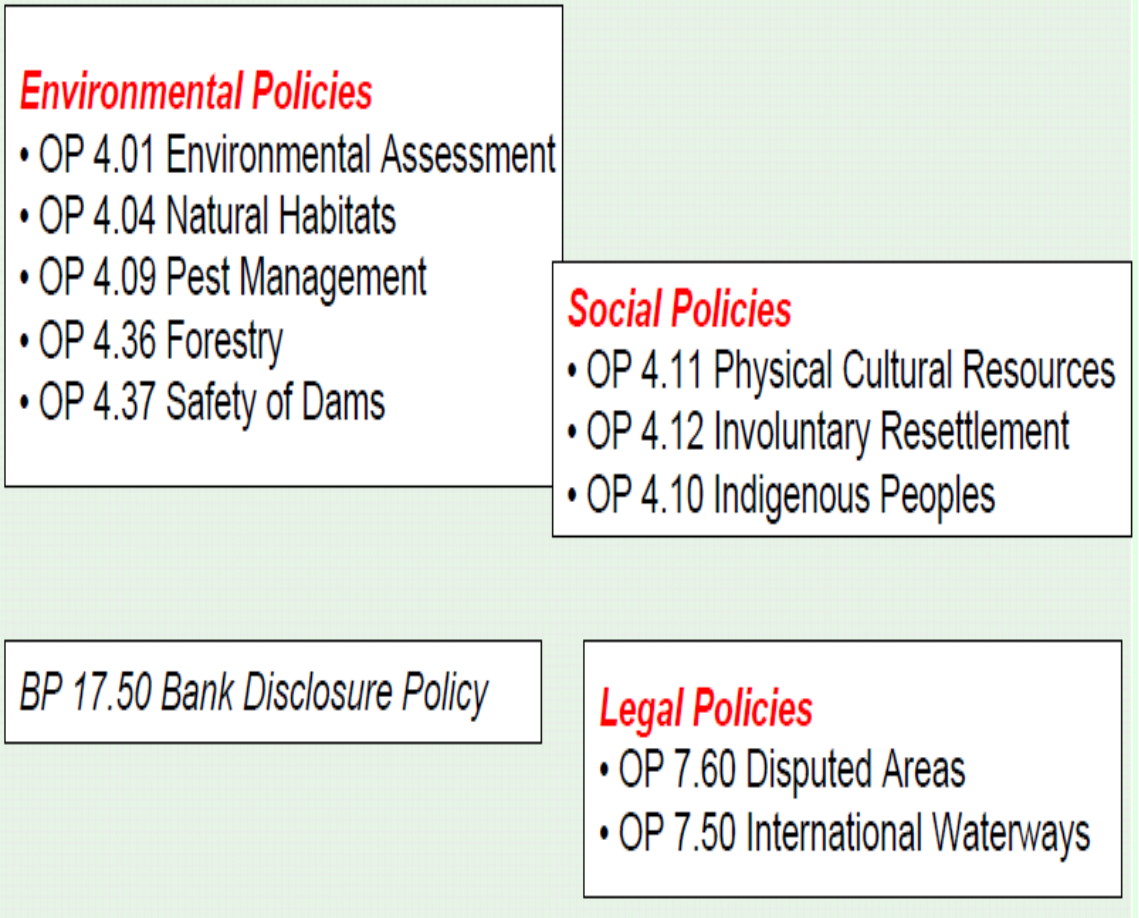
While compliance with these safeguard policies is required to assure that the Project is eligible for World Bank support, in a more general sense the safeguard policies are mitigation and management tools to address operational risks associated with the environmental and social performance of an investment. From that perspective, the Government of Nigeria will make compliance with the safeguard policies of the World Bank a requirement for all subprojects

The IFC and the World Bank Group have developed a set of Sectoral Environment, Health and Safety (EHS) Guidelines specific to particular industries sectors or types of projects and these shall also be taken into consideration.

### 3.4.1 World Bank Safeguards Policies Triggered by the Proposed Activity

The proposed Project and

trigger three out of the World Bank safeguard policies as indicated in Table 3.1 and has been screened to be a Category B project.




**Box 1: World Bank Safeguard Policies**

**Table 3.1: World Bank Safeguard Policies**

| S/N | Safeguard Policies | Safeguards Triggered | Reason |
|---|---|---|---|
| 1 | Environmental Assessment (OP/OB/GP 4.01) | **Yes** | Activities including construction/rehabiliation of buildingswhich would have adverse effect on the environment. Also, the acquisition of land and resources for these activities will lead to economic and potentially physical displacement. |
| 2 | Natural Habitats (OP/BP 4.04) | **No** | The activities outlined above will not require the significant conversion of significant areas of natural habitats. The right of way of some of the ancillary services such as pipeline may pass through sensitive ecosystem like wetland thereby causing disturbance and or damage to these ecosystems. |
| 3 | Pest Management (OP 4.09) | **Yes** | The activities could lead to increased use of pesticides. The IPMP report discusses the applicability of this policy in detail. |
| 4 | Indigenous peoples (OP 4.10) | No | The people in the area are by the World Bank not considered as indigenous peoples. |
| 5 | Physical Cultural Heritage (OP 4.11) | **NO** | Civil works, will most likely be able to avoid all cultural heritage sites as well as presently unknown sites that can be expected to be found in this area rich of cultural and historical values. |
| 6 | Involuntary Resettlement (OP/BP 4.12) | **Yes** | The activities under the project could require the acquisition of land through expropriation procedures. |

| Table 3.1: World Bank Safeguard Policies | | | |
|---|---|---|---|
| **S/N** | **Safeguard Policies** | **Safeguards Triggered** | **Reason** |
| 7 | Forest (OP 4.36) | **NO** | The establishment of the project will not have impacts on the quality of natural forests, plantations and protected areas. |
| 8 | Safety of Dams (OP/BP 4.37) | **NO** | The provision of water will not lead to impoundment of streams for water and will not require the establishment of dams. |
| 9 | Projects on International Waterways (OP/BP/GP 7.50) | No | Water will not be sourced from international waterway and the catchment area does not discharge into such. |
| 10 | Projects in Disputed Areas (OP/BP/GP 7.60) | No | There are no records of disputes in the area beside f the normal conflicts between individual and collective land owners. |

### *3.5 Comparison between Nigeria EIA Guidelines and World Bank EA Guidelines*

The Nigerian Environmental Impact Assessment Act (No. 86 of 1992) requires that all development projects be screened for their potential impacts. Based on the screening, a full, partial, or no Environmental impact assessment may be required. Guidelines issued in 1995 direct the screening process.

According to these guidelines:

- Category I projects require a full EIA. Such projects include large-scale activities like agriculture development on 500 hectares or more, land reclamation of 50 hectares or more, fisheries that establish land based aquaculture of 50 hectares or more, forestry projects that converts more than 50 hectares, etc.
- Category II projects require only a partial EIA that focuses on mitigation and environmental planning measures, unless the project is located near an environmentally sensitive area, in which case a full EIA is required.
- Category III projects are those considered to have "essentially beneficial impacts" on the environment and for which the Federal Ministry of the Environment will prepare an Environmental Impact Statement, but which do not need an EIA.

With regard to EA, the World Bank categorized projects into:

- **Category A**: These projects are those whose impacts are sensitive, diverse, and unprecedentedly, felt beyond the immediate project environment and are potentially irreversible over the long term. Such projects require full EA. The proposed project
- **Category B:** These are projects that involve site specific and immediate project environment interactions. Specifically, they do not significantly affect human populations, alter natural systems and resources, consume much natural resources (e.g., ground water) or have adverse impacts that are not sensitive, diverse, unprecedented and are mostly reversible. Category B projects will require partial EA, and environmental and social action plans.
- **Category C**: These are projects that are mostly benign in nature and are likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required, although some may require environmental and social action plans.
- **Category FI**: A proposed project is classified as Category FI, if it provides funds through a financial intermediary to subprojects that may result in adverse environmental impacts. Here the financial intermediate is responsible for setting up an Environmental and Social Management Framework that supervises the establishment of EIAs in line with the World Bank System.

The World Bank Categorization (A, B, & C) corresponds in principle with the Nigeria EIA requirements of Category I, II and III as both use the level of impacts associated with a given project as trigger for the required environmental assessment. However, in the event of divergence between the two with regard to REDISSE, the more stringent safeguard policy shall take precedence.

Thus, for the REDISSE Project which is considered to be a category 2project, the Nigeria's *EIA* requirements and World Bank operational procedures both apply and require:

- Early consideration of environmental and social issues (starting at the screening stage);
- Identification and early consultation with stakeholders;
- Prevention of adverse impacts through the consideration of feasible alternatives; and
- Incorporation of mitigation measures into planning and (engineering) design.

### *3.6 Adequacy of the existing Institutional Framework for Addressing Potential Environmental & Social Issues*

It is generally agreed that despite significant efforts at Federal, State and Local Government Level, the implementation of the existing environmental and social legislation is wanting as the capability in particular at state and local levels to assure the sustainable management of natural resources and the enforcement of rules and regulations leaves room for improvement. The REDISSE Project therefore provides and opportunity for the enhancement of capabilities as well as the acquisition of equipment to enable the implementation of the provisions outlined in the ESMF and subsequent emanating instrument (ESIA/ESMP).

## CHAPTER FOUR
## DESCRIPTION OF BIOPHYSICAL AND SOCIO-ECONOMIC ENVIRONMENT

### 4.1 Location

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 (see map below).

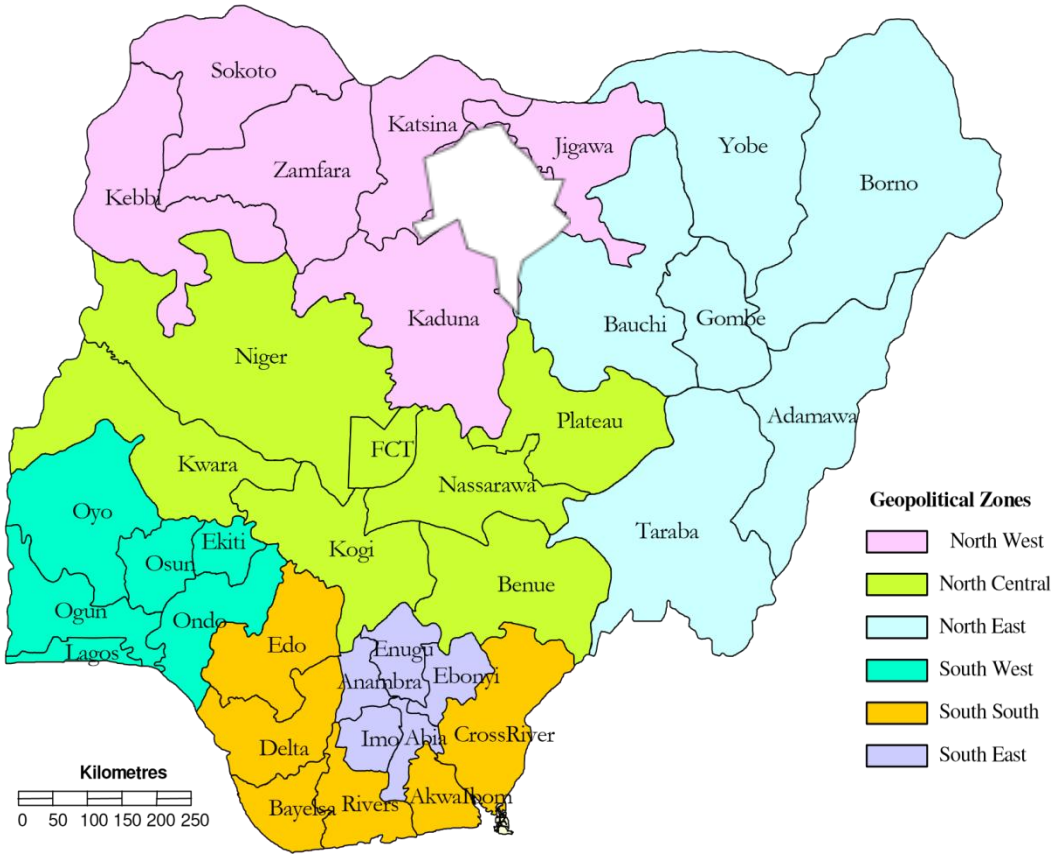



Figure 4.1: Map of Nigeria showing the states and FCT.

### 4.2 The Bio- Physical Environmental Features

Nigeria has a total area of 923,768 sq. km of which the total land area is 913, 768 sq. km and 10,000 sq. km is water.The main characteristics of the biological, physical and socio-economic environment of the project area are summarized below.

#### 4.2.1 Physical Environment

*Climate*

Nigeria's climate varies from arid in the north, tropical in the centre and equatorial in the south. The climate is largely controlled by prevailing winds and nearness to the Atlantic Ocean. The two dominant air masses are the dry wind from the Sahara and the wet wind from the Atlantic Ocean. Marginal alterations have being recorded due to landform characteristics, configuration of surrounding shoreline and the generally flat topography of the country.

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

*Temperature*
Nigeria's climate is characterized by relatively high temperatures throughout the year. The average annual maximum varies from 35$^{o}$C in the north to 31$^{o}$C in the south; the average annual minimum from 23$^{o}$C in the south to 18$^{o}$C in the north. On the Jos plateau and the eastern highlands altitude makes for relatively lower temperatures, with the maximum no more than 28$^{o}$C and the minimum sometimes as low as 14$^{o}$C.

*Wind*
Two principal wind currents affect Nigeria. The south-westerlies dominate the rainy season of the year while north-easterlies dominate the dry season. Depending on the shifts in the pressure belts in the Gulf of Guinea, these winds are interspersed respectively by south-easterlies and north-westerlies in different parts of the year. The wetter winds prevail for more than 70% due to the strong influence of the breeze from the Atlantic Ocean.

Mean annual wind speed varies between 2 to 6 m/s. Speeds in dry season (November - March) are lower. In the wet season (April–October), daily average speed could rise to 15 m/s. Values of up to 25 m/s are sometimes experienced due to inducement by convective rainfall activities and relative diffusion.

*Ambient Air Quality*
Generally, air quality in the area complies with regulatory standards. Although, slight variations are noticed in major industrial cities like Lagos, Ibadan, Aba, Kano, Port Harcourt and Kaduna.

The Federal Ministry of Environment, Housing and Urban Development (FMEH & UD) adopted the WHO standards (Table 4.1) as the national standards for gaseous emissions against which air quality parameters monitored are compared in order to ascertain its "cleanliness".

**Table 4.1: Nigerian Ambient Air Quality Standard**

| Air Pollutants | Emission Limits |
|---|---|
| Particulates | 250 (µg/m3) |
| SO2 | 0.1 (ppm) |
| Non-methane Hydrocarbon | 160 (µg/m3) |
| CO | 11-4 (µg/m3) or 10 (ppm) |
| NOX | 0.04-0.06 (ppm) |
| Photochemical Oxidant | 0.06 (ppm) |

Source: FME 1991

**Table 4.2: Air Quality Classification Based on TSP Values**

| Range of TSP Values (µg/m3) | Class of Air Quality |
|---|---|
| 0 – 75 | High Quality |
| 76 – 230 | Moderate Quality |
| 231 – 600 | Poor Quality |

Source: Jain, et. al (1976)

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

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

In the North, the Jos Plateau rises abruptly from a general level of about 609.5m in the Hausa Plains to an average level of some 1,219m but reaches 1,781.6m in Shere Hills. The area west of the River Niger is dominated by the plain, which rises gently from the coast northwards 'to the area of crystalline rocks where inselbergs rise abruptly above the surrounding plains. The Idanre Hills, the highest point of these inselbergs, rises to about 981m above sea level.

In general, the land surface of the country could be classified into three broad physical units or major relief features namely: the plains; the highlands; the troughs and the river valleys.

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

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

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

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

### 4.2.2 Biological Environment

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

In the rain forest, few large animals notably gorillas, chimpanzees, baboons and monkeys are present. Crocodiles, lizards, and snakes of many species are also present. Hippopotamuses, elephants, giraffes, leopards, and lions now remain only in scattered localities and in diminishing

number. Wildcats, however, are more common and widely distributed. Wildlife in the savanna includes antelope, lions, leopards, gazelles, and desert hyenas. Nigeria also abounds in bird life with a great number of species being represented.

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

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

### 4.3 The Social Environmental Features

*Demographics*
According to the latest estimates, the population of Nigeria is approximately, 150million (Nigeria Population Census, 2006), which makes Nigeria the largest country by population, in Africa. The annual average growth rate between1995-2001 was projected at 2.6% and the urban population represented 47% of the total population or 61.1 million people. The illiteracy rate, which is an estimate of the percentage the population over 15years old that have not completed a primary school education level, is 35%.

The real significance of Nigeria's demographic situation is that it simultaneously has a large population and one of the highest rates of growth in the world, causing its projection to move up so rapidly in total population. Many unknown factors could alter the above estimate. AIDS is one factor that could have a dramatic impact on Nigeria's future demographics. While AIDS is not the critical national health concern that it is in other sub-Saharan countries, it may grow to become a problem of great concern.

Rural – Urban migration in Nigeria, like in most other countries is fuelled by the pursuit for increased economic/ livelihood opportunities.

*Ethnic Groups and Religion*
Nigeria, which is Africa's most populous country, is composed of more than 250 ethnic groups, the larger of which are the Hausa and Fulani, who are predominantly from the North represent approximately 29% of the population, the Yoruba, predominantly from the South (South West) and represent approximately 21% of the population or and the Ibo, predominantly from the East represent about 18% of the population. The other large groups are the Ijaw with about 10%, the Kanuri with about 4%, the Ibibio with about 3.5%. The Middle Belt region of Nigeria shows the greatest degree of ethnic diversity, particularly in Adamawa, Taraba and Plateau States. The religious groups include Muslims, which make up about half of the population at approximately 65 million people; Christians at about 40% or about 52million people and the rest are of indigenous beliefs (10%) or about 13 million people.

*Land Use Pattern*
The estimated land area of Nigeria is 924,000 $km^2$. Land use varies based on location and the needs of the community. However, the different uses of land revolve around agriculture, industry and social needs such as the provision of infrastructure. Recent data shows that about 60% of the land area of Nigeria is under various forms of food (crop and animal) production and forest plantation.

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

Control and management of land in urban areas is the responsibility of the state governor, while all other land (rural, public, etc.) is the responsibility of the Local Government of the area. The governor is empowered to designate certain areas as urban land and to grant statutory rights of occupancy of fixed periods and rights of access to any person, subject to rental arrangements fixed by and payable to the state. The local government can grant a customary right of occupancy to land in the local government area (LGA) to any person or organization for agriculture, grazing, residential or other purposes.

*Public Health Features*
The increase in urban and peri-urban population over the years, coupled with the significant decline in the performance of the State Water Agencies to provide potable water (it is estimated that only 50% of the urban and 20% of the peri-urban have access

to reliable water supply), and with poor or no acceptable sanitation or drainage infrastructure in many of these areas, the prevalence rate for diseases such as diarrhoea, malaria, dysentery and other serious health conditions are high.

*Poverty*
According to the World Bank, Country at a Glance report, 2001, the gross national income (GNI) per capita of Nigeria is US$290, which is significantly lower than the average of US$470 for sub Saharan Africa (SSA).

It is estimated that 60% of the total population of Nigeria live below the poverty line. The average percentage of the urban poor (i.e. % of population below national poverty line) is a staggering 45% compared with the SSA average of 32%.

*Economics*
The Nigerian economy rests on two pillars; oil/gas and agriculture. Both sectors contributes 65% - 70% of GDP, while the secondary sector (manufacturing contributes about 7% and the tertiary sector (transport, trade, housing etc) contributes about 25%.

Nigeria's major industries are located in Lagos, Sango Otta, Port Harcourt, Ibadan, Aba, Onitsha, Calabar, Kano, Jos and Kaduna.

*Infrastructural Facilities*
The main transportation means in Nigeria is the road. Water transportation is fairly developed in some coastal areas. Air transportation is considered fair with major airports in Lagos, Abuja, Port Harcourt, Kano and Kaduna. The railway sector has experienced a major decline in the last decades but efforts are being made to revive it.

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

With regard to educational facilities, Nigeria is reasonably served. There are over 50 universities consisting of federal, state and private owned. High schools in most states are insufficient and are in dilapidated state, except for states in the southern part of the country.

Presently the Federal Government is refurbishing all existing tertiary health institutions nationwide. There is at least 1 primary health care institution in each of the 744 local government areas.

### 4.3.1 Health facilities and Prevalent Diseases
A common trend across the project area is the availability of primary health centres across the communities in the project area. However, secondary health facilities (general hospitals) are located in the major towns which are about 10 kilometres away or more from the rural people. Common sicknesses reported in the project areas are: malaria, typhoid and rheumatism.

### 4.3.2 Status of Health Care Institutions and Facilities
In Nigeria, there are more than 22,000 public and private health care institutions distributed among the 36 states and the federal capital. These institutions are categorized according to their administrative structure as follows:

**Tertiary Health Care Institutions**
These are funded by the federal government to provide highly specialized services. They include: - University Teaching Hospitals/Federal Medical Centres - State Specialist Hospitals - Medical Research Institutes/ Veterinary Research Institutes - Pharmaceutical Research Institutes HIV/AIDS Programme Development Project

Secondary Health Care Institutions
These are funded by the states and provide specialized services to patients referred from the primary health care centres. They include: - General Hospitals - Missionary Hospitals - Large Private Hospitals

**Primary Health Care Institutions**
These are funded by Local Governments to provide general medical services. They include:
- Health Centres - Veterinary Clinics - Smaller private hospitals and clinics - Health Stations/Traditional Health Clinics

**Sources of Medical Waste and Management**
The major sources of medical waste are hospitals, clinics, laboratories, blood banks and mortuaries; while the minor sources are dental clinics, pharmacies, etc. The main actors involved in medical waste management are:
• HCFs that generate the waste;
• Service providers who collect the waste from the HCFs and transport it to the treatment facilities; and
• Treatment facilities that process the waste to make it safe for final disposal

The average distribution on types of medical waste for purposes of waste management planning is approximately as follows:
- 80% general domestic waste; - 15% infectious and biological (or pathological) waste; - 3% chemical or pharmaceutical waste; - 1% sharps; and - Less than 1% special waste, such as radioactive, cytotoxic, photographic wastes, pressurized containers, broken thermometers, used batteries, etc.

**Existing waste management facilities differ among hospitals, it consists mostly of:**
- Incinerators built with primary and secondary burners, and in some cases, drum incinerators, which do not have air pollution abatement facilities; - Autoclaving; - Chemical disinfection - Microwave irradiation - Open ditches; sanitary landfills - Pit latrines and soak-away; - Transportation of medical waste to off-site disposal sites; and - Use of public drainage for infectious liquid disposal.

In urban areas, unregulated practices by both public, private hospitals and private waste collectors has resulted in dumping of medical waste (infectious and sharps) at municipal dump sites. Scavenging at these disposal sites pose severe public health risks. Possibilities of infections are very high considering the fact that scavengers do not wear any form of personal protection

## CHAPTER FIVE

## DESCRIPTION OF POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

This Section five contains a preliminary summary of the impacts that are likely to result from the project as a result of the interaction between the project components and the environmental elements. It should be noted that the impacts identified here are preliminary in nature. The potential for occurrence of the impacts identified has to be ascertained during further stages of the project and investment design and development.

### 5.1 Environmental and Social Screening Process

The screening process is the first step in operationalizing the ESMF process. Environmental and Social screening process distinguishes sub-projects and activities that will require thorough review vis-à-vis developing preventive and mitigation measures for those that would have adverse negative impacts and enhancing the opportunities to due to those with positive impacts. To this end, the screening is directed at identifying those sub-projects activities that have minimal/no environmental or social concerns so that they can move to implementation stage in accordance with pre-approved standards or codes of practices for environmental and social management while those identified to have adverse/more significant impacts are elaborated on and appropriate mitigation measures and management plan designed for ensuring social-environmental sustainability. The extent of elaboration of environmental and social work that might be required for the project prior to implementation will depend on the outcome of the screening process.

Every subproject proposal funded under the projectwill undergo an environmental and social screening process before it is selected for implementation. The screening process will establish the level of environmental and social assessment required, as well as help the PMU to understand the environmental and social issues related to the project before they are considered for implementation and thus assist in the decision making process.

Thus the environmental and social screening conducted as part of the ESMF was intended to provide inputs into the initial identification of potential impacts with the implementation of the proposed project activities

### 5.2 Environmental Screening Criteria

Generally, the screening exercise will be carried out prior to initiation of any project preparation activities. The screening exercise will be used as a tool to identify the severity of impacts of environmental and social issues, and thereby integrate their mitigation measures into the project preparation accordingly. The screening criteria include the following, *inter alia*:

***1. Environmental factors such as;***

- Sensitive areas, natural habitats, declared forest reserves and sensitive areas
- Felling of trees/clearance of non-agricultural vegetative cover
- Loss of productive agricultural land
- Impacts on seasonal (non-perennial) streams/rivers
- Vulnerability to natural hazards, landslides/slips where slope angle is greater than 40%, soil erosion and,
- Environmental features as wet lands, protected ground water zone,
- Etc

***2. Social factors such as;***

- Land availability to peasant s particularly small hold farming
- Loss of structures and ancestral land.
- Loss of livelihood including farmlands and economic trees
- Impacts on common property resources
- Etc.

The screening shall provide information on the categories of subprojects for inclusion in the project and categories of subprojects to be excluded in sensitive areas through exclusion criteria.

The categorization shall be done through the use of an Environmental Screening Checklist of the proposed projects to determine if they fall under any EA Category A, B or C as mentioned in Section3.5 Chapter 3. For instance, Category B Projects will result in adverse environmental impacts

on human populations or environmentally important areas--including wetlands, forests, grasslands, and other natural habitats-that are less adverse than those of Category A projects which are more severe in the light of the core investment activities of the project including the infrastructures the gas and power connections, road improvements, water works, etc. . In general, such impacts are localized, do not affect sensitive area/resources, and reversible, unlike Category A projects. While all category A projects will require EA/ESIA with development of adequate ESMP, category B projects will require only an ESMP.
Category C - Projects are generally benign and typically do not require EA. However, all such subprojects shall be screened to determine if specific environmental management plans (e.g., waste management plan) are required.

Annex 3 presents an indicative Environmental & Social Screening checklist that could be used in the screening of projects. Fig.2 presents a diagrammatic representation of steps in the environmental and social Screening processes to be followed in determining the level of impact and assessment of all stages in project development. .
In addition, each sub-project planned for implementation under the project shall be screened for possible triggering of OP4.12 (Involuntary Resettlement) and the processes and procedures have adequately been captured in the RPF prepared alongside this ESMF.
The report on the outcome of the screening, scoping and EA category and so on will be sent to the World Bank for clearance.

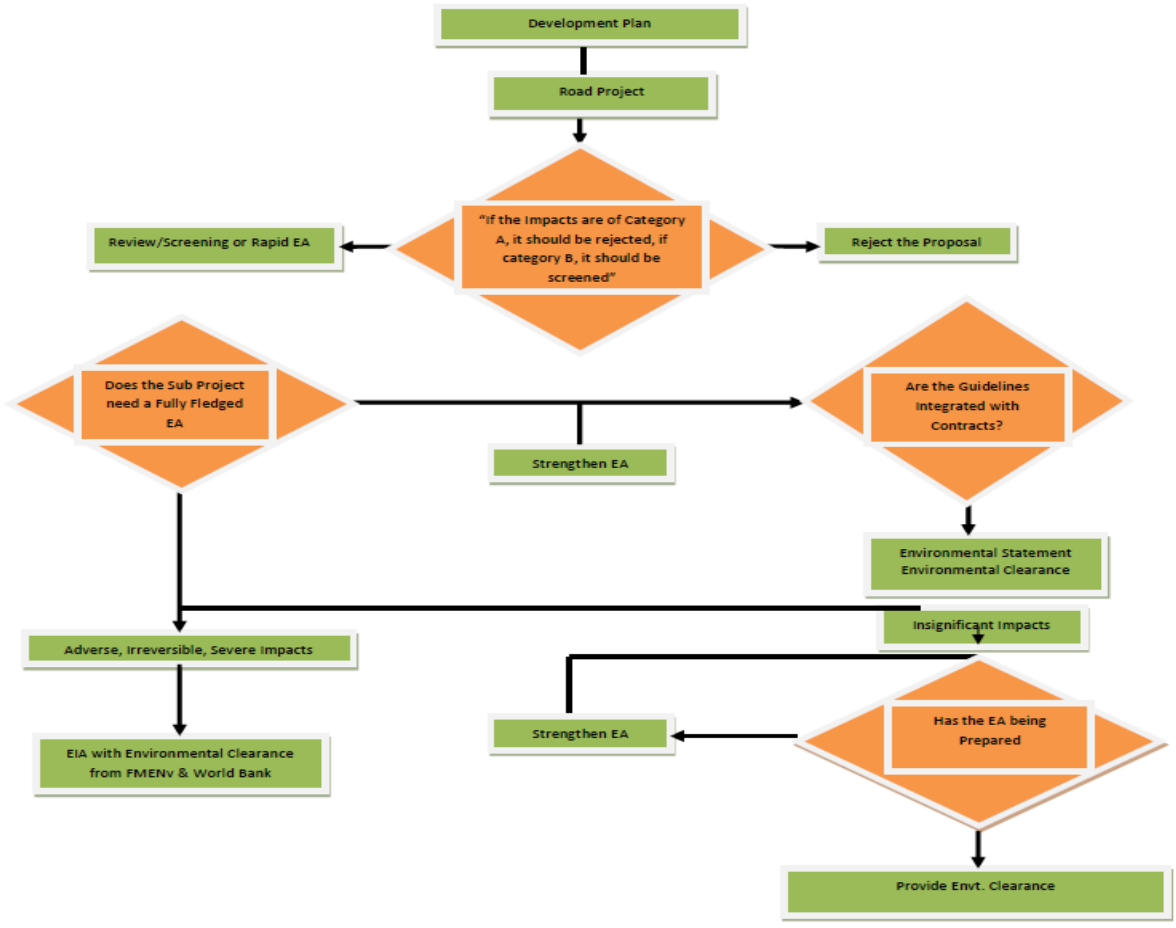



**Figure 5.1: Steps in Environmental and Social Screening Processes**

### 5.3 Project-Level Environmental and Social Reviews

The application of ESMF to the subprojects enables preparation of a standardized environmental and social assessment documents for appraisal and implementation. This is because subprojects triggering significant environmental and social impacts, i.e. subprojects with potential to trigger impacts on environmental sensitive areas, or resettlement activities. For instance, are envisaged under the project. To this end, all subprojects shall undertake the necessary environmental and social assessments, as mandated by the Environmental laws of Nigerian Governments (national and state) and in conformance to the safeguard policies of the World Bank and in line with the

processes/procedures defined in this framework. The criteria established as per the Checklist of items shall enable the appropriate categorization of all (sub) projects.

At the stage of detailed project preparation, ESIA shall be used to evaluate a subproject's potential environmental risks and impacts in its area of influence; identifies ways of improving project planning, design and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental and social impacts and enhancing positive impacts, including throughout the project implementation. The World Bank favours preventative measures over mitigation or compensatory measures, whenever feasible.

Any significant environmental and social issues that may arise would be addressed and mitigated through an ESMP. The environmental management measures through the ESMP should be included as part of the specifications and codified in the bidding documents to ensure implementation.

The ESIA or standalone ESMP documents need to be prepared by a Consultant in accordance with the Typical TORs presented in Annexes 4 and 5for Environmental Assessment and ESMP preparation, as the case may be. Below an outline of how the ESIA should be carried out are outlined:

### *5.3.1 Environmental and Social Impact Assessment*

The screening determines whether the proposed project requires a further ESIA or not. If it is determined that the project requires an ESIA, then the scoping is carried out to determine the coverage or scope of the ESIA study.

The necessary steps in conducting an ESIA are listed below:

- ***Step 1: Scoping and Terms of Reference***
  - *a process to identify issues relevant for ESIA consideration and determine assessment methods to be used.*
  - *Terms of Reference (ToR) for the ESIA study is normally prepared as an output of the scoping exercise. The ToR needs to be approved by the Ministry of Environment and the World Bank before proceeding with the ESIA.*

- ***Step 2: Baseline Data Collection***
  Baseline data pertaining to physical, biological, socio-economic domain cum health issues is collected to describe the status and trends of environmental and social factors against which predicted changes can be compared and evaluated.

- ***Step 3: Identify Environmental Impacts***
  The ESIA exercise will identify potential impacts and assess its significance. The categories of impacts, direct, indirect or cumulative, should be indicated.

- ***Step 4: Design Mitigation Measures***
  The mitigation measures should include analysis of project alternatives, compensatory measures, corrective measures and preventive measures.

- ***Step 5: Public Consultation and Participation***
  The ESIA should consider public perspective and include them in the entire assessment process and should start early in the process.

- ***Step 6: Develop Environmental and Social Management Plan (ESMP)***
  The ESMP should be developed primarily to document key environmental issues likely to arise from project implementation, prescribe mitigation measures to be integrated in the project design, design monitoring and evaluation schedules to be implemented during project construction and operation, and estimate costs required for implementing mitigation measures. This plan must be reviewed by the project management and approved before any construction activity is initiated by any sub-project.

- ***Step 7: Prepare ESIA Report***
  The ESIA report should be prepared in line with the Ministry of Environment and World Bank Format.

- ***Step 8: Clearance***

All ESIAs/ESMP will be sent to the World Bank for review and clearance to ensure compliance with OP4.01 and any other relevant policies, procedures and guidelines. The report will also be reviewed by the Federal Ministry of Environment with all the necessary and relevant disclosures

### 5.3.2 Method of Impact Assessment for the ESMF

In the development of the potential impacts, environmental and social issues common to core investment activities were identified and listed in a checklist. These were presented to the individuals at the stakeholder meetings and the representatives of the organizations met during the consultations. Based on the local knowledge of the stakeholders and the available literature and field survey, the common issues were identified. Based on this, a generally simplified environmental impact matrix that links project activities with some socio-environmental components that could be used for the ESIA is presented in Annex 6.

## 5.4 The Potential Positive Impacts

The project is envisaged to have a range of positive environmental and social impacts. Some of these are a function of the objectives of the project, while others are a function of the way in which the project is designed to meet its objectives.

Specifically, the following are some of the benefits that could be due to the project::

- Enhancement of national surveillance and reporting systems and their interoperability at the different tiers of the health systems
- Establishment of networks of efficient, high quality, accessible public health, veterinary and private laboratories for the diagnosis of infectious human and animal diseases,
- Establishment of a regional networking platform to improve collaboration for laboratory investigation
- Enhancement of infectious disease outbreak preparedness and response capacity
- Bringing the right people with the right skills to the right place at the right time *for effective disease surveillance and epidemic outbreak response preparedness*
- Improved nutrition
- Employment creation
- Improved infrastructure
- Improved health care

### 5.4.1 The Potential Negative Impacts

The potential negative impacts that could emanate from the project are presented in Tables 5.1 and 5.2 for REDISSE

**Table 5.1: Potential Negative Impact of the** REDISSE

| **Envisaged Activities** | **Potential Impact/Concerns** |
|---|---|
| Rehabilitation of Buildings, and diagnosis of infectious human and animal diseases and laboratory investigation | **C. <u>Environmental</u>** |
| | **<u>Biodiversity</u>**<br>• Interference on biodiversity conservation (changes in flora and fauna)<br>• Cultivation of only cassava may alter natural vegetation;<br>• Fire prevention and control |
| | **<u>Water Resources</u>**<br>• Alterations of local natural water cycles/ hydrology<br>• Weirs create a barrier across the river that can lead to water rationing for the downstream riparian communities<br>• Weirs can be dangerous with regard to safety<br>• Water quality issues |
| | **<u>Soils</u>**<br>• Changes in soil nutrient cycles (fertility and carbon storage capacity)<br>• Soil structure and surface layer disruption due to agronomic practices |
| | **Air quality**<br>• Degradation due to vehicular movement, mobilization of equipment |

| **Table 5.1: Potential Negative Impact of the** REDISSE | |
|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** |
| | **Climate Change**<br>• Burning of Waste will release noxious gases to the environment |
| | **<u>Pesticides and Chemical Use</u>**<br>• Lethal and sub-lethal impacts on other non-target biota;<br>• Improper use, contamination by high exposure due to no or poor precautionary measures leading to health impacts |
| | **<u>Waste Management (</u>**<br>• Biological Waste - Collect disposable, solid materials contaminated by an infectious agent, excluding sharps, or broken or unbroken glass, into a clear, non-color autoclave bag (with no biohazardous symbols or wording) within a sturdy container. When full, these non-descriptive bags are to be autoclaved, cooled, and then placed in the building's dumpster<br>• Animal Wastes - Bedding of animals known to have been exposed to infectious agents during research or teaching activities; or contaminated or uncontaminated animal carcasses, tissues, or body parts.<br>• Decontaminate liquids containing a biological agent by the addition of a chemical disinfectant such as sodium hypochlorite (household bleach) or an iodophor, or by autoclaving, then dispose of by pouring down the sink. It is not necessary to autoclave liquids that have been chemically disinfected. However, if a bleach solution has been used in the collection tray for labware that will later be autoclaved, sodium thiosulfate must be added to the bleach to prevent the release of chlorine gas during autoclaving.<br>• Blood Products and Fluids- Use Universal Precautions. Solidify blood and other body fluids container before disposal.<br>• Animal carcasses/tissues- Place animal carcasses/tissues into a plastic bag. Double-bag when carcass contains a zoonotic agent (transmissible from animals to humans).<br>• Place the bag in freezer until pick-up<br>• Radioactive contaminated biological materialsanimal bedding and animal wastes, must be double bagged, sealed with duct tape or similar material, and stored in a freezer while awaiting removal. The bag must be labeled with the contents, generator's name, department, building no., room no., date, isotope, and activity and a "caution radioactive material" tag. |
| | • SOCIAL |
| | **<u>Cultural Heritage</u>**<br>• Chance finds of cultural resources<br>• Interference with local cultural identity and heritage |
| | **<u>Social Tension,& conflict</u>**<br>• Social exclusion of women or the vulnerable persons |
| | **<u>Traffic and Transportation</u>**<br>• Increase in traffic on the roads<br>• Accident to people and animals |
| | **<u>Public and Occupational health and safety</u>**<br>• Lack of awareness creation programs on health and safety including chemical handling.<br>• Unavailability and poor use of personal protective equipment and limited/ no enforcement process<br>• Influx of people resulting in spread of communication diseases |
| | **Safety and security**<br>• Safety and security of community informants/ whistle blowers<br>• Safety and security of project field staff<br>• |

| **Table 5.1: Potential Negative Impact of the** REDISSE | |
|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** |
| | Fire and other Emergencies<br>• fire and evacuation<br>• dequate signage on escape routes and the provision<br>• |

**The ESIA/ESMP shall provide further specific details when the exact sites and magnitude of the sub-project are known including their impacts*

### *5.5 Cumulative Environmental and Social Impacts*

No long term or cumulative adverse environmental and social impacts of sub-projects are envisaged. However, the combination of multiple impacts from existing projects, the proposed project, and/or anticipated future subprojects may result in significant negative and/or positive environmental and social impacts that would not be expected in case of a standalone project.
The cumulative impacts of the project may potentially affect other areas coterminous to the project area but the mitigation measure for this risk is that in depth technical and spatial analysis will be conducted to model the impact of the proposed subprojects once sufficient details are known and thus limit the risks. In addition, the proposed screening of subprojects with the site specific **ESIAs/ESMPs for** the various potential subprojects would give priority to assessing cumulative impacts stemming from each proposed undertakings or subproject activities.

### *5.6 Assessment of a No Project and Go Ahead Project Alternatives*

The Analysis of Alternatives is an analytical comparison of multiple alternatives and has long been a part of environmental assessment practice. The purpose of the analysis of the alternatives is to determine which alternative best meets the threshold criteria of sustainable development. The following alternative actions were considered in relation to the proposed project-

Analysis of alternatives is done to establish the preferred or most environmentally sound, financially feasible and benign option for achieving project objectives. This requires a systematic comparison of proposed investment design in terms of site, technology, processes etc in terms of their impacts and feasibility of their mitigation, capital, recurrent costs, suitability under local conditions and institutional, training and monitoring requirements. For each alternative, the environmental cost should be quantified to the extent possible and economic values attached where feasible, and the basic for selected alternative stated. The analysis of alternative should include a NO ACTION alternative.

The following alternative actions were considered for the study areas –

The “No Action” alternative assumes that there will be no alteration to the existing areas in terms of ecological damage or degradation. This would imply that the proposed area/location would be left in their present states without a real potential for worsening.

A *no-action or no project* alternative is certainly not recommended.

**A “Go Ahead Project Alternative,”** though more expensive in terms of cost in every respect at the start, is seen to be the most feasible than do nothing alternative. Go ahead alternative is expected to reduce health burden imposed by diseases on t he populations and increased survival rates of the the population and assurance of manpower availability for employment of the locals.

The two scenarios considered herewith are summarized in Table 5.4. The inference from this consideration is that even though the go ahead option is more extensive, it is a the preferred or most environmentally sound, financially feasible and benign option for achieving project objectives and ensuring economic growth and sustainable development both at the micro and macro scale.
Thus the advantages of the “go ahead” alternative make it a better option than the “No-Action” alternative.

| Table 5.2 Analysis of the alternative | | |
|---|---|---|
| **Criteria** | **No Project Alternative** | **Go Ahead Project Alternative** |
| Overall Protection of the environment and social well being | The field visits revealed the level of poverty in the communities, the unsustainable manner in which environmental resources are being devastated to the extent that taking a "no action" alternative will not benefit members of the study areas or their environment and even the national economy as the government moves away from petroleum to non-petroleum-focused economy | Intervention would lead to strengthening agriculture in a more professionalized and highly organized manner which provides room for best practice soil conservation and sustainable management of natural resources. It will further generate income, which in turn increases the living standard of the locals and overall improvement of the national economy even in the absence of petroleum product |
| Long-term Effectiveness and Permanence | No action alternative does not meet the long-term effectiveness and permanence criteria of the national and local economy including the agenda to improve the overall management of environmental resources for sustainable development | Go ahead option will further improve the local and national economy with sustainable development agenda in mind through careful planning based on informed decision making by all parties including the locals of the project environment |
| Compliance with Applicable or Relevant Appropriate Requirements | Does not require compliance with applicable or relevant appropriate requirements even at local levels | All undertakings will go through an established system of screening to ensure the necessary standard and permit requirements even at the local levels are met. |
| Short-term Effectiveness | No action alternative will not add any input under this criteria | The go ahead alternative will be completed in a long-term period based on the projections. However the benefits when completed outweighs a "no action" alternative because of the systematic manner of development |

## CHAPTER 6

## ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES

### 6.0 Introduction

The Objective of the ESMF is to provide a framework for preventing and mitigating the negative impacts associated with project implementation. In this CHAPTER, this is discussed.

### 6.1 Approaches to Developing Mitigation Measure

Options to address the various environmental and social issues identified have been worked out based on review of good practices and requirement of compliance with the legal provisions as well as consultations with the relevant stakeholders. The principle that guides the approach to mitigation measure development is outlined in Table 6.1.

**Table 6.1: Approach to Mitigation Measure Development**

| | Mitigation Measure | Practice |
|---|---|---|
| 1 | Seek Alternatives to avoid particular impacts. | Consider alternatives to a proposed project activity.<br>Examine alternative ways to achieve the objectives to maximize benefits and minimize undesirable impacts. |
| 2 | Arrange Compensation where particular impacts are unavoidable. | Restore damaged resources, such as, water source, irrigation system, forest.<br>Proper rehabilitation scheme, such as, skills training, new employment.<br>Adequate compensation payments to affected persons for damage or loss of property, livelihood and provision of rehabilitation measures. |
| 3 | Take Corrective Measures to reduce unavoidable effects. | Consider corrective measures to reduce adverse impacts to acceptable standards, such as, remove spoil material during construction, replace or relocate community water source, assist in school expansion to handle influx of laborers' children, and others. |
| 4 | Implement Preventive Measures to avoid some impacts altogether. | Pre-preparation for minimizing adverse impacts, such as, implement health education program, initiate public awareness programs. |

*Source: Reference Manual for Environmental and Social Aspects of Integrated Road Development, 2003, DoR.*

### 6.2 Mitigation Measures

Based on the impacts, potential problems and effects, and taking into consideration the above mitigation measure development approaches, appropriate mitigation measures suitable to the project are suggested in Table 6.2.

| **ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles*** | | |
|---|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** | |
| Rehabilitation of buildings and diagnosis of infectious human and animal diseases, and laboratory investigation. | **D. <u>Environmental</u>** | **E.** |
| | **<u>Biodiversity</u>**<br>• Interference on biodiversity conservation (changes in flora and fauna) | • Avoid environmentally sensitive sites and unnecessary exposure or access to sensitive habitat; |
| | **<u>Water Resources</u>**<br>• Alterations of local natural water cycles/ hydrology<br>• Water quality issues | • Promote buffer zones of at least 500m along the local streams to serve as natural filters for surface runoff from project activities .<br>• Consider the safety of all parties from the outset. |
| | **Air quality**<br>• Degradation due to vehicular movement, mobilization of | • Ensure that vehicles and other equipment are regularly inspected according to scheduled maintenance for proper exhaust |

| ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles* | | |
|---|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** | |
| | equipment<br>• Deterioration from burning of biomass of cleared forest and addition of carbon into atmosphere<br>• Burning waste release noxious and GHG gases | emission.<br>• Train drivers to minimize speed limits on earthen roads in dry periods, especially<br>• do not burn any waste |
| | **Climate Change**<br>Burning waste release noxious and GHG gases | • Avoid burning of waste when there are risks of air contamination |
| | **<u>Pesticides and Chemical Use</u>**<br>• Lethal and sub-lethal impacts on other non-target biota;<br>• Washed out of soils, and pollute rivers and groundwater<br>• Intake of toxic chemicals by plants, animals and humans<br>• Improper use, contamination by high exposure due to no or poor precautionary measures leading to health impacts | • Encourage eco-friendly technologies-Integrated Pest Management (See IPMP prepared for this REDISSE)<br>• Intercrop with legumes as much as possible.<br>• Avoid uncontrolled mass spraying of fungicides will be avoided.<br>• Develop research and extension programs addressing plant disease problems<br>• Environmental Agency assist s and Extension services on Safe handling, Storage and Disposal |
| | **<u>Animals and Infectious Agents</u>** | • Personnel conducting animal research with infectious agents or working with<br>animals that carry potential zoonoses, must utilize isolation procedures that are:<br>• appropriate to the infection risk.<br>• Conduct work with infectious agents according to good laboratory procedures and<br>• Implement containment practices.<br>• The employees shall be trained to know at least:<br>• when is PPE necessary for the task<br>• what PPE is necessary for the task<br>• how to properly put on, take off, adjust and wear the Personal Protection Equipment (PPE)<br>• The limitation of the PPE and proper care, maintenance and disposal of the used PPE |
| | **<u>Waste Management</u>**<br>Waste generation of spoil and other construction waste;<br>>Unsafe and improper disposal of spoil and<br>>construction waste.<br>>Soil contamination<br>>Water contamination<br>>Injury to personnel<br>• | • Develop a waste management plan describinghow to deal with all types of wastes |
| | **<u>Animals and Animal Tissue Disposal</u>** | • Place carcass and/or tissue into a plastic bag and seal with tape or by tying.<br>• Place bagged carcasses and tissues into a sturdy box.<br>• Seal the box with tape.<br>• Limit the weight of each box to 40 kg and write the weight on the box. |

| ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles* | | |
|---|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** | |
| | | • Animal carcasses larger than 40 kg must be sectioned unless approved by<br>• Safety. Provide risk assessment guidance for sectioning is available from the Biological<br>• Safety Office. Contact them prior to sectioning any biohazardous animals.<br>• Animal tissue must be frozen. Freezing is required to prevent putrefaction and<br>• Avoid aerosols or dripping from liquids.<br>• Complete an Animal Tissue Disposal Service form and attach it to the box. These<br>• Ensure forms are available from the Safety Department or from Safety's web site: |
| | • **SOCIAL** | |
| | **<u>Cultural Heritage</u>**<br>• Chance finds of cultural resources<br>• Interference with local cultural identity and heritage | • Avoidpotential physical cultural resources and cultural heritage sites and their destruction or damage. |
| | **<u>Social Tension,& conflict</u>**<br>• Social exclusion of women or the vulnerable persons | • Continual engage in public consultation<br>• |
| | **<u>Traffic and Transportation</u>**<br>• Increase in traffic on the roads<br>• Accident to people and animals<br>• Transportation of Research Animals | • Indicate speed limits on the road<br>• Use seep breakers with adequate signage<br>• Animals must not be transported by public transportation |
| | **<u>Public and Occupational health and safety</u>**<br>• Lack of awareness creation programs on health and safety including chemical handling.<br>• Unavailability and poor use of personal protective equipment<br>• *Psychosocial disorder* | • Prepare and implement an Environmental, Health and Safety (EHS) plan which will outline procedures for avoiding health and safety incidents and for emergency medical treatment.<br>• Make it mandatory for all workers within the zone and region to wear suitable Personal Protective Equipment (PPE) as appropriate.<br>• Train workers sufficiently in safe methods of work<br>• Conduct safety training for pesticide handlers and all agricultural workers which includes handling of agro-chemicals, use of PPE and what to do in the case of pesticide exposure.<br>• Develop Emergency Response plan and ensure provisions of First Aids boxes<br>• Create public awareness on HIV/AIDS awareness and treatment and other communicable diseases.<br>• Conduct health screening<br>• Conduct Occupational Health Risk Assessment for contractors, personnel and project affected communities (broader effects/health impacts of project activities on communities) |

| ES Table a: Summary of Envisaged Activities/Impacts and Mitigation *Principles* | | |
|---|---|---|
| **Envisaged Activities** | **Potential Impact/Concerns** | |
| | **Safety and security**<br>• Safety and security of community informants/ whistle blowers<br>• Safety and security of project field staff | • Utilize the services of local security in addition to the Nigerian Police<br>• Train staff on security issues and continually reinforce the awareness. |
| | Fire and other Emergencies | • Train staff for operation of fire extinguishers and evacuation procedures;<br>• Develop facility for fire prevention or emergency response and evacuation plans<br>• The worksite shall be equipped with adequate signage on escape routes and the provision of fire extinguishers and emergency equipment<br>• Ensure maintenance of all fire safety systems<br>• Ensure prompt response and evacuation in the event of any emergencies<br>• Primary Emergency Procedures for Fires, Spills and Accidents (Gas Leaks)<br>• Special Procedures for Radioactive Hazards<br>• Building Evacuation Procedures |
| | Hazardous Materials in the laboratory | Develop a General Rules that include<br>• Risk Assessment<br>• Standard Operating Procedures (SOPs)<br>• Laboratory Protocol<br>• Accidents and Spills<br>• Steps to Prevent Routine Exposure<br>• Equipment and Glassware<br>• Personal Protective Equipment (PPE)<br>• Unattended Operations<br>• Use of Fume Hoods<br>• Storage of Chemicals in the Lab<br>• Working with Allergens<br>• Working with Embryotoxins<br>• Working with Chemicals of Moderate Chronic or High Acute Toxicity<br>• Working with Substances of High Chronic Toxicity |

### *6.3 Enhancement of Positive Impacts and Reduction/Avoidance of Negative Impacts*

A Mechanism for Enhancement of Positive Impacts and Reduction/Avoidance of Negative Impacts has been developed. These include the followings:

#### 6.3.1 Gender Mainstreaming and Vulnerability Assessment

The empowerment of women groups is essential for public good. l. Thus women are key to ensuring the sensibility and sustainability of the overall project management at the farm levels especially. To encourage the participation of women's major activities to be performed by women and men in the project should be at ratio of 60:40. Annex 6 outlines some information that should be provided in an assessment of the challenges and opportunities for gender concerns.

The primary objective of the vulnerable persons assessment and assistance measures is to avoid the occurrence of project-induced vulnerability, and if it occurs, to mitigate this through preventive and follow-up measures.

Criteria used to assess Project-induced vulnerability include pre-Project poverty, household composition, income, food supply, housing, social support, and health. The criteria are used to establish household vulnerability relative to local conditions. Vulnerability thus becomes locally defined as those households that are recognized to be in a difficult situation against the background of general poverty in the area.

Vulnerability should be viewed in two stages: pre-existing vulnerability and transitional hardship vulnerability. Pre-existing vulnerability includes that stage which would be present with or without Project development. Transitional hardship vulnerability occurs when those directly affected by the Project, whether predisposed or not, are unable to adjust to new conditions due to shock or stress related to Project activities.

Project measures to identify vulnerable households and individuals include:

- Participatory engagement techniques to confirm community perceptions of well-being and to identify at-risk households
- Analysis of baseline data to identify at-risk households
- Implementation of household monitoring surveys designed to reveal trends in social welfare (household composition, assets, sources of income, expenditures….)
- Self-registration at offices of households that identify themselves as vulnerable or at risk; with all such registrations leading to an evaluation of that household by the project/investor team in order to assess the households' vulnerability
- Regular visits to all physically displaced households and any economically displaced households identified as vulnerable during resettlement planning and implementation processes to re-assess those households' vulnerability. Such visits will occur at least once a quarter; and each visit will be recorded in the database flagging changes to indicators that are problematic

### 6.3.2 Waste Management Plan

During the construction and subsequent operation and maintenance phases, it is inevitable that discharges of materials to the environment will occur. If these are not controlled, they may act as a source of environmental disturbance or nuisance.

For effective management, the waste management plan during construction and operation phases will ensure that all the waste must be properly identified, minimized, segregated, properly stored, reused, tracked, monitored and audited. All the wastes that cannot be re-used will be safely managed and disposed of in a manner that meets regulatory requirements. Furthermore, awareness shall be created amongst investors to hold the tenets of good waste management.
The Medical waste Management Plan developed *paripassu* with this ESMF should guide all the process and procedures for waste management for the REDISSE

### 6.3.3 Pesticide Use and Management

**The** Integrated Pest Management Plan (IPMP) developed for the REDISSEE should be referred to with regard to pesticide use and management

## CHAPTER SEVEN

## PUBLIC INVOLVEMENT /CONSULTATION

### 7.0 Introduction

One key factor that exists in all successful approaches to project development and implementation is participation by all stakeholders. The more direct involvement of the local level people in the planning and management processes, the greater the likelihood that resource use and protection problems will be solved as well as the likelihood of development opportunities occurring in a balanced way and to the broad benefit of all communities in the project.

Thus in line with the requirements of the World Bank Safeguard for all category A and B projects for IBRD or IDA financing, the preparation of this ESMF included consultations of relevant government agencies, communities and social groups. The consultation process which is a continuum and shall unfold at this project development stage and implementation starts

### 7.1 Objectives of Public Involvement/Consultations

Specifically, the objectives included:

1. Canvass stakeholders' inputs, views and concerns; and take account of the information and views of the public in the project design and in decisionmaking.
2. Obtain local and traditional knowledge that may be useful for decision-making;
3. Facilitate consideration of alternatives, mitigation measures and tradeoffs;
4. Ensure that important impacts are not overlooked and benefits maximized;
5. Reduce conflict through the early identification of contentious issues;
6. Provide an opportunity for the public to influence the designs and implementation in a positive manner;
7. Improve transparency and accountability in decision-making; and
8. Increase public confidence in the project.

### 7.2 Mechanism for Consultation and Participation

Public involvement/consultation was considered a fundamental tool for:

1. Managing two-way communication between the project proponent and the public.
2. Building understanding and improving decision-making by actively involving individuals, groups and organizations with a stake

In this regard it makes sense, at this juncture in this ESMF, to understand the following concepts: public involvement, consultation and communication that are frequently confused with each other and that should be kept separate.

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- *Public involvement* here includes public consultation (or dialogue) and public participation, which is a more interactive and intensive process of stakeholder engagement.
- *Consultation* is basically a two-way process in which the ideas and concerns of stakeholders and the subproject designers are shared and considered.
- *Communication* involves dissemination of information from the subproject proponents to the concerned public.

For this ESMF and subsequent safeguard instruments to be prepared, public participation strategy for the project revolves around the provision of a full opportunity for involvement of all stakeholders, especially the direct stakeholders. Therefore, as a matter of strategy, public consultation will be an on-going activity taking place throughout the entire project cycle. The consultation process will ensure that all those identified as stakeholders are consulted.

Subject to PMU"s approval, information about the project will be shared with the public, to enable meaningful contribution, and enhance the success of the project. There are many vehicles that could be used for communication and consultation such as listed below:

- Meetings, filling in of questionnaires/ application forms, public readings and explanations of project ideas and requirements making public documents available at the national, local and

community levels at suitable locations like the official residences/offices of local elders, announcement

- In various media, newspaper announcements placement in more than one paper, preferably all local papers , notice board near project site, posters located in strategic locations and many public places frequented by community and radio and local television

Any of these means to use must take into account the low literacy levels prevalent in the rural communities by allowing enough time for responses and feedback and putting messages in the language readily understood by such people. Ideas and complaints coming from the population must be documented and utilised in decision making.

In fact the PMU should as a matter of reaching the relevant public engage directly with stakeholders and taking their concerns into account. In other words, for effective consultation, the PMUs should hold specific events (preferably community-level meetings) at which affected people will feel comfortable expressing their views. Such events should be carefully documented by written minutes, recordings, video recordings, etc. and the minutes of these meetings together with attendance lists should be included in the prepared instrument whether ESMP or ESIA to demonstrate that consultation has taken place. ESMP/ESIA will explicitly show how ideas from public were taken into account.

Generally, the PMUs are not required to accept every suggestion or demand made, but they should take each reasonable suggestion into account as a matter of good faith.

### 7.3 Identifying Stakeholders

Stakeholders for the purpose of this project shall be defined as all those people and institutions that have an interest in the planning and execution of the project, potentially affected communities; traditional rulers/ religious leaders; NGOs/CBOs; Local Government officials; State MDAs; Local social and professional groups , etc. Below an outline is indicated of the key stakeholders identified at present which will be updated during project execution: Stakeholders for the purpose of this project shall be defined as all those people and institutions that have an interest in the planning and execution of the project, potentially affected communities; traditional rulers/ Religious leaders; NGOs/CBOs; Local Government officials; State MDAs; Local social and professional groups e.g., , , International organization such as the World Bank, WHO etc. While the ESMF consultations and stakeholders engagement provide stakeholders, the general understanding of the whole project and the opportunity to contribute to the process as well as expressing the community concerns and issues on the project, the future ESIAs/ ESMPs consultation and stakeholders engagement on the other hand addresses same issues in detail with respect to individual sub-projects and ancillary facilities. Below an outline is indicated of the key stakeholders identified for ESMF and the list will be updated for ESIAs/ESMPs sub-projects during project execution:

| ***Who?*** | ***How to identify them*** |
|---|---|
| People living in the vicinity of the proposed works. | • Field Survey<br>• Identify the local government area(s) that the proposed corridor of work falls within.<br>• Review available data to determine the stakeholder profile of the whole stakeholder or relevant group.<br>• Use identified groups and individuals to tap into stakeholder networks to identify others. |
| Special interest groups. | • Identify key individuals or groups through organised groups, local clubs, community halls and religious places.<br>• Organisations such as environmental groups will be aware of similar local groups or individuals. |
| Individual people who own properties that will be directly or indirectly affected. | •<br>• Advertise in local newspapers, telling people that they may be affected and asking them to register interest in attending meetings or receiving further information. |
| Business (owners and employees). | • Field Survey<br>• Council lists or property registers. |

| | |
|---|---|
| MDAs<br>International organisations | • Constitutional Responsibility/ministerial mandate<br>• Financial and technical supports. |

### 7.4 This ESMF and Public Involvement

In the course of the preparation of this ESMF relevant stakeholders considered as key shall be me

Through this, the PMUs will be able to:

- clarify the project's objectives in terms of stakeholders‟ needs and concerns
- identify feasible alternatives (in particular alternative locations) and examine their relative merits in terms of environmental, social and economic factors
- identify and prioritise environmental and social issues and establish the scope of future studies and/or site specific management plan
- Identify processes for continued stakeholders‟ involvement.

Based on the project development objectives, the scope and safeguard concerns shall be extensively described to all the stakeholders and communities to ensure good participation and inputs.

### 7.5 ESMF Communication Plan

The ESMF Communication Plan refers to specific guidelines and protocols consistent with the principles of participation that will govern the project and which will be reflected in the Communication Plans, including the Communication Plans of the Social Safeguard Frameworks of the Project.
They are:

I. establishment of feasible participation mechanisms ,
II. establishment of participation mechanisms prepared with the basic objectives of transparency, responsibility of delivery of public service and an anti-corruption approach;
III. promotion of arenas of dialogue based on realistic and objective data avoiding the creation of expectations that cannot be met;
IV. Non-discrimination for the most vulnerable groups, such as women, young persons, older persons and indigenous communities.

#### *7.5.1 Mechanism for Engagement/Consultation*

Two or more ways are suggested for meaningful engagement of communities members as well as other stakeholders. The first is to use the existing recognized traditional structure in which consultation is conducted through the village/community leadership. This means of engagement is widely acceptable and an easy way to reach to all the groups in the community based on the existing traditional governance structure.

The use of social gatherings such as churches and mosques will also be important for dissemination of information to relevant stakeholders, and finally, there is the need to segment consultations into smaller targeted groups. To do this effectively, the attendance records of the various groups having phone numbers and contacts will be used to call or reach out to direct stakeholders, including coordinating them for group meetings as and when necessary.

The consultation process which is considered as a continuum for the entire project life cycle began on 13th August 2014 and continued till 27th August for the first phase which covered the stakeholder government agencies and the communities for the safeguard instruments (ESMF, WMPF and IPMP) preparation.

The second phase was the combined World Bank and FMARD mission which took place from October 13th to October 17th 2014, and provided a platform to validate earlier data and deepened discussions and engagement with the relevant stakeholders, especially Federal Ministry of Environment, Health Ministry, Forestry Dept, etc. on essentially safeguard concerns of the project.

The third phase of the consultation at this stage captured four other LGAs and affected groups and communities from 27th to 3rd November 2014. These communities and LGAs visited are Iwaa and Oshokosho in Lokoja LGA, Iresuare/Osara-Gada in Adavi LGA, Ohu and Irukura in Okehi LGA and Iyara in Ijumu LGA. in Kogi State.

### *7.5.2 Plan for Future Consultations and Communication*

Consultation will continue before, during and after project implementation. In Table 7.3 the tools for Consultation of Stakeholders carried and furture consultations are outlined. Depending on the target stakeholder and objective of consultation at any point, one or a combination of the following tools should be used. The proponent is required to provide relevant materials in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.

This requirements and phasing of consultations are as follows:

- Consultation on the finalization of ESMF – to include:
  - Circulation of the draft ESMF for comments toll relevant institutions (Federal Ministry of Environment, Federal Ministry of Health, State Ministry of Environment, State Ministry of Health, etc.)
  - Organization of public stakeholder workshops and comments incorporated in the final ESMF document
  - Public disclosure of Final ESMF (cleared by WB) in-country at designated centres accessible to stakeholders and at the WB info shop prior to appraisal
- During the preparation of individual ESIA/ESMP
  - Potential investors, interested groups and communities with LGCs affected will be consulted and informed about the proposed subproject activities and how they stand to be impacted environmental and socially speaking
  - Identification of impacts and appropriate mitigation measures shall be sought through consultation with the relevant local stakeholders community members and expert knowledge gained elsewhere and judgement in the light of best practice
  - Consultation of the proponent and implementing government agencies on relevant policy terms.
- During the Implementation of the ESMP
  - Stakeholder communities will be informed about the date/schedule of project commencement who will be involved in site selection, screening and planning administration of needed mitigation measures and monitoring and evaluation
- During audit/monitoring and evaluation of the ESMP to determine the performance of the ESMP
  - Community members will be consulted to appreciate their understanding of the impacts that have been generated and whether the mitigation measures are working or if there will be need to change the entire ESMP. This will take place 6months after the start of the implementation of ESMP and 2 years after for the audit.

***Table 7.1: Future Consultations and Communication Tool***

| **Stakeholder** | **Consultation Tools** |
|---|---|
| Direct Stakeholders/Project affected persons and groups<br>• Land owners, tenants, squatters<br>• Vulnerable group/women | Focus group discussions, questionnaire, worship centres, /desk officers, community town hall meetings, Print materials, texting by phone |
| Project partners<br>• Contractors | Phone calls, e-mails, visit, facilitation meetings, electronic media |
| Government Agencies/Ministries | Phone calls, e-mails, visit, meetings, electronic media |
| Potential Investors | Phone calls, e-mails, visit, meetings, electronic media |

## CHAPTER EIGHT

## ESMF IMPLEMENTATION AND MANAGEMENT

### 8.0 Introduction

The successful implementation of the ESMF depends on the commitment of the PMU and other institutions relevant to it. In addition, the capacity within the institutions to apply or use the framework effectively, and the appropriate and functional institutional arrangements, among others will go a long way to ensure the adherence to the framework.

This CHAPTER addresses the key ESMF areas relevant to its successful implementation:

- Institutional arrangements;
- Participation/consultation Framework
- ESMF Communication Plan in the Project Cycle
- Measures for Strengthening Organizational Capability - Capacity building;
- Environmental and Social Mitigation Principles and Clauses
- Environmental and Social Monitoring
- Budgets for the ESMF
- Update and Revision of ESMF
- Disclosures of Safeguard Instruments

### 8.1 Institutional Arrangements

Since one of the main purposes of the ESMF is to establish roles and responsibility for the activities that have to be undertaken, this sub-section details below, institutional arrangements and the roles and responsibilities of the various institutions relevant to the successful implementation of the ESMF as outlined in Table 8.1.

#### 8.1.1 Project Management Unit

As a point of emphasis, the Project Management Unit (PMU) with a Project Coordinator (PC) as the head to be established shall serve as the implementing body with the mandate to:

- Co-ordinate the project programmes and actions Plan, coordinate, manage and develop the various sub-project activities safeguard sections and parts
- Prepare plans for effective project development and management.
- Coordinate all environmental and social issues through a Safeguard unit.

Nevertheless, the PMU shall liaise with the various levels of government and other identified stakeholders, namely relevant Federal MDAs, State MDAs, Local Government Council Offices, the communities, NGOs/CSOs, Traditional Rulers; Trade Unions/Local social and professional groups, and the General Public

#### 8.1.2 Environmental and Social Safeguards Unit

To ensure sustainability in all sub-project activities, an environmental and social development safeguards unit shall be formed which includes the environmental and social development safeguards officers that reports directly to the PMU PC.

The paramount objective of the environmental/social safeguards officers is to ensure the effective consideration and management of environmental and social concerns in all aspects from the design, planning, implementation, monitoring and evaluation of initiatives. Thus, a key function of the environmental and social development safeguard officers is to engender a broad consensus, through participatory methods and extensive dialogue on the potential environmental and social concerns from project civil works as incorporated into the World Bank's environmental and social safeguards policies triggered by the project and environmental compliance with the EA.

With this, particular attention is directed at minimizing environmental and social risks associated with the development of sub-project initiatives, as well as the identification and maximization of social development opportunities arising from investments thus, the recruitment of assistant environmental and social officers.

In the implementation of the project, and for or all environmental and social issues the safeguard unit, shall work closely with other relevant MDAs in preparing a coordinated response on the environmental and social aspects of the sub-projects.

The **roles and responsibilities of the environmental and social safeguards officers** to anchor environmental and social issues distinctively are described below.

- Review all ESIAs/ESMPs documents prepared by environmental and social consultants and ensure adequacy under the World Bank Safeguard policies.
- Ensure that the project design and specifications adequately reflect the recommendations of the ESIAs/ ESMPs;
- Co-ordinate application, follow up processing and obtain requisite clearances required for the project, if required;
- Prepare compliance reports with statutory requirements;
- Develop, organize and deliver training program for the PMU staff, the contractors and others involved in the project implementation, in collaboration with the PMU;
- Review and approve the Contractor's Implementation Plan for the environmental measures, as per the ESIA and any other supplementary environmental and social studies that may need to be carried out by the PMU;
- Liaise with the Contractors and the PMU / MDAs on implementation of the ESMPs;
- Liaise with various Central and State Government agencies on environmental, resettlement and other regulatory matters;
- Continuously interact with the NGOs and community groups that would be involved in the project
- Establish dialogue with the affected communities and ensure that the environmental and social concerns and suggestions are incorporated and implemented in the project;
- Review the performance of the project through an assessment of the periodic environmental and social monitoring reports; provide a summary of the same to the Project Manager, and initiate necessary follow-up actions;
- Provide support and assistance to the Federal and State Government Agencies and the World Bank to supervise the implementation.

**Table 8.1: Safeguard Responsibilities**

| S/No | Category | Roles |
|---|---|---|
| **1** | PMU | Implementing authority, has the mandate to ensure:<br>- Compliance with World Bank Safeguards Policies and other relevant laws in Nigeria in line with this ESMF<br>- Smooth and efficient implementation of the project<br>- Faithful implementation of the ESMF and other safeguard instruments developed for each subproject |
| **2** | PMU Safeguards Unit/Safeguards Officer | - Assists PMU to comply with and fully implement World Bank Safeguards Policies and other relevant laws in Nigeria.<br>- Take lead in ensuring adequate screening and scoping of project for the appropriate safeguard instrument.<br>- Ensure adequate review of all safeguard reports before sent to the Bank<br>- Supervision of the contractors, supervisors, training of contractors and workers, monitoring of the implementation of the ESMF and other safeguard instruments. |
| **3** | Federal Ministry of Environment and her agencies (Such as NESREA) | - Lead role -provision of advice on screening, scoping, review of draft EA/ESMP report (in liaison with State Ministry of Environment), receiving comments from stakeholders, public hearing of the project proposals, and convening a technical decision-making panel, Project categorization for EA, ensuring conformity with applicable standards, Environmental and social liability investigations, Monitoring and evaluation process and |

| Table 8.1: Safeguard Responsibilities | | |
|---|---|---|
| **S/No** | **Category** | **Roles** |
| | | criteria |
| **4** | State Ministry of Environment/EPA | - Collaborate FMEnv and participate in the EA processes and in project decision-making that helps prevent or minimize impacts and to mitigate them and ensures conformity with applicable standards, environmental and social liability investigations, monitoring and evaluation process, etc. |
| **5** | Federal Ministry of Health | - Provides overall leadership and direction to the other MDAs by engaging all the critical stakeholders to support, cooperate with and participate in established policy direction; and<br>- Pursues an agenda of encouraging and ensuring investors comply with all environmental laws and policies |
| **6** | State Ministry of Health | - Coordinates state-wide emergency response programmes including creation of awareness on the appropriate pesticides to use in consonance with this ESMF and IPMP |
| 7 | World Bank | - Provides guidance on the compliance of safeguards policies<br>- Will be involved in monitoring compliance with its safeguard policies via its oversight missions<br>- Maintains an oversight role, review and provide clearance and approval for the ESMF and other relevant safeguard instruments developed for subprojects.<br>- Conducts regular supervision for satisfactory ESMF/ESMP implementation, fulfillment of community liaison and provide support role throughout the project implementation, and monitor the progress of the project implementation.<br>- Recommend additional measures for strengthening the management framework and implementation performance.<br>- capacity building of the proponent as needed |
| 8 | Local government | - Appoints Local Government Desk Officers (LGDOs) who visit communities on a regular basis to facilitate intensive participatory process and compliance to the local environmental laws<br>- Support and work with the PMU by participating in environmental and social screening and scoping process of subprojects and public review of ESIA and ESMPs |
| **9** | **NGOs/CSOs/CDA** | - Assist to ensure effective response actions to relevant environmental and social issues,<br>- Conducts scientific researches alongside government groups to evolve and devise sustainable environmental strategies and rehabilitation techniques,<br>- Organizing, coordinating and ensuring safe use of chemicals and pesticides through awareness creation<br>- Providing wide support assistance helpful in management planning, institutional/governance issues and other livelihood related matter, Project impacts mitigation and monitoring |
| **10** | **NEMA** | - Support with all the necessary emergency logistics and coordinate incident command system |
| **11** | **State Waste** | - Provide logistics for waste management |

| Table 8.1: Safeguard Responsibilities | | |
|---|---|---|
| **S/No** | **Category** | **Roles** |
| | **Management Agencies** | |

### 8.2 ESMF Communication Plan

The ESMF Communication Plan refers to specific guidelines and protocols consistent with the principles of participation that will govern the project and which will be reflected in the Communication Plans, including the Communication Plans of the Social Safeguard Frameworks of the Project.

They are:

I. establishment of feasible participation mechanisms ,
II. establishment of participation mechanisms prepared with the basic objectives of transparency, responsibility of delivery of public service and an anticorruption approach;
III. promotion of arenas of dialogue based on realistic and objective data avoiding the creation of expectations that cannot be met;
IV. positive discrimination for the most vulnerable groups, such as women, young persons, children, older persons and indigenous communities.

### 8.3 Measures for Strengthening Organizational Capability - Capacity Building and Training

Based on the public consultation, the capacity assessment of implementing federal and state level Ministries, Departments and Agencies (MDAs) as well as the PMU, were carried out. The effective functioning of the MDAs is hindered by limited technical skills and resource constraints. Thus, institutional barriers include:

- Limited knowledge of the relationship between World Bank Safeguards policies and the extant environmental and social laws in Nigeria;
- Lack of enforcement of development control regulations;
- Limited knowledge on EIAs and Environmental and Social Audits during construction/rehabilitation of buildings
- Limited knowledge on Strategic Environmental and Social Assessment;
- Limited technical capacity on waste management;

In order to achieve the goal of the ESMF, there is a need for capacity building and strengthening of relevant competencies on environmental and social management at federal and state level MDAs –. It involves organizational development, the elaboration of management structures, processes and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private and community). The environmental and social management requirements and provisions outlined in this ESMF, competencies and capacity building will be required in the following areas:

- Environmental Impact Assessment Process - screening, scoping, impact analysis, mitigation measures and monitoring, reviewing ESIA reports;
- Environmental Due Diligence - types of due diligence, screening projects for liabilities, scoping due diligence investigations and reviewing due diligence reports; and
- Monitoring and Evaluation - understanding the importance of monitoring and evaluation (M&E) in project implementation, M&E requirements for environmental and social sustainability of projects.

Specific areas for effective institutional capacity needs are given in Table 8.2.

| Table 8.2.: Training/Capacity Building Needs | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Programme/Description** | **Participants** | **Form of Training** | **Duration** | When | **Conducted by** | **Agency Coordinating** | **Estimated Costs USD** |
| Environmental and Social Accountability | | | | | | | |
| WB Safeguards Awareness Training of Environmental Safeguards Policies triggered | PMU, Ministry of Environment and , project affiliated MDAs, | Workshop | ½ Working day | During project preparatory stage | World Bank | World Bank | Not inclusive |
| World Bank Social Accountability System | PMU, Ministry of Women Affairs, Community Development, Social Welfare and Poverty reduction, Project affiliated MDAs | Workshop | ½ Working day | During project preparatory stage | World Bank | World Bank | Not inclusive |
| Nigerian Environmental Guidelines Introduction to Environment Basic Concept of Environment Environmental Regulations and Statutory requirements as per Government. | PMU, Ministry of Environment and project affiliated MDAs, | Workshop | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Ministry of Environment and | |

Table 8.2.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Environmental Considerations in subproject activities: Environmental components affected during construction and operation stages; Environmental management and Best practice; Stakeholder participation | PMU, Ministry of Environment and project affiliated MDAs | Workshop | 1 Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Project Screening and Scoping | PMU, Ministry of Environment and project affiliated MDAs, | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Review of EIA and its integration into designs EIA methodology; Environmental provisions Implementation arrangements | PMU, Ministry of Environment and project affiliated MDAs | Lecture and Field visit | ½ Working day | | | PMU, Environmental specialist, | |
| Preparation of ESIA, EA and | | Training of | ½ Working day | During project | Relevant Consultant | PMU, Environmental | |
| EMP Term of Reference/Implementation | | Trainers | | preparatory stage | | specialist, Ministry of Environment and | |
| Preparation and administration of questionnaires and stakeholders consultation/FGD | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |

Table 8.2.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Project Management (scope, implementation, time, budget, costs, resource, quality, procurement, monitoring and evaluation) | PMU, Ministry of Environment and project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Project Management Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Environmental and Social Audits | PMU, Ministry of Environment and project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Strategic Environmental and Social Assessment (SESA) | PMU, Ministry of Environment and project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Logistic and planning | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, Environmental specialist, Ministry of Environment and | |
| Total | | | | | | | 15,000 |
| Pesticides Use, Storage and Disposal of containers | PMU, Project affiliated MDAs | Training of Trainers | ½ Working day | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Agriculture | |
| Total | | | | | | | 10,000 |

Table 8.2.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Training program (Health Impact Assessment) - HIA | | | | | | | |
| Overview of HIA | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | **7,500** | |
| Screening—How to Decide Whether to Conduct an HIA | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Environmental Health Areas | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Scoping—How Comprehensive Should the HIA Be | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Baseline Data—What, When, and How Much? | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Risk Assessment—Assessing and Ranking Impacts | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Health Action Plan | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Monitoring and Verification | | | | | | | |
| Monitoring and Verification | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |
| Resourcing | PMU, Ministry of Environment and , project affiliated MDAs | Training of Trainers | During project preparatory stage | Relevant Consultant | PMU, State Ministry of Health | | |

Table 8.2.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Training Programs [Occupational Health and Safety Management Plan (OHSMP) | | | | | | | |
| Occupational Health and Safety(OHS) Leadership Management | PMU, Ministry of Environment and , project affiliated MDAs Contractors, Project affected Community representatives | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | | **7, 500** |
| Safety performance assessment | PMU, Ministry of Environment and , project affiliated MDAs, Contractors | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and Habitat | | |
| Hazard Analysis and Control | PMU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | | |
| Hazard Communication Program | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | | |
| Effective Accident Investigation | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | During project initiation stage (Before commencement of | Relevant Consultant | PMU, State Ministry of Environment and | | |

| Programme/Description | Participants | Form of Training | When | Training to be conducted by who | Training Conducting Agency | Training Costs USD |
|---|---|---|---|---|---|---|
| | | | civil works) | | | |

Table 8.2.: Training/Capacity Building Needs

| Programme/Description | Participants | Form of Training | Duration | When | Conducted by | Agency Coordinating | Estimated Costs USD |
|---|---|---|---|---|---|---|---|
| Conducting Health and Safety Audits | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | | |
| Job Hazard Analysis | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | | |
| Occupational Health Risk Assessment | PMU, Ministry of Environment and , project affiliated MDAs Contractors | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | | |
| Work Stress Risk Assessment | PMU, Ministry of Environment and , project affiliated MDAs, Contractors | Training of Trainers | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, State Ministry of Environment and | | |
| Pesticides and other Chemicals Management and Waste Management | s | Hands on | During project initiation stage (Before farming activities | Relevant Consultant | PMU, State Ministry of Environment and Ministry of Agriculture | | |
| Emergency Planning and Management | PMU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors | | During project initiation stage (Before commencement of civil works) | Relevant Consultant | PMU, SEMA | | |
| **GRAND TOTAL** | | | | | | | **35,700** |

### 8.4 Grievance Mechanism

The Grievance Redress Mechanism (GRM) is part of the broader process of stakeholder engagement, accountability, quality and compliance assurance designed to solving disputes at the earliest possible time, which is in the interest of all parties concerned. This shall further be made tighter in all future ESIAs/ESMPs once the specific sites of the various project/subproject investments are known since there are different LGAs and communities affected.

The objectives of the grievance redress mechanism are to:

- Provide an effective avenue for aggrieved persons to expressing their concerns and resolving disputes that are caused by the project
- Promote a mutually constructive relationship among s, community members, project affected persons, government and investors
- Prevent and address community concerns ,and
- Assist larger processes that create positive social change
- Identify early and resolve issues that would lead to judicial proceedings
-

### 8.4.1 Grievance Management Process

There is no ideal model or one-size-fits-all approach to grievance resolution- *localized mechanisms that take account the specific issues, cultural context, local customs, and project conditions and scale works better. Nevertheless, in* Figure 8.1, an outline of the Grievance Redress Flow Path/process that could be followed includes,

- Receive, register and acknowledge complaint
- Screen and establish the foundation of the grievance
- Implement and Monitor a redress action
- Advise for a judicial proceedings as last resort if necessary
- Document the experience for future reference essentially, registration of complaints, acknowledgement, follow-ups, mediation and corrective actions is presented.

This is further amplified in Table 8 .3 which describes the steps in the grievance management process irrespective of the size and nature of the grievance.
In all these, the existing traditional mechanism for dispute resolution in the communities structured after the order of the administrative command described Section 4 in which an aggrieved person is required to lodge his/her complaint to the head of the ward or clan a matter that is not adjudicated satisfactorily at this level is taken to the village/community head shall not be in any way not reckoned with.

### *8.4.2 Composition of Grievance Redress Committee*

A functional Grievance Redress Committee shall be constituted by the PMU in conjunction with the local community to monitor and review the progress of implementation of the scheme or plan of rehabilitation and resettlementoftheaffectedpeopleandtocarryoutpostimplementationsocialaudits. The PMU will incorporate the use of existing local grievance redress process available in the community to addressing disputes that may result from this project. This will entail co-opting the traditional council and some local leaders as members of the GRC. The specific composition of these committees will vary depending upon location and context. The main functions of the Committee are:

- Publicize within the list of affected persons and the functioning of the grievance redressed Procedure established;
- Verify grievances and their merits;
- Recommend to the PMU solutions to such grievances;
- Communicate the decisions to the Claimants;
- Ensure that all notices ,forms ,and other documentation required by Claimants are made available in local language understood by people
- Ensure documentation of all received complaints and the progress of remediation.

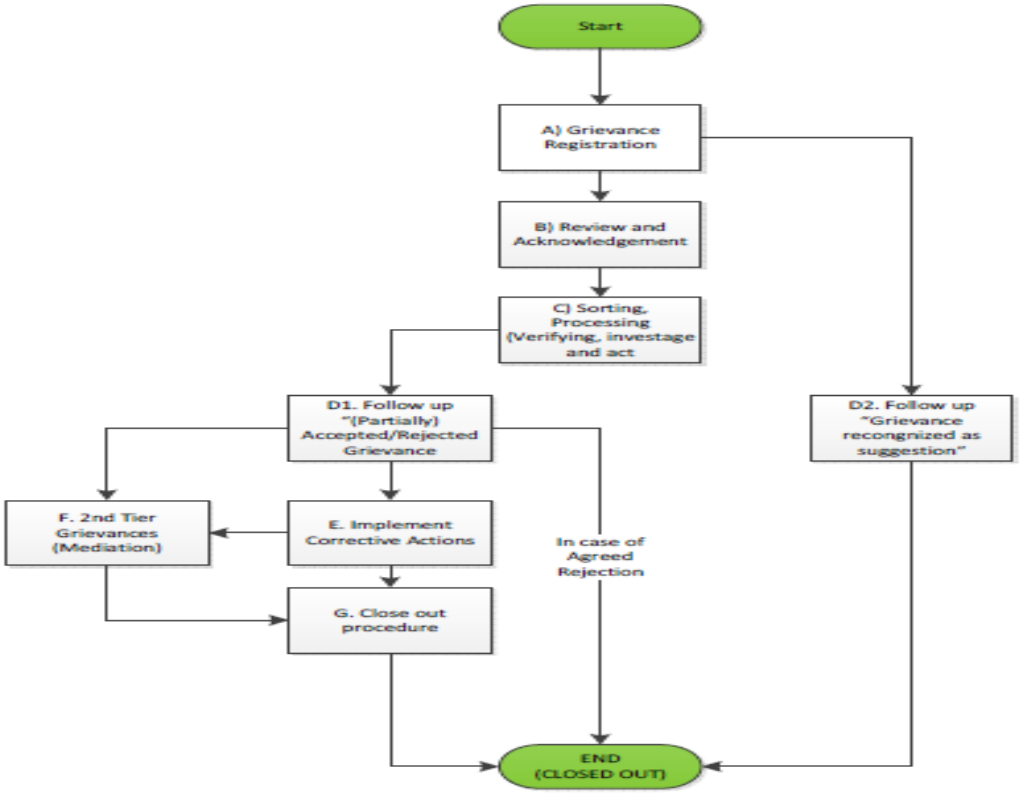


**Figure 8.1: Grievance Redress Flow Path**

Table 8.3: Principal Steps of the Grievance Management Process

| Step | Description | Timeline |
|---|---|---|
| 1 | Receipt of the grievance | 1/2day |
| 2 | Completion of the grievance form | 1/2day |
| 3 | Entry of the complaint into the grievance database | 1/2day |
| 4 | Preliminary assessment of grievance: internal evaluation of the severity of the complaint (or "Community Impact Ranking,") | 2days |
| 5 | Written acknowledgement of the receipt of the grievance. If key information is missing from the grievance, request for further information | 7days |
| 6 | Investigation and resolution of grievance | 2-4weeks |
| 7 | Response letter and registration in database. If the solution is accepted, resolution (including any payments) and closure of the case | Within 6weeks |
| 8 | If the proposal is not accepted by the complainant, referral to the Independent Mediation Committee | 6-8weeks after registration of grievance |
| 9 | Resort to judicial measures | At any stage in the process though complainant would be persuaded to exercised patience until thorough utilization of this mediation path |

* If this time limit cannot be met, the PMU through the GRM advises the complainant in writing that they require additional time

### *8.4.3 Independent Mediation Committee*

The Independent Mediation Committee (or IMC) is a structure that is to be established by the PMU to independently and impartially resolve grievances through mediation and dispute resolution. Mediation by the IMC is only to take place in case the complainant is not satisfied with the initial resolution proposed by the GRC. The Committee uses mediation to resolve disputes or complaints submitted to it.

The Mediation Committee shall operate independently from the PMU but has access to any information that the PMU and or its implementation partners have regarding the complaint. The determinations of the GRC are non-binding on either party. The IMC meets as needed, depending on registered complaints and disputes, and its members receive a stipend from the PMU to cover costs of attending meetings. If a solution that is acceptable to all parties emerges out of the meeting with the IMC, the grievance may be considered resolved and closed out; all parties are then notified. If no acceptable solution is agreed upon, either party has the option of taking legal action.

The composition of the IMC shall be established shall include three people of high reputation as impartial mediators in the region such as Elders, retired judges etc.

## 8.5 Environmental and Social Monitoring

Monitoring is a key component of the ESMF during project implementation. Monitoring verifies the effectiveness of impact mitigation measures, including the extent to which mitigation measures are successfully implemented. Monitoring specifically helps to:

- Improve environmental and social management practices;
- Check the efficiency and quality of the ESMP processes;
- Establish the scientific reliability and credibility of the ESMP for the project and
- Provide the opportunity to report the results on safeguards and impacts and proposed mitigation measures implementation.

Monitoring will be one of the principal activities of environmental and social management of the activities/projects once environmental permit is secured for a sub-project, contract is awarded and the project implementation commences. The PMU Safeguard Units will commence monitoring as an important feedback mechanism. This ensures that the environmental and social mitigation measures in this ESMF are

- Adhered to in implementation and are strengthened by arising situations:
- Identified in the planning phase (contained in the EA report), and incorporated in the project design and cost are being implemented;
- Maintained throughout the construction and operation phases through to the decommissioning of sites, facilities and equipment; and
- Where inadequate, additional remedial actions are identified (including corrective measures or re-design of mitigation measures).

Methods for monitoring the implementation of mitigation measures or environmental and social impacts should be as simple as possible, consistent with collecting useful information, so that the sub project implementer can apply them. For instance, they could just be regular observations of the sub project activities or sites during construction and then when in use.

- Are plant/equipment being maintained and damages repaired?
- Does a water source look muddier/cloudier and different than it should, if so, why and where is the potential source of contamination.

Some indicators that could be used to ensure participation process involved in subproject activities include:

- Number and percentage of affected households/individuals/institutions consulted during the planning stage;
- Levels of decision-making of affected people;
- Level of understanding of project impacts and mitigation;
- Effectiveness of local authorities to contributing and making relevant decisions;
- Frequency and quality of public meetings;
- Degree of involvement of women or disadvantaged groups in discussions

Most observations of inappropriate behavior or adverse impacts should lead to common sense solutions. In some cases, there may be need to require investigation by a technically qualified person.

The monitoring roles and responsibilities would be carried out by the following:

- **PMUs Safeguard Units** monitor effectively the investors/contractors engaged to ensure adherence to the environmental and social clauses and principles for all the activities, not readily identified now. The monitoring results from the executing agencies are reported to the MoE/EPA, for necessary action.

- **MoE/EPA** (Federal and State levels) as usual, play the leading oversight role as it relates to safeguard issues, will carry out its own compliance monitoring to satisfy itself that the permit conditions and relevant standards and mitigation measures are being fulfilled by operators in the sub-projects.

- **MDAs** (relevant ones) would participate in the monitoring giving consideration to specific components as they relate to their areas of statutory responsibility.

- **Local Government** traditionally would participate in the monitoring to ensure and verify adequacy of implementation of various measures.

- **Communities** as well as the **CBOs/NGOs** will be useful agents in collection of data that will be vital in monitoring and realigning the project to the part of sustainability as such they will play a role in the monitoring framework.

- **World Bank** will continually assess the implementation of the ESMF and other safeguard instruments and suggest additional measures as the need may be for effectiveness and efficiency.

### 8.6 Environmental Code of Conduct, Social Integration and Participation

An indicative Environmental Code of Conduct for contractors that shall work on the project is shown in Annex 8. These procedures, if followed, would yield benefits for longer period in terms of financial and environmental sustainability.

Furthermore, all activities as a matter of principle will promote the avoidance of any activity/subproject that

- Overlooks the rights and special provisions of vulnerable groups in the communities
- Causes any conflict among community or groups
- Restricts the participation of women and/or marginalized any group.

It is considered necessary to include in contract clauses the idea of holding Contractors financially and in some cases criminally liable for adverse impact that result from failure to implement contracted required mitigated measures.

As a matter of principles, Social inclusions or community participation in various aspects of the project/subprojects shall be managed, in particular through the inclusion of clauses that involve the following measures:

| | |
|---|---|
| *1.Community participation* | • Participation in decision- making built into the planning and implementation of all subprojects to allow local people a voice in matters concerning them.<br>• Involvement of affected people for consultation with and participation of in the preparation and implementation<br>• A summary of the views expressed and how these views were taken into account in preparing the ESMP<br>• A review of the alternatives presented and the choices made by affected persons wherever options available to them, including choices related to mitigation measures |
| *2.Integration with host populations & promotion of social inclusion* | • Use existing local groups rather than form new ones<br>• Reduce social exclusion by increasing access to opportunities, goods, services and facilities for all stakeholders, especially the marginalized and women;<br>• For close social integration to occur, socially marginalized groups and individuals must fully participate in social and economic opportunities. |

| | |
|---|---|
| | • Target women and youths, who have often been left out of efforts to increase sustainable livelihoods. |
| *3. Social Inclusion & Avoidance of elite Capture/ Vulnerable groups* | • Encouragement of programmes that meet peoples felt needs and reduce the feeling of alienation, which creates not only the perception but also the actual situation of being socially excluded.<br>• Include special efforts (affirmative action) to fully integrate socially marginalized people into the society<br>• Ensure access to information on all project/subproject activities through participatory village focus groups.<br>• Partnerships could go far in removing the barriers to social inclusion.<br>• Where different groups or individual have different views or opinions, particularly emphasis will be put on the views and needs of the vulnerable groups |
| *4.Gender issues* | • The empowerment of women groups is essential for public good, so ensure for every project opportunities at least 60% are targeted at women. A gender study that strive to mainstream gender concerns is relevant. Annex 10 outlines some information that should be provided in an assessment of the challenges and opportunities for the gender concerns. |
| *5. Avoidance of promotion of any conflict among community groups* | • Ensure an agreement on expectations<br>• faithful implementation of memorandums of understanding<br>• Service delivery, equitable<br>• Ensure development benefits to all communities and groups, regardless of ethnicity, gender, generation, health conditions or socio-economic status.<br>• Design subproject activities in manner that encourage cross-cultural communication systems that facilitate human coexistence, harmony and mutual partnerships. |
| *6. Implementation Arrangements:* | • Include and ensure community participation and oversight of projects in their domains |
| *7. Accountability in the use of public funds* | • Ensure public information dissemination<br>• Collective embracement of the tenets of probity, accountability and transparency. |
| *8. Grievance procedures* | • To resolving conflict in the communities use existing traditional methods that are affordable and accessible procedures for redressal of disputes such as:<br>• community meetings, elders-in-council, dialogue, council of chiefs, appeals and summons, elders assembly, religious leaders, youth council, women groups, and ultimately the police and courts. |
| *9. Project Monitoring* | • Ensure local communities/CBOs/NGOs play a role in the monitoring framework. |

### 8.7 Budgets for the ESMF

To effectively implement the environmental and social management measures suggested as part of the ESMF, necessary budgetary provisions has been be made as shown in Table 8.4. It is important to identify financial resource requirements even if indicative. This ensures upfront appreciation of the financial requirements and allows early planning and budgeting accordingly.
Table 8.4 shows an indicative budget breakdown of the cost for implementing the due diligence in the project. The total cost for implementing the ESMF is estimated att **N56.54m ($10,459.9)**).

The tentative budget includes the environmental management costs other than the good engineering practices, cost of environmental and resettlement issues and monitoring. All administrative costs for implementing the ESMF shall be budgeted for as part of the PMU's costing.

The indicative budget shown in Table 8.4 covers:

- Routine E & S duties of the PMU;
- Capacity Building for the PMU and other stakeholders;
- Engagement of Environmental and Social Specialists
- Environmental and Social Due Diligence investigations and or Audits;
- Environmental and Social Impact Assessment (ESIA) Studies commissioned directly by the PMU and potential investors

Monitoring and evaluation activities of the PMU

| Table 8.4: Estimated Annual Budget to Implement ESMF | | | |
|---|---|---|---|
| **1** | **ESMF Requirements** | **Budget Basis and Assumptions** | **Total Cost per Annum (N)** |
| **2** | Capacity Building for PMU Personnel | Training Programs held in-country | N5M |
| | Meetings, Workshops and Stakeholder Engagement | Monthly estimated expenses of N35,000/person for 10persons/per year | N4.2m (to based on actual expenses) |
| **3** | Environmental Screening of transactions | No additional budget | No additional budget |
| | Engagement of Specialists | Assume specialists may be engaged times to investigate issues | To be worked out when is to be engaged |
| | Field Visits to facility locations | Field visits estimated for 2 PMU personnel per year. Covers, transport, accommodation and daily allowances | N1.5m |
| | Meetings, Workshops and Stakeholder Engagement | No additional budget | Based on actual expenses |
| **4** | ESIA Scoping Workshops | ESIA Scoping workshops per year | As part of the ESIA/EMP preparation |
| | Typical ESIA Report for subprojects | Assume average cost of each ESIA depending on the extent of the road | N20m |
| | Typical ESMP for subproject | | N12m |
| | Engagement of Environmental and Social Specialists | | As part of the ESIA/EMP preparation |
| **5** | Monitoring Compliance with ESMP on E&S Issues during pre-operations activities | Assume quarterly monitoring activities over 5 days each quarter per year | N2m |
| **6** | Monitoring Compliance with ESMP and on E&S Issues during operations | Assume quarterly monitoring activities over 5 days each quarter per year | As part of item 5 |
| **7** | Training/Capacity Building Needs | | N6.7M |
| **8** | **TOTAL Estimated Budget** | | **N**51.4m |
| **9** | **Contingency** | **10% of sub-total** | **5.14** |
| | **Grand Total** | | **N56.54m ($10,459.9)** |

**$1=N185**

### 8.8 Update and Revision of ESMF

The ESMF shall be utilized for screening of projects as well as implementation of the specified environmental and social provisions in the road sub-projects and is considered to be a 'living document' enabling revision where necessary. It is imminent that certain factors that would have been overlooked or not considered due to the preparation of this document upstream in the project cycle with minimum ground verification would crop up especially during sub-project implementation.

The factors that would have implications on compliance with World Bank policies as well as national and state environmental regulations would be addressed through updating of the ESMF and the conducting of ESIA/EMP for projects when the need arises as has been done in this update.

### 8.9 Disclosures of Safeguard Instruments

The ESMF has been prepared in consultation with the relevant stakeholders. Copies of this ESMF and other safeguard instruments (ESIA/EMP) that would be prepared for the subprojects shall be disclosed in compliance with relevant Nigerian regulations and the World Bank operational policy.

It will be disclosed in-country designated sites at FEDERAL MINISTRY OF HEALTH, Federal Ministry of Environment, State Ministry of Environment, headquarters of affected LGAs and at the primary/secondary schools in the project areas, translated as much as possible into main local language. It will also be disclosed in 2 daily newspapers for 21 days as required by the Nigerian extant laws, while the World Bank will disclose the document at its info shop.

Table 8.5 outlines information to be disclosed.

**Table 8.5: Typical Information to be disclosed**

| Topic | Documents to be disclosed | Frequency | Media | |
|---|---|---|---|---|
| Public Consultation | Minutes of Formal Public Consultation Meetings | Within two weeks of Meeting | State website.<br>State Ministry of Environment<br>Local government Secretariat of LGAs | affecte |
| Environment Management | ESMF | Prior to commencement of any work | State Ministry of Environment<br>State website.<br>Local government Secretariat of LGAs<br>World Bank Infoshop. | affecte |
| | Environment and Social impacts Assessment Report (ESIAs);<br><br>Environment and Social Management Plans (ESMPs) and other safeguards instruments | Prior to awarding works that the ESIA or ESMP was prepared for and to remain on website | Federal Ministry of Environment;<br>State Ministry of Environment;<br>State website.<br>Local government Secretariat of LGAs<br>World Bank Infoshop. | affecte |
| All environmental documents | A nontechnical executive summary | As applicable to the environmental document being disclosed. | Electronically and in paper copies | |

## CHAPTER NINE

## CONCLUSION

### 9.0 Conclusion

The West Africa Regional Disease Surveillance Systems Enhancement Project (REDISSE) will be implemented as an interdependent series of projects (SOP) that will eventually engage and support all 15 ECOWAS member countries. This is the first project in the series, REDISSE-SOP1 which targets both extremely vulnerable countries (Guinea, Sierra Leone and Liberia) and countries which have more effective surveillance systems and serve as hosts for important regional assets (Nigeria and Senegal). Phase 2 (REDISSE-SOP2) is expected to be delivered in the second quarter of Fiscal Year 17 (FY17). The estimated project financing for REDISSE-SOP2 is US$102 million. The series of projects will be implemented in the context of the African Integrated disease surveillance and Response Strategy, international standards and guidelines of World Health Organization (WHO), World Organization for Animal Health (OIE), and Food and Agriculture Organization of the United Nations (FAO), fostering a One Health Approach.

The animal health sector in the ECOWAS region is characterized by a high incidence and prevalence of infectious diseases communicable diseases, both zoonotic and non-zoonotic, impacting veterinary and public health, trade, rural development and livelihoods.
Animal health is seen as a priority by the two regional economic communities in West Africa. ECOWAS and WAEMU have set a target of harmonizing national animal health systems.

The Ebola outbreak triggered a significant international response that brought many partners together to address the crisis and support the post-Ebola agenda of health systems recovery and strengthening. It also highlighted the need to focus attention on building the capacity for disease surveillance and response in the sub-region for both human and zoonotic diseases. The development partners engaged on these issues in the sub-region include major donor organizations including development banks, multilateral and bilateral donors and private foundations; UN systems agencies; technical agencies such as the US and China Center for Disease Control and Prevention; academic and research institutions and large numbers of international and local non-governmental organizations. As noted in Annex 2, in this type of environment duplication of effort, inefficient use of resources and failure to address resource, policy and programmatic gaps is a substantial risk. It is expected that there will continue to be an influx of funds and other forms of support to the region, in particular, to the three EVD affected countries (Guinea, Sierra Leone, and Liberia) in the next three to five years. As a result, coordination of resources and activities offered by the various partner organizations will remain a significant challenge for national governments. Therefore, coordination mechanisms at both national and regional levels that engage both the human and animal health sectors need to be developed to maximize the impacts of the increasing support and foster sustainability of the anticipated outcomes. The World Bank's convening power will be highly instrumental in forging a coalition of national, regional, and global technical and financial institutions to support the disease surveillance and epidemic preparedness agenda in West Africa.

The World Bank is well placed to mobilize substantial financing for this multi-sector initiative and to convene premier technical and financial partners engaged in the field of disease surveillance and epidemic preparedness. The World Bank has strategically engaged with a core group of development partners including those implementing the Global Health Security Agenda (GHSA) in the development of the REDISSE project. The REDISSE project itself will provide resources to regional institutions and national governments to establish the needed coordinating mechanisms
In the course of implementation, however, negative environmental and social impacts have been identified at a cursory assessment which requires adequate and careful attention for this proposed project which has been categorised as 2 in the light of the yardstick of the World Bank Safeguard EA Policy.

Since at present, during this preparatory stage, no sufficient details are available with regard to the exact locations for each subproject activities, it became most helpful to prepare this ESMF. The ESMP outlined the principles and procedures that would be followed to ensure that implementation of project activities satisfy the requirements of the existing relevant environmental assessment in Nigeria and that of World Bank Safeguards policies.

This ESMF did not attempt to address any site specific impacts related to individual undertakings (in any specific form) as the locations and extent of impacts or activities are not known at this preparatory stage.
Nevertheless, it spelt out the basic principles and processes within which the project/sub-projects shall be implemented, agreeable to all parties that would operate in the REDISSE. Specifically, it provides guidance for environmental and social safeguards requirements for each subproject, subproject environmental and social screening and scoping, institutional arrangements and capacity required to use this framework and overall, the processes of ensuring all undertaking in the REDISSE meet the national and local environmental & social requirements that also consistent with World Bank safeguards policies.

In conclusion, it is heavily considered that adherence to the principles set out in this ESMF by all parties that would operate in the REDISSE is one sure way of making the proposed investment activities profitable sustainably in every sense.

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**Annexes**

| **Annex 1: Summary of World Bank Environmental and Social Safeguard Policies (10+2)** |
|---|
| • ***Use of Country Systems (OP 4.00).*** The Bank's environmental and social ("safeguard") policies are designed to avoid, mitigate, or minimize adverse environmental and social impacts of projects supported by the Bank. The Bank encourages its borrowing member countries to adopt and implement systems that meet these objectives while ensuring that development resources are used transparently and efficiently to achieve desired outcomes..<br>• ***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 the proposed project.<br>• ***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.<br>• ***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.<br>• ***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 ESMF and RPF reports discuss the applicability of this policy in detail.<br>• ***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.<br>• ***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.<br>• ***Physical Cultural Properties (OP 4.11).*** Assist in preserving physical cultural resources and avoiding their destruction or damage. PCR includes resources of archaeological, paleontological, historical, architectural, religious (including graveyards and burial sites), aesthetic, or other cultural significance.<br>• ***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.<br>• ***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 riparians making appropriate agreements or arrangement for the entire waterway or any part thereof.<br>• ***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.<br>• ***Disclosure Policy (OP 17.50).***Supports decision making by the Borrower and Bank by allowing the public access to information on environmental and social aspects of projects. Mandated by six safeguard policies that have specific requirements for disclosure in country (Before project appraisal in local language and in English) and World Bank INFO-Shop (Before project appraisal in English). Documents can be in draft but must meet WB standards) |

**Annex 2: Generic Environmental and Social Screening Form**

| No | Item | Details | | | |
|---|---|---|---|---|---|
| **INTRODUCTION** | | | | | |
| 1 | Name of the REDISSE | | | | |
| 2 | | | | | |
| 3 | Local Government | | | | |
| 4 | Brief description of the project | | | | |
| 5 | Does the site /project require any; | | | | |
| | | **Yes** | **No** | If yes give the extent (in ha) | |
| | Reclamation of land, wetlands | | | | |
| | Clearing of forest | | | | |
| | Felling of trees | | | | |
| 6 | Minimum land area required for the proposed development (ha) | | | | |
| 7 | Available total land area within the identified location (ha) | | | | |
| 8 | Expected construction period | | | | |
| 9 | Responsible contact person with contact Information | | | | |
| 10 | Present Land Ownership | State | Private | Others including / (specify) | |
| 11 | Source of Funding | | | | |
| 12 | Total Cost of the Project | | | | |
| 13 | Anticipated Date of Completion | | | | |
| **DESCRIPTION OF THE ENVIRONMENT** | | | | | |
| **PHYSICAL** | | | | | |
| 14 | Topography & Landforms (map) | Attach an extract from relevant 1: 50,000 topographic sheet/ if detailed maps are available provide them | | | |
| 15 | Relief (difference in elevation) | Low <20m | Medium 20-40m | High 40-60 | >60m |
| 16 | Slope | Low <30% | Medium 30-40 % | High 40-60 % | Very High > 60% |
| 17 | Position on Slope | Bottom | Mid-slope | Upper-slope | |
| 18 | Soil | | | | |
| 19 | Soil Depth | Shallow < 20cm | Moderate 20 – 100 cm | Deep >100cm | |
| 20 | Soil Erosion | Low | Medium | High | |
| 21 | Climate | Wet Zone | Intermediate Zone | Dry Zone/ Semi Arid Zone | |
| 22 | Annual dry period | | | | |
| 23 | Source of fresh Surface Water | Spring/canal | Tank/Reservoir | Perennial Stream | Seasonal Stream | None |
| 24 | Surface Water Use | Domestic | Washing/Bathing | Irrigation | Animal use |
| 25 | Surface Water Quality | Poor | Moderate | Good |
| 26 | Ground Water Availability | Dug Well | Tube Well | Other (specify) |
| 27 | Ground Water Use | Domestic | Washing/Bathing | Irrigation | Animal use |
| 28 | Ground Water Quality | Poor | Moderate | Good |
| 29 | Incidence of Natural Disasters | Floods | Prolonged droughts | Cyclones/tidal waves | Other |
| 30 | Geological Hazards | Landslides | Rock falls | Subsidence | Other |
| **ECOLOGICAL** | | | | | |
| 31 | Habitat Types in the Project Site (indicate the % of each habitat type) | Natural forest ( %), degraded forest( %), natural scrubland( %), degraded scrubland( %), riverine forest, grassland( %), abandoned agricultural land( %), marsh( %), salt marsh( %), home-gardens( %), barren land ( %), Land occupied by people ( | | | |

**Annex 2: Generic Environmental and Social Screening Form**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | %), Buildings( %), Roads or other development ( %), Other ( %) (List) | | | | |
| 32 | Habitat types within 250m radius from the site periphery (indicate the % of each habitat type) | Natural forest ( %), degraded forest( %), natural scrubland( %), degraded scrubland( %), riverine forest, grassland( %), abandoned agricultural land( %), marsh( %), salt marsh( %), home-gardens( %), barren land ( %), Land occupied by people ( %), Buildings( %), Roads or other development ( %), Other ( %) (List) | | | | |
| 33 | Habitat types within 500m radius from the site periphery (indicate the % of each habitat type) | Natural forest ( %), degraded forest( %), natural scrubland( %), degraded scrubland( %), riverine forest, grassland( %), abandoned agricultural land( %), marsh( %), salt marsh( %), home-gardens( %), barren land ( %), Land occupied by people ( %), Buildings( %), Roads or other development ( %), Other ( %) (List) | | | | |
| 34 | Are there any environmentally and culturally sensitive areas within 250m? | Protected Areas | Migratory pathways of animals | Archeological sites | Wetlands | Savanna |
| 35 | Are there any plants of conservation importance within 250m (endemic and threatened species)? If yes, provide a list | | | | | |
| 36 | Are there any animals of conservation importance within 250m (endemic and threatened species)? If yes, provide a list Also, are there is habitat for animals of conservation importance? Will the project degrade or destroy such site? | | | | | |

**ENVIRONMENTAL SENSITIVITY**

37 Does the project wholly or partly fall within any of the following areas?

| **Area** | **Yes** | **No** | **Unaware** |
|---|---|---|---|
| | | | |
| Animal Habitation | | | |
| Any erodable area | | | |
| Any Flood Area | | | |
| Any flood protection area | | | |
| 60 meters from the bank of a public stream | | | |
| Any reservations beyond the full supply level of a reservoir | | | |
| Any archaeological reserve, ancient or protected monument | | | |
| *Within a distance of one mile of the boundary of a forest or National Reserve* | | | |

**ENVIRONMENTAL IMPACT AND MITIGATION / ENHANCEMENT DURING CONSTRUCTION PERIOD**

| | **IMPACTS** | | | | | **MITIGATION/ ENHANCEMENT** |
|---|---|---|---|---|---|---|
| | | H | M | L | N/A | |
| 38 | Soil erosion | | | | | |
| 39 | Water pollution | | | | | |
| 40 | Noise pollution | | | | | |
| 41 | Solid waste generation | | | | | |
| 42 | Loss of vegetation cover | | | | | |
| 43 | Habitat loss or fragmentation | | | | | |
| 44 | General disturbance to animal behavior | | | | | |
| 45 | Interference with normal | | | | | |

**Annex 2: Generic Environmental and Social Screening Form**

| | | | | | | |
|---|---|---|---|---|---|---|
| | movement of animals | | | | | |
| 46 | Irreversible/irreparable environmental change | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ENVIRONMENTAL IMPACT AND MITIGATION / ENHANCEMENT DURING OPERATION PERIOD** | | | | | | | |
| 47 | Sewerage Disposal | Cess Pool | | | Sewage Pond | | |
| | | Septic Tank | | | Other | | |
| 48 | Solid Waste Disposal | | | | | | |
| 49 | Drinking Water Supply | Common Dug Well | *Yes / No* | | Individual dug well | *Yes / No* | |
| | | Common Tube Well | *Yes / No* | | Town supply – pipe/borehole | *Yes / No* | |
| | | Spring | *Yes / No* | | Town supply – Stand post | *Yes / No* | |
| 50 | Alteration to storm water drainage pattern | No changes | | No major Changes | | Major changes | |
| | | | | | | | |
| 51 | What is the degree of community engagement or information dissemination to date? | Very good ( ), Good ( ), Fair ( ) and Poor ( ) | | | | | |
| 52 | Provide information about the access road to the project site | Tare: Yes No<br>Distance to project site:<br>Size: | | | | | |
| **CONTACT DETAILS OF OFFICIALS AND RECOMMENDATIONS** | | | | | | | |
| 53 | Name of the officer who completed the form (From the Developer) | | | | | | |
| 54 | Designation and contact Information | | | | | | |
| 55 | List of team members | | | | | | |
| 56 | Overall observation and recommendation | | | | | | |
| 57 | Signature and date | | | | | | |
| 58 | Name and Contact Information of the officer who checked this form (Environmental Officer) | | | | | | |
| 59 | Remarks | | | | | | |
| 60 | Signature and Date | | | | | | |

**Additional Screening Questions to Determine the Need and Possible Extent of Further Environmental and Social Review and Management**

| | | |
|---|---|---|
| 1.0 | Biodiversity and Natural Resources | (Yes/No/ Not Applicable) |
| 1.1 | Would the proposed project result in the conversion or degradation of modified habitat, natural habitat or critical habitat? | |
| 1.2 | Are any development activities proposed within a legally protected area (e.g. natural reserve, national park) for the protection or conservation of biodiversity? | |
| 1.3 | Would the proposed project pose a risk of introducing invasive alien species? | |
| 1.4 | Does the project involve natural forest harvesting? | |
| | | |
| 1.6 | Does the project involve significant extraction, diversion or containment of surface or ground water?<br>*For example, construction of dams, reservoirs, river basin developments, groundwater extraction.* | |
| 1.7 | Does the project pose a risk of degrading soils? | |
| **2.0** | **Pollution** | **(Yes/No/ Not Applicable)** |
| 2.1 | Would the proposed project result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for negative local | |

| Annex 2: Generic Environmental and Social Screening Form | | |
|---|---|---|
| | and regional impacts? | |
| 2.2 | Would the proposed project result in the generation of waste that cannot be recovered, reused, or disposed of in an environmentally and socially sound manner? | |
| 2.3 | Will the propose project involve the manufacture, trade, release, and/or use of chemicals and hazardous materials subject to international action bans or phase-outs?<br>*For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Convention on Persistent Organic Pollutants, or the Montreal Protocol.* | |
| 2.4 | Is there a potential for the release, in the environment, of hazardous materials resulting from their production, transportation, handling, storage and use for project activities? | |
| 2.5 | Will the proposed project involve the application of pesticides that have a known negative effect on the environment or human health? | |
| **3.0** | **Climate Change** | **(Yes/No/ Not Applicable)** |
| 3.1 | Will the proposed project result in significant[1] greenhouse gas emissions?<br>*Annex E provides additional guidance for answering this question.* | |
| 3.2 | Is the proposed project likely to directly or indirectly increase environmental and social vulnerability to climate change now or in the future (also known as maladaptive practices)? | |
| **4.** | **Social Equity and Equality** | **(Yes/No/ Not Applicable)** |
| 4.1 | Would the proposed project have environmental and social impacts that could affect vulnerable groupssuch as women children and physically challenged? | |
| 4.2 | Is the project likely to significantly impact gender equality and women's empowerment? | |
| 4.3 | Is the proposed project likely to directly or indirectly increase social inequalities now or in the future? | |
| 4.4 | Will the proposed project have variable impacts on women and men, different ethnic groups, social classes? | |
| 4.5 | Have there been challenges in engaging women and other certain key groups of stakeholders in the project design process? | |
| 4.6 | Will the project have specific human rights implications for vulnerable groups? | |
| **5.** | **Demographics** | **(Yes/No/ Not Applicable)** |
| 5.1 | Is the project likely to result in a substantial influx of people into the affected community (ies)? | |
| 5.2 | Would the proposed project result in substantial voluntary or involuntary resettlement of populations?<br>*For example, projects with environmental and social benefits (e.g. protected areas, climate change adaptation) that impact human settlements, and certain disadvantaged groups within these settlements in particular.* | |
| 5.3 | Would the proposed project lead to significant population density increase which could affect the environmental and social sustainability of the project?<br>*For example, a project aiming at financing tourism infrastructure in a specific area (mountain) could lead to significant population density increase which could have serious environmental and social impacts (e.g. destruction of the area's ecology, noise pollution, waste management problems, greater work burden on women).* | |
| **1.** | **Culture** | **(Yes/No/ Not** |

**Annex 2: Generic Environmental and Social Screening Form**

| | | |
|---|---|---|
| | | **Applicable)** |
| 6.1 | Is the project likely to significantly affect the cultural traditions of affected communities, including gender-based roles? | |
| 6.2 | Will the proposed project result in physical interventions (during construction or implementation) that would affect areas that have known physical or cultural significance to indigenous groups and other communities with settled recognized cultural claims? | |
| 6.3 | Would the proposed project produce a physical "splintering" of a community?<br>*For example, through the construction of a road, powerline, or dam that divides a community.* | |
| **2.** | **Health and Safety** | **(Yes/No/ Not Applicable)** |
| 7.1 | Would the proposed project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?<br>*For example, development projects located within a floodplain or landslide prone area.* | |
| 7.2 | Will the project result in increased health risks as a result of a change in living and working conditions? In particular, will it have the potential to lead to an increase in HIV/AIDS infection? | |
| 7.3 | Will the proposed project require additional health services including testing? | |
| **3.** | **Socio-Economics** | **(Yes/No/ Not Applicable)** |
| 8.1 | Is the proposed project likely to have impacts that could affect women's and men's ability to use, develop and protect natural resources and other natural capital assets?<br>*For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their development, livelihoods, and well-being?* | |
| 8.2 | Is the proposed project likely to significantly affect land tenure arrangements and/or traditional cultural ownership patterns? | |
| 8.3 | Is the proposed project likely to negatively affect the income levels or employment opportunities of vulnerable groups? | |
| **9.** | **Cumulative and/or Secondary Impacts** | **(Yes/No/ Not Applicable)** |
| 9.1 | Is the proposed project location subject to currently approved land use plans (e.g. roads, settlements) which could affect the environmental and social sustainability of the project? | |
| 9.2 | Would the proposed project result in secondary or consequential development which could lead to environmental and social effects, or would it have potential to generate cumulative impacts with other known existing or planned activities in the area? | |

**Is the proposed project likely to increase environmental and/or social vulnerability to climate change now or in the future?**

| | **YES** | **NO** |
|---|---|---|
| • Does the project involve any of the following activities? | | |
| ○ Changes in land use | | |
| ○ Agricultural expansion or intensification | | |
| ○ Intensification of water use | | |
| ○ Development in areas that are under existential threat (*e.g. low-lying areas*), or the longer-term habitability which is in question (*e.g. areas at risk of extreme desertification*) | | |

| Annex 2: Generic Environmental and Social Screening Form | | | | |
|---|---|---|---|---|
| | ○ Other economic/livelihood development based on climate-sensitive resources (*e.g. exploitation of rangelands, forests, fisheries, rivers, natural resource-based tourism; etc*) | | | |
| | ○ Activities in areas with existing conflicts over natural resources | | | |
| | ○ Pricing of basic commodities (e.g. water) | | | |
| | ○ Privatization of, or formalisation of rights over, natural resources | | | |
| | ○ Resettlement (e.g. facilitated or incentivized voluntary resettlement) | | | |
| | • Does the project have the potential to have negative impacts on any marginalized or already vulnerable groups, particularly those dependent on climate-sensitive resources, such as: | | | |
| | ○ Pastoralists | | | |
| | ○ Hunter-gatherers | | | |
| | ○ Forest dwellers | | | |
| | ○ Subsistence s or fisher folk | | | |
| | ○ | | | |
| | ○ Women and minority groups | | | |
| | • Are project activities/outcomes predicated on assumptions (implicit or explicit) that future climatic and environmental conditions will resemble those of the present day? (*e.g. require persistence of current rainfall regimes, surface runoff, extremes frequency/severity, natural resource abundance, ecological conditions, etc).* | | | |

*Annex 3: Federal Guidelines for EIA Process - EIA ACT No.86 of 1992*

Introduction

The process for undertaking ESIA and other forms of environmental assessment in Nigeria is presented in the EIA Decree No. 86 of 1992. The Federal Government of Nigeria enacted the Environmental Impact Assessment (EIA) No. 86 of 1992 as a demonstration of her commitment to Rio declaration. Prior to the enactment of EIA act in Nigeria, project appraisals were limited predominantly to feasibility studies and economic – cost – benefits analysis. Most of these appraisals did not account for environmental costs, public opinion, and social and environmental impacts of development projects.

The EIA Act gave the Federal Ministry of Environment the implementing mandate and requires that the process of EIA be mandatory applied in all major development projects right from the planning stage to ensure that likely environmental problems, including appropriate mitigation measures to address the inevitable consequences of development are anticipated prior to project implementation and addressed throughout the project cycle.

The EIA Act stipulates that all Agencies, Institutions (whether public or private) except exempted by the Act, shall, before embarking on proposed projects, apply in writing to The Federal Ministry of Environment so that subject activities can be quickly identified and allow for the conduct of environmental assessment(s) as the activities are being planned. The Act made provision for all stakeholders (agencies, public, experts, NGOs, communities, etc) to be notified, consulted and or given the opportunity to make comments on the EIA of a project prior to approval or disapproval.

The objectives of the EIA Act of 1992 among others include:

- The establishment of the environmental effects of proposed activities before a decision is taken to embark upon them.
- Promotion of the implementation of appropriate policy in all Federal land, states, and Local Government Area consistent with all laws and decision making process through which these goals in (1) above may be reached.
- It encourages the development of procedures for information exchange, notification and constitution between organs and persons when proposed activities are likely to have significant effects on boundary or trans – state or on the environment bordering towns and villages.

Minimum content of an ESIA study

Section 4 of the EIA Act specifies the minimum content of an EIA to include the following;

- A description of the proposed activities;
- A description of the potential affected environment, including detailed information necessary to identify and assess the environmental effects of the proposed activities;
- A description of the practical activities;
- An assessment of the likely or potential environmental and social impacts of the proposed activity and the alternatives, including the direct or indirect, cumulative, short-term and long-term effects;
- An identification and description of measures available to mitigate negative environmental and social impacts of the proposed activity and assessment of those measures;
- An indication of gaps in knowledge and uncertainty, which may be encountered in computing the required information;
- An indication of whether the environment of any state or local government areas outside Nigeria is likely to be affected by the proposed activity or its alternatives; and
- A brief and non-technical summary of the information provided under the above listed paragraphs.

EIA procedural guideline in Nigeria

After the dissemination of the EIA Act 86 in 1992, the Federal Ministry of Environment (formally called FEPA) came up with the ***EIA Procedural Guideline and Sectoral Guidelines*** for some Nigerian Economic sub-sectors. The EIA Procedural Guideline contains a list of steps which when carefully followed shall result in better project planning and a streamlined decision making process. These steps include, brief descriptions of the project environment and process, legal framework, identified impacts etc. These steps are;

- Project proposal;
- Initial environmental examination (IEE) / preliminary assessment;
- Screening;
- Scoping;
- EIA study;
- Review;

- Decision making; and
- Monitoring, and Auditing.

EIA Sectoral guideline in Nigeria

The sectoral Guidelines provide sector-specific guide for preparation of EIA reports. Sectoral guidelines have been developed for the following sectors.

1. Oil and Gas, including petroleum refining, petrochemical industry pipelines, on-shore, offshore exploration and drilling etc.
2. Infrastructures – including airports, construction, harbours, construction and expansion, railways highways, etc
3. Industries – including all other manufacturing industries, besides those in the oil and gas sector.
4. Agriculture - all agricultural practices including land clearing, afforestation projects, etc.
5. Mining – including solid minerals prospecting and exploration.

In practice, sectoral guidelines:

- are most useful in the early stages of an environmental assessment when ToR for the ESIA are unavailable or are being prepared;
- help with impact identification and in the development of detailed TOR for conducting an ESIA; provide guidance on how to present information in the proper format to aid in review; and provides useful information against which to evaluate the actual results of the ESIA.

ESIA Studies / Report Preparation

ESIA studies and report preparation are the responsibilities of the project client. In the course of preparing an EIA Report of a proposed sub-project, all stakeholders should be consulted. The objective of such consultation is to identify early in the ESIA process, the worries of stakeholders regarding the impacts of the proposed sub-project in order to address such issues during the actual study and to reflect such comments in the sub-project's ESIA report.

ESIA Review Process

To establish the type of review to be adopted, a draft ESIA report should be submitted to the Oyo State Ministry of Environment and Habitat and also the Federal Ministry of Environment by a client for evaluation. There are different forms of reviews, depending on the nature, scope, anticipated impact, risks, etc that may arise in project planning and implementation, and an ESIA report may be subject to any or a combination of these reviews. The various types of review are an in-house review, public review, panel review and mediation.

In – House Review

In order to assess how far issues raised in the Terms of Reference (ToR) have been addressed and to determine if the draft ESIA reports are suitable for public review (if necessary), all draft ESIA reports forwarded to the Ministry are reviewed in-house. If the in-house review finds that the issues in the report do not merit putting it on public display, the review process may be terminated at the in-house review stage. Some projects (e.g. those that fall under Category III of the EIA Act) may be recommended for approval by the Ministry's In-House Panel of Experts.

Public Review (Public Display)

The provisions of Section 25 of the EIA Act states that, 'interested members of the public are given the opportunity to participate in the ESIA review process through comments on project reports that are put on display'. Displays are usually done for a 21 working day period at strategic locations. Notices of such venues of display are usually published in the National and relevant State daily newspapers and information about such display are complemented with further announcements on the relevant state electronic media. Often times, the venues of displays include the Local Government Headquarters, where a project is located, the State Ministry of Environment or Environmental Protection Agency(s), The Federal Ministry of Environment. Comments received from the display venues are forwarded to the Federal Ministry of Environment Headquarters as well as the Oyo State Ministry of Environment and Habitat for collation and evaluation preparatory to the Review Panel meeting for the project.

Review Panel

After the public display exercise, The Federal Ministry of Environment and Oyo State Ministry of Environment and Habitat may decide to set up a review panel to review the draft ESIA report depending on the sensitivity or significance of the comments received.
The review panel meetings are held in the public so that stakeholders can utilize this opportunity to put forward their views and concerns for consideration. The choice of members of the review panel depends on the type of project, its scope as well as the ecosystem to be affected. However, the Chairman of the affected Local Government(s) and the Commissioner of Environment of the project location are always included in the Panel.

Projects that are likely to cause significant negative effects that are immitigable, or of public concerns are referred to Federal Ministry of Environment Ministerial council for subsequent referral to mediation. For a mediation to be set up, Ministerial Council would have been convinced that the parties involved are willing to participate in the mediation and to abide by its decisions.
ESIA Approval

After the submission of a satisfactory final ESIA report, the Federal Ministry of Environment and Oyo State Ministry of Environment and Habitat could decide to set a number of conditions for the approval of the implementation of the project. Such conditions usually include a statement that mitigation measures highlighted in the projects ESIA report shall be complied with.
Impact Mitigation Monitoring (IMM)

The following are the objectives of an ESIA Impact mitigation monitoring:

- Check that mitigation measures are implemented as appropriate;
- Determine whether environmental changes are as a result of project developments and/or natural variation;
- Monitor emissions and discharges at all stages of project development for compliance with regulatory standards;
- Compare effluent quality/quantity with design specifications and statutory standards;
- Determine the effectiveness of Environmental Management Plans, Environmental Monitoring Plans and especially the mitigation measures to predicted impacts and to also act as a feedback mechanism towards the improvement of the ESIA Evaluation and Approval process;
- Determine duration of identified impacts;
- Create a data bank for future development of predictive tools.

The Legal requirements for Impact Mitigation Monitoring in the EIA process are specified in Sections 16 (c), 17 (2) (c), 37 (c), (1), 40 (1) (a) (2), 41(1) and 41 (2) of the EIA Act as well as Section 11 of the EIA procedural guideline

Environmental Impact Monitoring is designed to monitor the Environmental and Social Management Plan (ESMP), and concerns during project operations. It is also designed to ascertain the extent to which commitments contained in EIA reports are reflected during the various phases of project development and operations.

Impact Mitigation Monitoring (IMM) exercises are conducted to assess the degree and effectiveness of the mitigation measures offered in an ESIA report. Hence, relevant documents, in-house monitoring records as they affect the project, the project implementation schedule, as well as all other documents to support the environmental good housekeeping of the project are scrutinized and verified.

In a typical Impact Mitigation Monitoring exercise, the following statutory actions are carried out,

- Facility inspection;
- Interactive session with project managers on the Mitigation Checklist for the ESIA of that subproject;
- Interview and interaction with the action party responsible for ensuring full implementation of a particular action;
- Inspection and Verification of the parameters that shall be monitored to ensure effective implementation of that action;
- Check the timing for the implementation of the action to ensure that the objectives of mitigation are fully

met;

- Interact with project Engineers and Technicians on mitigation measures that are not applicable, or not enforceable or still not practicable in line with good environmental principles with a view to finding out practical alternatives.

At the conclusion of an IMM exercise, a report should be written for the Minister/Head of Department's approval, after which, necessary suggested corrective measures would be communicated to the client.

Annex 4: **Draft Terms of Reference for the ESIA for Site Specific Subproject**

**1.0 Introduction**

**1.1 The Purpose of the ESIA**

There is need to carry out an Environmental and Social Impact Assessment (ESIA), which will have to comply with the environmental procedures of the Federal Republic of Nigeria and with the environmental guidelines of the financing institutions, World Bank.

**2.0 Objectives of the ESIA**

The objectives of the ESIA are to:

- Thoroughly document baseline conditions of the study area and the socio-economic conditions of the affected communities.
- Place the ecological baseline conditions of the concession area in the context of the surrounding region.
- Inform, obtain and address contributions from stakeholders including relevant authorities and the public.
- Assess in detail, the environmental and social impact that would result from the project
- Identify mitigation measures that would reduce the significance of predicted negative impacts or enhanced predicted benefits of the proposed mining projects.
- Develop an appropriate Monitoring Plan for the proposed (Name of Ancillary Infrastructure) in / projects Area
- Meet the requirements of the National environmental regulatory agencies in Nigeria as well as international best practice for project of this nature.

The ESIA will identify the potential environmental and social impacts associated with the development and then provide the measures that will be required to manage those impacts, which will be incorporated into an Environmental Management and Monitoring Plan. A multi-disciplinary team of experts will conduct the ESIA with the stages identified as follows:

**3.0 Phase Description**

- *Screening/Scoping*- Identification of key issues and concern that are to be addressed by the specialist studies
- Stakeholders engagement
- *Baseline* -Characterize current broadly defined environmental and social conditions on and near the site to serve as a basis against which impacts can be measured and monitored.
- *Assessment and Mitigation* - Identification of positive and negative impacts; The potential spatial extent, severity, duration and probability of impacts are described along with mitigation actions.
- *Integration* - Collation of specialist studies and assessments and the compilation of the ESIA Report.
- *Review* - The ESIA Report is reviewed by the Federal Ministry of Environment, sector agencies and stakeholders.

The ESIA process will be guided by the Federal Guidelines for EIA process as stipulated in Annex 6 and international best practice guidelines for projects of this nature such as the World Bank.

**4.0Tasks**

The EMP, based on the Environmental and Social assessment, should identify those E&S issues that require a more detailed management plan in order to manage potential impacts and mitigation. In the conduct of the ESIA the consultant team will undertake the following tasks:

- Assemble relevant baseline information on the project area including its geology, soils, hydrology, climate, surface water quality, noise, air quality and terrestrial and aquatic flora and fauna.
- Collect Information on the socio-economic background of the project area;
- Provide a detailed description of the projects;
- Identify the relevant laws, guidelines, regulations and standards that would define the operating framework of the project;
- Identify, as far as is possible, and assess the physical, biological, socio-economic as well as cumulative impacts of the project which will include the transport and processing components of the project;
- Describe alternatives examined in developing the project, and identify other alternatives that would achieve the same objectives;
- Stakeholders engagement
- Prepare an Environmental Management Plan that recommends measures to address those adverse impacts that can be avoided, or reduced to acceptable levels including a plan for monitoring during project implementation. The Management Plan will include a Mitigation Plan, Emergency Response Plan, Monitoring Plan and provisions for Environmental Auditing.

**5.0 Specific Issues to be addressed by the ESIA**

Annex 4: **Draft Terms of Reference for the ESIA for Site Specific Subproject**

The consultant team will address the full range of issues as it pertains to the proposed project. The EMP, based on the Environmental and Social assessment, should identify those E&S issues that require a more detailed management plan in order to manage potential impacts and mitigation.

Specific issues include:

- A detailed description of the project areas including maps showing the boundaries of the project areas, layout of current land uses of the surrounding areas and network of drainage systems;
- Current water quality data from surrounding streams, rivers and ground waterand the establishment of fixed stations for continuous monitoring ;
- Dust and noise management in particular from haul roads, crushing plant;
- Impacts to aquatic and terrestrial flora and fauna;
- Water Use and effluent management;
- Waste management;
- Land use;
- Cultural and archaeological resources;
- Occupational Health and Safety;
- Social and economic impacts to the local communities including direct benefits such as jobs;
- Cumulative impacts of the project;
- Presentation of the proposed (Name of Ancillary Infrastructure) in/ plan with all relevant information concerning potential impacts on the environment and develop mitigation strategies to reduce the identified impacts;
- A Monitoring Plan with focus on reclamation efforts and on discharge and receiving water quality limits with provisions for effluent discharge monitoring. This will be based on the results of the ESIA and the management plan;
- A Detailed Emergency Response Plan to respond to environmental emergencies and issues with respect to worker's safety as well as residents. The plan will consider identification of emergencies, response mechanisms, personnel responsibilities and equipment and training requirements.

**6.0 Site Visit and Scoping**

The ESIA consultant will cover the cost of site visits associated with the conduct of the ESIA, public notices and other costs associated with the ESIA.

**7.0 ESIA Report**

**Outline for an Environmental and Social Impact Assessment Report**

An Environmental and Social Impact Assessment process should not exclusively be perceived as a matter of preparing a report and obtaining approval only, instead the use of the ESIA should help ensure that the environmental and social concerns of local communities and other stakeholders are taken into account throughout the life of the (Name of Ancillary Infrastructure) in / Project Area. The ESIA should be tailored to the specific sub-project and to the legal requirements, environmental and social conditions where it is situated. The coverage of the ESIA report itself will therefore depend on local circumstances.

To describe and agree on the extent and boundaries of the proposed subprojects, a map may be useful. The Identification of relevant stakeholders would be part of this mapping exercise, and these stakeholders can then be involved in the mapping process, which can help everyone understand the complex flow of impacts and feedback loops more easily.

The following outline for a typical ESIA report is offered on the basis that identified issues will not necessarily have the same degree of relevance for all subprojects.

- **Executive summary / non-technical summary** - The summary should be written in non-technical language, be translated to the major indigenous language, Yoruba and be accessible and understandable to the relevant stakeholders and/or affected communities.
- **Methods and Key issues** – This provides the opportunity to clarify some basic information about the ESIA including what difficulties have been encountered and the limitation of the assessment.
- **Legislative Framework** – The legislative framework should include the relevant legislation and requirements of the country and region where the project is situated. It is also important to include a statement that commits the project to compliance.
- **Consultation Process** – Should contain the step by step approach and views expressed. If clear recommendations resulting from the consultation process were not followed, the reasons for those decisions should be provided.

Annex 4: **Draft Terms of Reference for the ESIA for Site Specific Subproject**

- **Description of the existing Social and Environmental Baseline** – should describe information collected on the past, present and future context for the (Name of Ancillary Infrastructure) in / Project Area in order to provide a picture of existing trends resulting from natural events or human activities, the current state of the environment, the current socio-economic conditions in the region, and any potential future changes which may occur as a result of planned developments.
- **Consideration of Alternatives** – this section should present the results of a well thought-out process that has ensured that reasonable alternatives of different types have been considered.
- **Description of the proposed development** – this section should cover the objectives and scope of the sub-projects, an overview of the sub-project and its location, a detailed description and layout, the site preparation and construction, and the nature of the process, as well as resources and technologies to be used.
- **Prediction and Evaluation of significant social and environmental impacts** – this should emphasize the most important impacts, who or what these will affect, and how significant the effect will be.
- **Mitigation / offset measures** – this section should provide an assessment of the hierarchy of impacts and whether mitigation measures proposed to alleviate the impacts and residual and/or cumulative effects. Proposed methodology to reduce negative impacts should also be included.
- **Environmental and Social management and monitoring plans** – This section should provide a framework for managing and monitoring impacts (implementation costs inclusive) for the duration of the sub-projects and also ascertain the necessity of introducing corrective measures. It should be designed to ensure that the commitments made in the ESIA, and in any subsequent assessment reports, together with any license approval or similar conditions are implemented.
- **Bibliography** – A list of all references cited should be included in the report.

**Roles and Responsibilities**

In undertaking an ESIA, it is important that the roles, responsibilities, rights and involvements of all stakeholders in the process are clearly defined and agreed before commencement.

The level of involvement of stakeholders in the ESIA will depend (not limited) on the following factors;

- Location of the sub-projects;
- Legislation;
- Source for financing of the sub-project;
- Public profile of the sub-project.

**8.0 The Technical team for the ESIA will be procured by the 9. 0 Management of the ESIA process**

The consultant will manage the overall ESIA process and will be responsible for the compilation and presentation of the ESIA Report. The consultant will plan, coordinate and execute all activities of the ESIA process as well as in the planning and execution of the public scoping meeting and public hearing if required. The consultant will provide updates to all relevant agencies on the ESIA process.

**10. Duration**

The duration for the preparation of ESIA will be one year from the date of contract signing.

**ANNEX 5: Draft Terms of Reference for ESMP for Site Specific Subproject /**

***Introduction and Project Description:*** Give a short description of the project

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

***Purpose of ESMP***

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:

Scoping including stakeholder engagement to identify potential issues of most concern

1. Assess the potential environmental and social impacts related to project activities and recommend adequate mitigation measures, including costs estimation.
2. Review institutional assessment and framework for environmental management.
3. Identify responsibilities and actors for the implementation of proposed mitigation measures
4. Assess the capacity available to implement the proposed mitigation measures, and suggest recommendation in terms of training and capacity building, and estimate their costs.
5. Develop an Environmental and Social Management Plan (ESMP) for the project. The ESMP 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.
6. Public consultations. The ESMP results and the proposed mitigation measures will be discussed with relevant stakeholders, NGOs, local administration and other organizations mainly involved in the project activities. Recommendations from this public consultations will be included in the final ESMP report.

***Plan of the ESMP report***

1. Cover page
2. Table of contents
3. List of acronyms
4. Executive summary
5. Introduction
6. Description of sub-project sites
7. Applicable standards: including WB OPs. projects should meet Nigerian standards, state standards, WB OPs, and other elements of good international practice. If there are specific international standards or practices that need to be met, these should be listed
8. Description of environmental and social impacts and mitigation measures for project activities
9. Institutional Assessment and framework for Environmental Management.
10. Environmental and Social Management Plan (ESMP) 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 ESMP including costs
- ESMP Training requirements.

11. Public Consultation
12. Conclusion and Recommendations
13. Annexes: 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, State Ministry of Environment (State Environmental Protection Board and Department of forestry. The report will include all the comments from all.

***Supervision of study***

The consultancy will be supervised by the Environmental and Social Development Specialist.

**Deliverables:** Five Hard copies of all reports (Inception, Draft, Draft Final and Final) and soft copy of reports.

| Annex 6: Climate Change- Environmental and Social Impact Vulnerability Assessment Due to Project | | | |
|---|---|---|---|
| | **YES** | **NO** | |
| i Does the project involve any of the following activities? | | | |
| o Changes in land use | | | |
| o Agricultural expansion or intensification | | | |
| o Intensification of water use | | | |
| o Development in areas that are under existential threat (*e.g. low-lying coastal areas*), or the longer-term habitability of which is in question (*e.g. areas at risk of extreme desertification or extreme disaster risk*) | | | |
| oOther economic/livelihood development based on climate-sensitive resource *exploitation of rangelands, forests, fisheries, rivers, lakes; natural resource-based tourism; etc*) | | | |
| oActivities in areas with existing conflicts over natural resources | | | |
| oPricing of basic commodities (e.g. water) | | | |
| oPrivatization of, or formalisation of rights over, natural resources | | | |
| oResettlement (e.g. facilitated or incentivised voluntary resettlement) | | | |
| ii Does the project have the potential to have nagative impacts on any marginalized or already vulnerable groups, particularly those dependent on climate-sensitive resources, such as: | | | |
| o Pastoralists | | | |
| o Hunter-gatherers | | | |
| o Forest dwellers | | | |
| o Subsistence s or fisher folk | | | |
| oIndigenous peoples (or other peoples) living outside of the mainstream econ | | | |
| o Women and minority groups | | | |
| iii Are project activities/outcomes predicated on assumptions (implicit or explicit) that future climatic and environmental conditions will resemble those of the present day? (*e.g. require persistence of current rainfall regimes, surface runoff, extremes frequency/severity, natural resource abundance, ecological conditions, etc).* | | | |

**ANNEX 7: Sample Checklist for Environmental Impact Prediction**

| Project Undertakings | Baseline Condition | Possible Environmental Impact | Field Analysis | Impact Prediction & Monitoring | | | Mitigation Measures |
|---|---|---|---|---|---|---|---|
| | | | | I | M | S | |
| Opening of trail<br>Establishment of RoW<br>Removal of vegetation | Physical Environment | | | | | | |
| | Land use pattern along the road alignment | Loss of agricultural and forest area within RoW | ▪ Loss of private land<br>▪ Loss of forest<br>▪ Compensation | | | | |
| | Topography of the alignment, soil and geology/slope inclinations | Slope instability resulting land slides and erosion | ▪ Number and size of landslides along the alignment<br>▪ Soil erosion and land slides initiated by the clearance of vegetation | | | | |
| | Water bodies near project | Sedimentation of the streams and siltation to agricultural land | ▪ Turbidity in streams and soil condition of adjoining agriculture land | | | | |
| | Natural drainage pattern | Disturbance to natural drainage | ▪ Water logging<br>▪ Design of drainage facilities | | | | |
| | Biological Environment | | | | | | |
| | Type, area, and condition of forest along road alignment | Loss of trees and vegetation | ▪ Quantity of forest and trees extracted during alignment clearance | | | | |
| | List of locally found &endangered | Disturbance to wildlife population | ▪ Disturbance to wildlife population | | | | |
| Earthworks (cut and | Physical Environment | | | | | | |

| ANNEX 7: Sample Checklist for Environmental Impact Prediction | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| fill equalization) | Topography of the alignment, soil & geology | Accelerated erosion resulting slope instability and landslides | ▪ Number and locations of landslides<br>▪ Extent of civil and bioengineering works for stabilizing eroded and unstable areas? | | | | | |
| | Water bodies near project | Siltation of surface water | ▪ Turbidity in streams | | | | | |
| | Biological Environment | | | | | | | |
| | Forest located along the alignment and its area/type/condition | Destruction of vegetation | ▪ Quantity/number of trees felled | | | | | |
| | List of locally found & endangered species | Disturbance to wildlife | ▪ Wildlife sitting in the area according to locals | | | | | |
| Operation of quarries and borrow pits | Physical Environment | | | | | | | |
| | Location/topography/ soil/geology | Disruption of natural land contour resulting slope instability and landslide/ erosion | ▪ Quarrying method and possibility of slipping of overburdens<br>▪ Quantify specifications like restriction to small area, confined to existing quarry sites, not close to tree cover, 60 m away from dwellings, 200 m away from archaeological and cultural sites | | | | | |
| | Natural drainage pattern | Disturbance to natural drainage patterns resulting in water logging | ▪ Water logging | | | | | |

| ANNEX 7: Sample Checklist for Environmental Impact Prediction | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Water bodies nearby | Contamination of surface water bodies | ▪ Turbidity | | | | |
| | Biological Environment | | | | | | |
| | Forest located along the alignment, area/type/condition | Removal of vegetation | ▪ Any vegetation removal from quarry site, their quantity | | | | |
| | List of locally found & endangered species | Disturbance to wildlife population | ▪ Wildlife siting in the area according to locals | | | | |
| Spoil and construction waste disposal | Physical Environment | | | | | | |
| | Location/ Topography | Scouring of valley side slopes resulting landslides and erosion | ▪ Spoil disposal practice adopted by the project.<br>▪ Landslides<br>▪ Spoil disposal practice (designated site/ compaction/leveling/re habilitation with planting vegetation) | | | | |
| | Land used/Area | Destruction of property (agriculture land, irrigation etc.) | ▪ Land use nearby disposal site | | | | |
| | Natural drainage pattern | Disruption of natural drainage | ▪ Water logging<br>▪ Cross road drainage / side, drainage/surface drainage construction | | | | |
| | Water bodies | Siltation of surface water | ▪ Turbidity | | | | |
| | Biological Environment | | | | | | |
| | Location/vegetation type | Disturbance to vegetation | ▪ Area of vegetation disturbed and condition | | | | |

| ANNEX 7: Sample Checklist for Environmental Impact Prediction | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Locally found aquatic life in the Water bodies | Disturbance to Aquatic life due to siltation | ▪ Turbidity of the water bodies/change in availability of aquatic life | | | | |
| Work camp operation | Physical Environment | | | | | | |
| | Use of machineries and local ambience | Short-term air and noise pollution from machine operation | ▪ Site observation | | | | |
| | Water bodies nearby | Contamination of water bodies due to run-off | ▪ Water quality of the nearby stream | | | | |
| | Area and type of land occupied or hired | Temporary loss of land | ▪ Location of work camp | | | | |
| | Water bodies nearby | Contamination of water | ▪ Runoff to water bodies nearby, sanitary condition, water quality<br>▪ Provision of rehabilitation after the project completion | | | | |
| | Biological Environment | | | | | | |
| | Location/vegetation type | Disturbance to vegetation due to site clearance | ▪ Area of vegetation disturbed and condition | | | | |
| | Locally found wildlife including endangered species | Possibility of illegal hunting/trapping/fishing | ▪ Illegal hunting, trapping of wildlife | | | | |
| Labor camp | Physical Environment | | | | | | |
| | Area and type of land occupied or hired | Temporary loss of land (agriculture land/forest land) | ▪ Previous land use of the camp/condition of the camp site | | | | |

**ANNEX 7: Sample Checklist for Environmental Impact Prediction**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Location | Solid waste disposal issues | ▪ Waste disposal site and waste disposal system<br>▪ Provision of rehabilitation after the project completion | | | | |
| | Biological Environment | | | | | | |
| | Area/Type/condition of forest nearby | Pressure to the forest vicinity for fuel wood | ▪ Fuel wood consumption by workers<br>▪ Condition of forest in vicinity | | | | |
| | Locally found fauna including endangered ones | Possibility of illegal hunting/trapping/fishing | ▪ Illegal hunting, trapping of wildlife | | | | |
| | Locally found aquatic lives | Impact due to surface and ground water contamination from unsanitary disposal of toilet waste | ▪ Number and condition of toilets at camp | | | | |
| Stockpiling of construction materials | Water bodies nearby | Siltation of surface water resulting from uncontrolled runoff from storage piles | ▪ Visual turbidity of surface waters<br>▪ Disturbance to tree and vegetation<br>▪ Disturbance to houses and prime agricultural land | | | | |

**Annex 8: Generic Environmental and Social Mitigation Measures Checklist**

Upon completion of the screening form, which would have identified potential sub-project negative environmental and social impacts, the PMU or stakeholders at various levels may use the checklist below to identify the corresponding mitigation measures to successfully manage these impacts.

| Phase | Land Degradation | Water | Bio-diversity, Natural Habitats and Wetlands | People |
|---|---|---|---|---|
| Planning | i. Clearance for agroucturlrea activities and infrastructures such micro dams, hill side terracing, soil bunds etc. ii. Introduce crop rotation management, use of fertilizers, tree planting and soil drainage (v) Control bush burning and fires. vi) Protection of roadsides by planting of vegetation. vii) Protection of outlet of drainage canals and culverts to avoid clogging of river drains. viii) Prepare an effective and sustainable maintenance plan. | Review, update and enforce pollution control legislation. v) Strengthen enforcement capacity. vi) Develop and implement rural water supply and sanitation policy. vii) Locate sub-projects at far/safe distances from water points and sources. viii) Increase public awareness. | i) Consideration of alternative locations/siting of subprojects. ii) Reduce biomass use through provision of alternative energy sources and construction materials (cooking stoves, photovoltaics). iii) Strengthen natural resource management capacities iv) Develop alternatives to slash and burning clearing, decrease overgrazing. v) Promote agro forestry. vi) Wetlands management and small irrigation development. vii) Protect sensitive ecosystems such as forests and wetlands, prevent further encroachment in protected areas. viii) Enforce existing laws. ix) Locate sub-projects appropriately. x) Training of communities of sustainable uses of resources. xi) Identify certain species of trees and animals that must be protected. xii) Exclude ecosystems that provided and important habitat for protected species. xiii)Establish buffer zones around protected parks and wetlands | i) No involuntary settlement allowed due to land acquisition, denial or restriction of access to economic resources such as trees, buildings etc., used by members of communities. ii) Provide social services in areas of Primary education Primary health care Water supply Micro-finance Feeder roads Soil conservation and natural resources management. Basic and required training at State and local community levels. Ensure that these services are equitably distributed throughout the districts and that access is open to all ethnic groups irrespective of status. iii) Ensure that vulnerable groups in sub-project areas are included in project activities and benefit from decision-making and implementation. iv) Provide employment opportunities during contracting of Civil works e.t.c |

| | |
|---|---|
| Construction | • Construction in dry season. Protection of soil surfaces during construction.<br>• Adequate protection from livestock entry by fencing the site perimeters.<br>• Employ all unskilled labour from local community and semi-skilled labour first from local community when available there in.<br>• Source goods and services from local districts first, when available.<br>• Control and daily cleaning at construction sites.<br>• Provision of adequate waste disposal services including proper disposal of chemicals and other hazardous materials.<br>• Dust control by water, appropriate design and siting, restrict construction to certain times.<br>• Appropriate and suitable storage of building materials on site.<br>• Siting of Latrines at safe distances from wells and other water points and using closed systems for sewage drainage.<br>• Restrict construction to certain hours<br>• Minimize loss of natural vegetation during construction; alternative sites; various special measures for sensitive species<br>• Restoration of vegetation; cleanup of construction sites.<br>• Safety designs (signage)<br>• Ensure availability of clean potable water for use in latrines, canteens and for drinking.<br>• Use of appropriate building materials. No asbestos etc |
| Day to Day Operations | • Use facilities/infrastructure as designed and as intended.<br>• Employ trained staff to man and secure facilities.<br>• Log and report any damages done and repairs needed.<br>• Perform periodic monitoring of all aspects as contained in the sub-project Environmental and Social Monitoring Plan. |
| Maintenance | • Prepare and adopt suitable maintenance plan.<br>• Maintain appropriate budget necessary to implement maintenance plan.<br>• Implement maintenance plan in two stages: for activities requiring day-to-to maintenance such as repairs to damages done, regular inspections etc and longer/periodic term maintenance.<br>• Have suitably trained staff to carry out maintenance and access to materials/goods/equipment. |

ANNEX 9: **Gender Mainstreaming and Vulnerability Assessment**

- Indicative Framework for Assessing and Mainstreaming Gender Concerns

**Preamble**

Nigeria made several commitments to ensuring that gender issuesare not only a part of the national discourse but also that they are integrated into policies and development programs. These commitments are contained in frameworks such as the Vision 20:2020 Plan, the National gender Policy and the United Nations' MDGs framework.

To this end and as part of project preparation, a gender study and consultations with communities should be conducted to assess the challenges and opportunities for the mainstreaming of gender concerns in the project

**Objective**

1. Ascertain how to promote women's participation in the project and in particular activities.
2. Determine under what conditions women could participate in the community-based activities.

As part of project preparation, a gender study and consultations with communities should be conducted to assess the challenges and opportunities for the mainstreaming of gender concerns in the project

**Focus/Scope of the Study**

In particular, the study should provide information on:

- **Women's needs**: aims to assess women's transport needs and identify ways to address such needs, including during subproject selection.
- **Women's voice in community consultation**: aims to identify mechanisms to ensure women's preferences are reflected in community consultations, whether for consultations on social safeguards or subproject selection.
- **Women's participation in community-based maintenance**: aims to identify context-specific entry points and mechanisms (e.g. quotas) for women's participation in the maintenance of rehabilitated infrastructure such as roads.
- **Project impact on women's livelihoods**: recommend indicators or give indications on sex-disaggregation of existing indicators to reflect the project direct and indirect impact on women's livelihoods.

Annex 10 Protection of Cultural Property

1. Cultural property include monuments, structures, works of art, or sites of significance points of view, and are defined as sites and structures having archaeological, historical, architectural, or religious significance, and natural sites with cultural values. This includes cemeteries, graveyards and graves.

2. The initial phase of the proposed emergency reconstruction operations pose limited risks of damaging cultural property since projects will largely consist of small investments in community infrastructure, reconstruction of existing structures, and minor public works. Nevertheless, the following procedures for identification, protection from theft, and treatment of discovered artifacts should be followed and included in standard bidding documents as provided in Annex 15.

.

*d Procedures*

3. Chance find procedures will be used as follows:

(a) Stop the construction activities in the area of the chance find;

(b) Delineate the discovered site or area;

(c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry in charge of Department of Archaeology and Museums take over;

(d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture immediately (within 24 hours or less);

(e) Responsible local authorities and the Ministry in charge of Department of Archaeology and Museums would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Department of Archaeology and Museums (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;

(f) Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry in charge of Department of Archaeology and Museums. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;

(g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry in charge of Department of Archaeology and Museums; and

(h) Construction work could resume only after permission is given from the responsible local authorities and the Ministry in charge of Department of Archaeology and Museums concerning safeguard of the heritage

4. These procedures must be referred to as standard provisions in construction contracts, when applicable, and as proposed in Annex 11. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.

5. Relevant findings will be recorded in World Bank Project Supervision Reports (PSRs), and Implementation Completion Reports (ICRs) will assess the overall effectiveness of the project's cultural property mitigation, management, and activities, as appropriate.

**ANNEX 11: Details of Public Consultations**

**Public Consultation**

This meeting commenced at 2.15pm and was held at the palace of the traditional ruler of Odo-Ape on the 16th of August 2014. The forum was a rallying point for all the social groups, community heads and interest groups that had been previously consulted on the project.

A total of 61 persons attended the meeting including stakeholders as follows:

1. Odo-Ape community,
2. Ape community
3. Agbadu community
4. Bassa camp
5. Fulani representative
6. Ebira representative
7. Federal ministry of agriculture
8. Kogi ADP
9. Kogi Fadama
10. Ministry of Health

**Introduction**

Chief Awoniyi introduced the essence of the meeting followed by self-introduction of persons.

Interactions on the triggered safeguards instruments took place with the different consultants preparing RPF, ESMF and IPMP. Presented in this RPF however, are the interactions that focused on the OP 4.12 (involuntary resettlement).

The consultant preparing RPF thanked the leadership and entire community for their cooperation and response to the call for community consultation. He reiterated the essence of the project in the Alape community in which he stated that the project in the area is to provide a model SCPZ that would be replicated in the other proposed SCPZ zones in the country. The success factors for the project include robust stakeholder participation and synergy. He stated that the RPF is an important document that will describe the process and methods for carrying out resettlement under the Project, including compensation, relocation and rehabilitation of project affected persons, pointing out that careful handling of social and legacy issues is important to avert crises that may affect project sustainability; this underscores the need for social profiling of the community.

He specifically stated that the team is in the community to hear from, learn and deliberate with the community to elicit useful information that will be mainstreamed into the project planning and the sub-projects RAP that will be taking in the near future. Following this explanations, the consultant enjoined the people to ask questions and make contributions as much as possible.

The questions and interactions took off as follows:

| Question | Response | Response by |
|---|---|---|
| What is the perception of the community about the project? | Well received. | Community leaders, women and youths |
| Has there been conflicts relating to the land where SCPZ is being sited | No | Community |
| Do women have equal rights as men in agricultural participation and community decision makings? | Yes | Elders, Women & community |
| What is the population of the 3 project affected communities? | Agbadu: 50,000, Odo-Ape: 30,000 and Ape: 30,000 | Oba of Odo-Ape & community |
| What are the key means of livelihood in this community? | 100% of the people practice farming. Other activities are trading and hunting. | Community |
| Means of transportation/movement | Car, motor-cycle and by foot (trekking) | Community |
| What are the forms of cooperative societies in the locality? | Women farmers association and youth farmers association | Community |
| Are there herdsmen? | Yes, but mainly Fulani migrant herdsmen. | Community |
| Has there been youth migration | Yes. Youths of the community have migrated to the city in search of greener pasture, but much more, people from other communities have migrated into the community because of the farming opportunities available and the hospitality of the community towards visitors | Oba of Odo-Ape & community |
| Expectation from the project? | Water, electricity, road construction, employment, hospital. | |

| | | |
|---|---|---|
| Commitment of the community to project implementation | Cooperation to contractors and investors, provision of security and other assistances that may be required | community |

**CONCERNS, EXPECTATIONS AND ANSWERS**

**Community concerns - kabba-bunu**

| Project Area | Issues | Group/ Organization | Details |
|---|---|---|---|
| **Kabba-Bunu** (Odo-Ape, Kabba, Agbadu, Eshi, Ilegun, ) | Concerns & Questions | Communities, Women, Youth | • Can the investments/factories be spread across all the communities in Alape to ensure no one community is marginalized<br>• Will this project provide employment for our teaming youths and women?<br>• Will government and investor ensure the community that waste/effluents from the processing factory will be treated and handled in a manner that will not cause air pollution in the area<br>• Will the project provide scholarship opportunity for the students in the community? |
| | Responses to Questions and Concerns | | • The factories will be located at one location for ease of operation as is the practice in SCPZ's around the globe.<br>• Geographical spread of investment will be achieved as more investors will be attracted to the ABIR.<br>• The project will not promise scholarship but may train groups that will be identified for project implementation and RAP in particular;<br>• Waste and effluents from the processing factory will be treated and disposed in line with the provisions of OP 4.01 and the Nigerian extant laws.<br>• Ministry of Environment is a stakeholder in this project to monitor and ensure compliance of environmental responsibility and sustainability |
| | Expectations and Request | Community | Water, electricity, road construction, employment, hospital.<br>They want the project to create a 2km radius along the main road as buffer for the community<br>They requested that the investor (Cargill should locate the processing factory within Alape land and at close distance to settlement to enhance community socio-economic network |
| | | Women & Youths | Want the project to give the community preference in job employment and contracts<br>Want to be assisted with inputs and technical support to participate commensurably in the Cargill farm plan |
| | | Fulani herdsmen | Want to be integrated into the project stream by creating for them a grazing reserve area, and by giving them employment as security personnel |
| | | Ebira settlement | Want to be carried along/participate in the agri-investment programme of Cargill |

**FADAMA III ADF**

| Items | Description |
|---|---|
| Name of Stakeholder: | **FADAMA III ADF** |
| Date: | 01/08/2014 |
| Present: | See Attendance list |
| Venue: | FADAMA III office, Lokoja |

**ANNEX 11: Details of Public Consultations**

| | |
|---|---|
| Language of Communication: | English and Yoruba |
| Opening Remarks: | The FADAMA State Project Coordinator, Mr PSF Ogunmola gave the welcome address and opening remarks;<br>Thereafter, the ESMF consultant introduced his team and the reason for their visit to the FADAMA office. |
| Stakeholder Remarks: | ***History***<br>The Alape SCPZ/ABIR project<br>Involvement of FADAMA III ADF<br>The Concerned communities<br>FADAMA's activities in these communities<br>Contacts of important stakeholders |

**AGBADU TOWN**

| **Items** | **Description** |
|---|---|
| Name of Stakeholder: | **Agbadu Town, Kabba-Bunu LGA** |
| Date: | 02/08/2014 |
| Present: | See Attendance list |
| Venue: | Palace of Obajemu of Agbadu Town |
| Language of Communication: | English and Yoruba |
| Opening Remarks: | Chief Ehalaiye (Kogi State Ministry of Agriculture Desk Officer) gave the welcome address and opening remarks;<br>He also introduced the Consultant to the traditional rulers, women leaders, youth leaders and other members of the communities present;<br>The ESMF consultant thereafter elaborated on the essence of the ESMF; |
| Questions from the consultant and the response from the community members: | ***Perception of the community about the project***<br>Well received.<br>***Knowledge of the project concept and benefits***<br>They indicated that they have been well informed about the project by the agencies and consultants coming for different related studies. They noted that based on their understanding the project is to improve the way farming is practiced, bring employment to women and youths, and improve farmers opportunities<br>***Perceived environmental and social impact***<br>Maintenance of the 1 kilometer buffer zone between the SCPZ/ABIR and the community<br>Enhanced afforestation to cover for the large scale deforestation in the establishment of the nucleus farm and processing plants.<br>First consideration should be given to the indigenes of the community in terms of employment before any others since they are the most affected. |
| Queries and Concerns | Anxiety on the quick completion of the land acquisition process and importantly on compensation payment.<br>Expectations on the benefits of the project |

**ODO-APE TOWN**

| **Items** | **Description** |
|---|---|
| Name of Stakeholder: | **Odo-Ape Community, Kabba-Bunu LGA** |
| Date: | 01/08/2014 |
| Present: | See Attendance list |
| Venue: | Obaro of Odo-Ape Palace |
| Language of Communication: | English and Yoruba |
| Opening Remarks: | (Kogi State Ministry of Agriculture Desk Officer) gave the welcome address and opening remarks;<br>He also introduced the Consultant to the traditional rulers, women leaders, youth leaders and other members of the communities |

**ANNEX 11: Details of Public Consultations**

| | |
|---|---|
| | present;<br>The ESMF consultant thereafter elaborated on the essence of the ESMF |
| Questions from the consultant and the response from the community members: | ***Perception of the community about the project***<br>Well received.<br>***Knowledge of the project concept and benefits***<br>They indicated that they have been well informed about the project by the agencies and consultants coming for different related studies. They noted that based on their understanding the project is to improve the way farming is practiced, bring employment to women and youths, and improve farmers opportunities<br>***Perceived environmental and social impact***<br>The need to locate important sections of the processing zone in their community. This is to enable the engagement of the indigenes of the community in the project. The SCPZ/ABIR is located on their land so they must benefit more. |
| Queries and Concerns | The proposed farming system which does not make use of ridges will potentially lead to soil erosion as is presently being experienced on the pilot cassava farm. |

**JOINT TOWN HALL MEETING**

| **Items** | **Description** |
|---|---|
| Name of Stakeholder: | **General Stakeholders Consultation,** |
| Date: | 16/08/2014 |
| Present: | • Project Coordinator<br>• Traditional ruler and inhabitants of Odo-Ape community,<br>• Traditional ruler and inhabitants of Agbadu community<br>• Rep of Traditional ruler and inhabitants of Ape community<br>• Inhabitants of Bassa camp<br>• Ebira settlers<br>• Rep of Federal Ministry of Agriculture<br>• Rep of Kogi ADP<br>• Rep of KogiFadama III ADF<br>• Consultants for ESMF, RPF and IPMP |
| Venue: | Obaro of Odoape's Palace |
| Language of Communication: | English/Yoruba |
| Opening Remarks: | Chief Awoniyi gave the welcome address and opening remarks;<br>Chief Ehalaiye (Kogi State Ministry of Agriculture Desk Officer) introduced the Consultant, the traditional rulers, women leaders, youth leaders and the other members of the project affected communities present;<br>The ESMF consultant thereafter elaborated on the essence of the ESMF; |
| Questions from the consultant and the response from the community members: | ***Perception of the community about the project***<br>Well received.<br>***Knowledge of the project concept and benefits***<br>The agencies and consultants coming for different related studies have explained that the project is to improve the way farming is practiced, bring employment to women and youths, and improve farmers opportunities<br>***The Soil Condition***<br>Good but susceptible to erosion<br>***The Air Condition***<br>Unpolluted and Natural air condition<br>***Water condition and accessibility***<br>The available water is good for consumption and are got from boreholes and wells in the community<br>**Available water source**<br>• *Odo-Ape 10 boreholes but 1 functional*<br>• *Agbadu 1 functional borehole*<br>• *Ape 4 boreholes but none functional* |

| ANNEX 11: Details of Public Consultations | |
|---|---|
| | ***The major ailment in the area***<br>Malaria<br>***Available health care facilities***<br>• Odo-Ape 1 dispensary center<br>• Agbadu 1 health center<br>• Ape 1 dispensary center<br>***Available educational facilities***<br>• Odo-Ape 2 pry, 1 UBE, 1Sec<br>• Agbadu 1 pry<br>• Ape 1 pry, 1 UBE<br>***Available communication facilities***<br>The major networks available includes;<br>• Mtn,<br>• Glo,<br>• Airtel,<br>• Etisalat |
| Queries and Concerns | • The proposed farming system which does not make use of ridges will potentially lead to soil erosion as is presently being experienced on the pilot cassava farm.<br>• The proposed farming system will also lead to surface water pollution coming from water erosion with herbicides and pesticides applied on the farm into Oinye River |

**ANNEX 12: Details of Public Consultations – Photos in Kogi State**

Group Picture taken after the joint public consultation with the representatives of the three affected communities

Group Picture taken after consultation with women leaders of the three affected communities

Group Picture taken at project site after FGD

Group Picture taken after consultation with the leaders of Agbadu community

Group Picture taken after consultation with the Kogi FADAMA officials

Group Picture taken after consultation with the leaders of Odoape community

Group Picture taken during consultation with the people of Iresuare community

Group Picture taken after consultation with PAP in Okehi LGA

Group Picture taken after consultation with the leaders of Oshokoshoko/Iwaa community

| Annex 13 Public Participation in Project Cycle | | |
|---|---|---|
| **Project Cycle** | **ESIA Component** | **Public Participation Activity** |
| **Pre-Feasibility** | Environmental and Social Screening | Identifies public groups and begins initial contact with groups. |
| | Initial Environmental Examination (IEE) | Continue consultations – public provides input to IEE report. |
| | Scoping | Identifies major issues for Scoping and TOR using public input and makes plan for public involvement. |
| **Feasibility** | Environmental and Social Impact Assessment (ESIA) | The public reviews and comments on draft ESIA study report. The public provides input to design and survey. |
| **Detailed Survey and Design** | Integration of Environmental Mitigation Measures | Detailed design made available to the public. |
| **Construction and Operation** | Environmental and Social Monitoring | The public provides input to post evaluation of impacts and mitigation measures. |

Annex 14: Grievance Registration Form

**THIRD PARTY GRIEVANCE FORM**

| **COMPLAINANT DETAILS** | | | |
|---|---|---|---|
| Complainant's name (Or name of a representative for complainant/s) | | | |
| Land parcel number (if applicable) | | | |
| Complainant's postal address | | | |
| Complainant's telephone number and e-mail address (if available) | | | |
| Preferred language of communication | | | |
| Complainant confidentiality | ☐ I wish to raise my grievance anonymously<br>☐ I request that my identity is not disclosed to anyone internally except the grievance coordinator handling my case | | |
| I would prefer if the personnel contacting me is: ☐ male, ☐ female, ☐ gender does not matter | | | |
| **GRIEVANCE DETAILS** | | | |
| Date : | | | |
| Description of incident details (what happened? when? how? where? quantities?) | | | |
| Severity | ☐ One time incident/grievance (date _____)<br>☐ Recurring (how many times? _____)<br>☐ On-going (currently experiencing problem) | | |
| Complainant's request/proposal to resolve grievance (Please explain what should be done to solve this problem?) | | | |
| Grievance type (environment, human rights, livelihood, health, legal, property, corruption) | | | |
| Level of damage: | ☐low | ☐medium | ☐ high |
| Additional documentation related to grievance | | | |
| Verbal Complaint | If complainant is verbal and in the case that the compliant cannot read or write, the environmental and social specialist will help to write it down. | | |

**ANNEX 15:** Indicative Environmental Code of Conduct and Clauses for Contractors

**1. Environmental Code of Conduct for Infrastructure Development**

| SN | Environmental Issue | Potential Impact | Codes of Conduct |
|---|---|---|---|
| **Pre-construction/Construction Phase** | | | |
| 1 | Land Use | ▪ Road alignment may pass through cultivated and forested land resulting in a permanent loss of the resources.<br>▪ While the landowner has to part away with his land ownership, the environmental effects can amplify if proper operation and maintenance schedules are overruled. | ▪ Plan infrastructure such as road alignment to minimize loss of resources.<br>▪ Avoid width of infrastructure such as road of more than 4.5 m in hilly area.<br>▪ Demarcate RoW to avoid encroachment. |
| 2 | Material Use | ▪ Excess extraction of local resources, such as wood, sand, soil, boulders, etc.<br>▪ Degradation of forests, erosion and landslide at steep locales due to boulder, stone extraction.<br>▪ Change in river/stream ecosystem due to unchecked sand extraction. | ▪ Extract materials only on need basis.<br>▪ Avoid sensitive areas, such as steep slopes and water-ways. |
| 3 | Slope Stability | ▪ Extraction of forest products and cutting of trees in the steep slopes increases soil erosion/landslide due to loss of soil binding materials.<br>▪ Wrong alignment can trigger slope failure<br>▪ Haphazard disposal of construction waste can disturb slopes<br>▪ Improper drainage facilities can result in erosion and landslides | ▪ Extract carefully and secure the top soil within 25 cm from the surface.<br>▪ Limit down grading of the infrastructure such as road to 50.<br>▪ If down grading exceeds 70, construction of side drainage is necessary.<br>▪ Keep optimum balance in extraction and filling of soil works.<br>▪ geo-hazardous assessment and mapping<br>▪ Use designated disposal site and avoid sidecasting of spoil<br>▪ Provide proper drainage<br>▪ Use bio-engineering on exposed slopes |
| 4 | Wildlife | ▪ Wildlife habitats at forests, shrub land along infrastructure such as road alignment are affected from the infrastructure such as road construction activities.<br>▪ Wildlife and human conflicts increase as wildlife might destroy the crops or attack the construction worker. | ▪ Avoid as much as possible areas with high biodiversity.<br>▪ Efficient movement of machinery and other traffic.<br>▪ Control poaching activities and regulate movement of labor force and their dependents into the forest area.<br>▪ District Forest Office and its subsidiary body should be involved in monitoring the activities of the construction workers and officials to minimize wildlife harassing, trapping and poaching. |
| 5 | Drainage | ▪ Higher flow rate of surface water and water logging induce land slides, erosion.<br>▪ Quality of infrastructure such as road diminishes due to poor drainage such as water logging, | ▪ It is strongly recommended that the cross drainage outlets must be channeled to the confirmed natural drains.<br>▪ If horizontal slope exceeds 5%, construction of flow control device necessary every 20m. |

| | | | |
|---|---|---|---|
| | | immense flow rate of surface water. | |
| 6 | Protection of Vegetation | ▪ Protected areas and highly forested areas.<br>▪ Degradation of forest areas.<br>▪ Degradation of agricultural land. | ▪ Use minimum and efficient use of wood products for construction.<br>▪ Initiate plantation at damaged and damage prone areas.<br>▪ Increase liability of local forest user groups.<br>▪ Avoid protected areas or densely forested areas |
| 7 | Disposal of Construction Wastes | ▪ Dumping of wastes along the infrastructure such as road or elsewhere. | ▪ Selected spoil dumping sites should be used.<br>▪ After disposal, the area should be leveled and compacted.<br>▪ It is recommended to conserve the soil by planting indigenous plants including grasses.<br>▪ Wastes could also be used as leveling materials along the infrastructure such as roadside. |
| 8 | Disposal of Sanitary Wastes | ▪ Unmanaged sanitary waste disposal creating health problems and public nuisance. | ▪ Proper sanitation area needs to be demarked.<br>▪ Check for hygiene of work force. |
| 9 | Impacts on amenities along RoW | ▪ Infrastructure such as road crossings at water supply, irrigation lines may be disturbed/damaged. | ▪ Avoid as much as possible the crossing over such amenities. |
| 10 | Pollution | ▪ Dust generation from construction activities, construction vehicular movement increases air pollution.<br>▪ Noise pollution likely from construction machinery operation and vehicular movement.<br>▪ Sanitary problems likely at the construction and workforce quarters. | ▪ Possibly construction period should be during August to December when soil moisture content is most.<br>▪ Consider construction of infrastructure such as road at 50 m from settlement.<br>▪ Enforce speed limit of vehicles and construct the infrastructure such as road according to volume and size of traffic movement. |
| Operation Phase | | | |
| 1 | Encroachment | ▪ Unmanaged settlement, construction along the RoW. | ▪ Establish RoW properly and enforce its limits. |
| 2 | Interruption of Water Flow along RoW | ▪ Concentrated flow left unattended might have severe impact at the downhill alignment of the infrastructure such as road. | ▪ Cross drain structures, namely pipe culverts, slab culverts, box culverts, need to be maintained.<br>▪ Outlet of these structures would be carrying the concentrated run off flow of the respective catchment, which will be quite high during rainy season, which in turn would require proper planning of drainage systems. |
| 3 | Pollution/Vehicular Emission | ▪ Dust generation from vehicular movement increases air pollution.<br>▪ Noise pollution likely from vehicular movement. | ▪ Enforce speed limit of vehicles.<br>▪ Maintain traffic size movement.<br>▪ Discourage use of horns. |
| 4 | Aesthetics | ▪ Infrastructure such as road construction is likely to increase landscape scars along the infrastructure such as road alignment.<br>▪ In addition if the construction spoils | ▪ Such damage cannot be avoided but can be minimized through re-plantation of indigenous species and greenery development. |

| | | | |
|---|---|---|---|
| | | are disposed off improperly, the ground vegetation would be destroyed which will be visible from a distance. | |

ANNEX 15-2: General Environmental Management Conditions For Construction Contracts

**General**

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental Management Plan (EMP) or Environmental and Social Management Plan (ESMP) for the works he is responsible for. The Contractor shall inform himself about such an EMP, and prepare his work strategy and plan to fully take into account relevant provisions of that EMP. If the Contractor fails to implement the approved EMP after written instruction by the Supervising Engineer (SE) to fulfil his obligation within the requested time, the Owner reserves the right to arrange through the SE for execution of the missing action by a third party on account of the Contractor.

2. Notwithstanding the Contractor's obligation under the above clause, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an EMP. In general these measures shall include but not be limited to:

(a) Minimize the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access infrastructure such as roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity dust producing activities.

(b) Ensure that noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.

(c) Ensure that existing water flow regimes in rivers, streams and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to works being carried out.

(d) Prevent bitumen, oils, lubricants and waste water used or produced during the execution of works from entering into rivers, streams, irrigation channels and other natural water bodies/reservoirs, and also ensure that stagnant water in uncovered borrow pits is treated in the best way to avoid creating possible breeding grounds for mosquitoes.

(e) Prevent and minimize the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access infrastructure such as roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. In as much as possible restore/rehabilitate all sites to acceptable standards.

(f) Upon discovery of ancient heritage, relics or anything that might or believed to be of archaeological or historical importance during the execution of works, immediately report such findings to the SE so that the appropriate authorities may be expeditiously contacted for fulfilment of the measures aimed at protecting such historical or archaeological resources.

(g) Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.

(h) Implement soil erosion control measures in order to avoid surface run off and prevents siltation, etc.

(i) Ensure that garbage, sanitation and drinking water facilities are provided in construction workers camps.

(j) Ensure that, in as much as possible, local materials are used to avoid importation of foreign material and long distance transportation.

(k) Ensure public safety, and meet traffic safety requirements for the operation of work to avoid accidents.

3. The Contractor shall indicate the period within which he/she shall maintain status on site after completion of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed.

4. The Contractor shall adhere to the proposed activity implementation schedule and the monitoring plan / strategy to ensure effective feedback of monitoring information to project management so that impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions.

5. Besides the regular inspection of the sites by the SE for adherence to the contract conditions and specifications, the Owner may appoint an Inspector to oversee the compliance with these environmental conditions and any proposed mitigation measures. State environmental authorities may carry out similar inspection duties. In all cases, as directed by the SE, the Contractor shall comply with directives from such inspectors to implement measures required to ensure the adequacy rehabilitation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of any works.

**Worksite/Campsite Waste Management**

6. All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous chemicals shall be bunded in order to contain spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed off at designated disposal sites in line with applicable government waste management regulations.

7. All drainage and effluent from storage areas, workshops and camp sites shall be captured and treated before being discharged into the drainage system in line with applicable government water pollution control regulations.
8. Used oil from maintenance shall be collected and disposed off appropriately at designated sites or be re-used or sold for re-use locally.

9. Entry of runoff to the site shall be restricted by constructing diversion channels or holding structures such as banks, drains, dams, etc. to reduce the potential of soil erosion and water pollution.

10. Construction waste shall not be left in stockpiles along the infrastructure such as road, but removed and reused or disposed of on a daily basis.

11. If disposal sites for clean spoil are necessary, they shall be located in areas, approved by the SE, of low land use value and where they will not result in material being easily washed into drainage channels. Whenever possible, spoil materials should be placed in low-lying areas and should be compacted and planted with species indigenous to the locality.

**Material Excavation and Deposit**

12. The Contractor shall obtain appropriate licenses/permits from relevant authorities to operate quarries or borrow areas.
13. The location of quarries and borrow areas shall be subject to approval by relevant local and national authorities, including traditional authorities if the land on which the quarry or borrow areas fall in traditional land.
14. New extraction sites:
    a) Shall not be located in the vicinity of settlement areas, cultural sites, wetlands or any other valued ecosystem component, or on on high or steep ground or in areas of high scenic value, and shall not be located less than 1km from such areas.
    b) Shall not be located adjacent to stream channels wherever possible to avoid siltation of river channels. Where they are located near water sources, borrow pits and perimeter drains shall surround quarry sites.
    c) Shall not be located in archaeological areas. Excavations in the vicinity of such areas shall proceed with great care and shall be done in the presence of government authorities having a mandate for their protection.
    d) Shall not be located in forest reserves. However, where there are no other alternatives, permission shall be obtained from the appropriate authorities and an environmental impact study shall be conducted.
    e) Shall be easily rehabilitated. Areas with minimal vegetation cover such as flat and bare ground, or areas covered with grass only or covered with shrubs less than 1.5m in height, are preferred.

f) Shall have clearly demarcated and marked boundaries to minimize vegetation clearing.

15. Vegetation clearing shall be restricted to the area required for safe operation of construction work. Vegetation clearing shall not be done more than two months in advance of operations.
16. Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution. Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.
17. The Contractor shall deposit any excess material in accordance with the principles of the general conditions, and any applicable EMP, in areas approved by local authorities and/or the SE.

18. Areas for depositing hazardous materials such as contaminated liquid and solid materials shall be approved by the SE and appropriate local and/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.

**Rehabilitation and Soil Erosion Prevention**

19. To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction.
20. Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.
21. Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2m high are recommended.
22. Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.
23. Locate stockpiles where they will not be disturbed by future construction activities.
24. To the extent practicable, reinstate natural drainage patterns where they have been altered or impaired.
25. Remove toxic materials and dispose of them in designated sites. Backfill excavated areas with soils or overburden that is free of foreign material that could pollute groundwater and soil.
26. Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.
27. Ensure reshaped land is formed so as to be inherently stable, adequately drained and suitable for the desired long-term land use, and allow natural regeneration of vegetation.
28. Minimize the long-term visual impact by creating landforms that are compatible with the adjacent landscape.
29. Minimize erosion by wind and water both during and after the process of reinstatement.
30. Compacted surfaces shall be deep ripped to relieve compaction unless subsurface conditions dictate otherwise.
31. Revegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contribute to a resilient ecosystem. The choice of plant species for rehabilitation shall be done in consultation with local research institutions, forest department and the local people.

**Water Resources Management**

32. The Contractor shall at all costs avoid conflicting with water demands of local communities.
33. Abstraction of both surface and underground water shall only be done with the consultation of the local community and after obtaining a permit from the relevant Water Authority.
34. Abstraction of water from wetlands shall be avoided. Where necessary, authority has to be obtained from relevant authorities.
35. Temporary damming of streams and rivers shall be done in such a way avoids disrupting water supplies to communities down stream, and maintains the ecological balance of the river system.
36. No construction water containing spoils or site effluent, especially cement and oil, shall be allowed to flow into natural water drainage courses.
37. Wash water from washing out of equipment shall not be discharged into water courses or infrastructure such as road drains.
38. Site spoils and temporary stockpiles shall be located away from the drainage system, and surface run off shall be directed away from stockpiles to prevent erosion.

**Traffic Management**

39. Location of access infrastructure such as roads/detours shall be done in consultation with the local

community especially in important or sensitive environments. Access infrastructure such as roads shall not traverse wetland areas.

40. Upon the completion of civil works, all access infrastructure such as roads shall be ripped and rehabilitated.

41. Access infrastructure such as roads shall be sprinkled with water at least five times a day in settled areas, and three times in unsettled areas, to suppress dust emissions.

**Blasting**

42. Blasting activities shall not take place less than 2km from settlement areas, cultural sites, or wetlands without the permission of the SE.

43. Blasting activities shall be done during working hours, and local communities shall be consulted on the proposed blasting times.

44. Noise levels reaching the communities from blasting activities shall not exceed 90 decibels.

**Disposal of Unusable Elements**

45. Unusable materials and construction elements such as electro-mechanical equipment, pipes, accessories and demolished structures will be disposed of in a manner approved by the SE. The Contractor has to agree with the SE which elements are to be surrendered to the Client's premises, which will be recycled or reused, and which will be disposed of at approved landfill sites.

46. As far as possible, abandoned pipelines shall remain in place. Where for any reason no alternative alignment for the new pipeline is possible, the old pipes shall be safely removed and stored at a safe place to be agreed upon with the SE and the local authorities concerned.

47. AC-pipes as well as broken parts thereof have to be treated as hazardous material and disposed of as specified above.

48. Unsuitable and demolished elements shall be dismantled to a size fitting on ordinary trucks for transport.

**Health and Safety**

49. In advance of the construction work, the Contractor shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of AIDS.

50. Adequate infrastructure such as road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.

51. Construction vehicles shall not exceed maximum speed limit of 40km per hour.

**Repair of Private Property**

52. Should the Contractor, deliberately or accidentally, damage private property, he shall repair the property to the owner's satisfaction and at his own cost. For each repair, the Contractor shall obtain from the owner a certificate that the damage has been made good satisfactorily in order to indemnify the Client from subsequent claims.

53. In cases where compensation for inconveniences, damage of crops etc. are claimed by the owner, the Client has to be informed by the Contractor through the SE. This compensation is in general settled under the responsibility of the Client before signing the Contract. In unforeseeable cases, the respective administrative entities of the Client will take care of compensation.

**Contractor's Environment, Health and Safety Management Plan (EHS-MP)**

54. Within 6 weeks of signing the Contract, the Contractor shall prepare an EHS-MP to ensure the adequate management of the health, safety, environmental and social aspects of the works, including implementation of the requirements of these general conditions and any specific requirements of an EMP for the works. The Contractor's EHS-MP will serve two main purposes:

- For the Contractor, for internal purposes, to ensure that all measures are in place for adequate EHS management, and as an operational manual for his staff.
- For the Client, supported where necessary by a SE, to ensure that the Contractor is fully prepared for the adequate management of the EHS aspects of the project, and as a basis for monitoring of the Contractor's EHS performance.

55. The Contractor's EHS-MP shall provide at least:

- a description of procedures and methods for complying with these general environmental management

conditions, and any specific conditions specified in an EMP;

- a description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and
- the internal organizational, management and reporting mechanisms put in place for such.

56. The Contractor's EHS-MP will be reviewed and approved by the Client before start of the works. This review should demonstrate if the Contractor's EHS-MP covers all of the identified impacts, and has defined appropriate measures to counteract any potential impacts.

**EHS Reporting**

57. The Contractor shall prepare bi-weekly progress reports to the SE on compliance with these general conditions, the project EMP if any, and his own EHS-MP. An example format for a Contractor EHS report is portrayed in Annex 6. It is expected that the Contractor's reports will include information on:
    - EHS management actions/measures taken, including approvals sought from local or national authorities;
    - Problems encountered in relation to EHS aspects (incidents, including delays, cost consequences, etc. as a result thereof);
    - Lack of compliance with contract requirements on the part of the Contractor;
    - Changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects; and
    - Observations, concerns raised and/or decisions taken with regard to EHS management during site meetings.
58. It is advisable that reporting of significant EHS incidents be done "as soon as practicable". Such incident reporting shall therefore be done individually. Also, it is advisable that the Contractor keep his own records on health, safety and welfare of persons, and damage to property. It is advisable to include such records, as well as copies of incident reports, as Annexes to the bi-weekly reports. A sample format for an incident notification is shown below. Details of EHS performance will be reported to the Client through the SE's reports to the Client.

**Training of Contractor's Personnel**

59. The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project EMP, and his own EHS-MP, and are able to fulfil their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the EHS-MP. General topics should be:
    - EHS in general (working procedures);
    - emergency procedures; and
    - social and cultural aspects (awareness raising on social issues).

**Cost of Compliance**

60. It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item "Compliance with Environmental Management Conditions" in the Bill of Quantities covers this cost. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable EHS impact.

3. **Example Format:** EHS **Report**

**Contract:** **Period of reporting:**

**EHS Management Actions/Measures:**

Summarize EHS management actions/measures taken during period of reporting, including planning and management activities (e.g. risk and impact assessments), EHS training, specific design and work measures taken, etc.

**EHS incidents:**

Report on any problems encountered in relation to EHS aspects, including its consequences (delays, costs) and corrective measures taken. Include relevant incident reports.

**ANNEX 15:** Indicative Environmental Code of Conduct and Clauses for Contractors

**EHS compliance:**
Report on compliance with Contract EHS conditions, including any cases of non-compliance.

**Changes:**
Report on any changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects.

**Concerns and observations:**
Report on any observations, concerns raised and/or decisions taken with regard to EHS management during site meetings and visits.

**Signature (Name, Title Date):**
Contractor Representative

**EHS Incident Notification**

Provide within 24 hrs to the Supervising Engineer

**Originators Reference No:.....**

**Date of Incident:.....** **Time:.....**

**Location of incident:.....**

**Name of Person(s) involved:.....**

**Employing Company:.....**

**Type of Incident:.....**

**Description of Incident:**
Where, when, what, how, who, operation in progress at the time (only factual)

**Immediate Action:**
Immediate remedial action and actions taken to prevent reoccurrence or escalation

**Signature (Name, Title, Date):.....**
Contractor Representative

**ANNEX 16: Protocols for Handling Animal Wastes and Principles for Managing Debris Resulting from Rehabilitation of Buildings**

The REDISSE program is not expected to have any large-scale, significant and/or irreversible impacts as it is focused largely on public sector capacity building and strengthening readiness for dealing with , including prevention of outbreaks of diseases, as well as preventing or reducing possible human infections by strengthening emergency preparedness and response. In addition, the project design incorporates other beneficial measures such as improved biosecurity in farms and live markets. The project's preventive activities (funding of facilities, equipment, laboratories, procedures, and training programs), aimed at improving the effectiveness and safety over the existing practices, will have positive human health and environmental impacts. As such the project is assigned an Environmental Category B.

This annex depicts Principles for Managing Debris Resulting from Rehabilitation of Buildings and Protocols for handling Animal wastes. All of these mitigation measures have been incorporated into the design of the project.

**1. Protocol for Management of Animal Waste in Nigeria**

Protocols for management of animal wastes in Nigeria supposedly include guidelines and regulations for control, handling, and disposal of animal wastes including dead carcass in the overall public health and safety. Laws and policies that relate to animal waste in Nigeria only exist in various plethora of policy documents but still uncoordinated in terms of providing national law and enforcement of animal wastes management.

***Policies and Legislations for Animal Waste Management in Nigeria***

Animal waste and sanitation as critical as it is to the health of the nation, is yet to receive adequate attention it deserves. Available provisions are concerned with the disposal of carcasses of diseased animals. However, some regulations and policies that provide guidance to animal waste management and upon which this protocol is derived include:

- ***National Policy on the Environment 1999***.
  The purpose of the National Policy on the Environment is to define a framework for environmental governance in Nigeria.

- ***National Environmental Standards and Regulations Enforcement Agency (NESREA) Act, 2007.***
  This Act established NESREA and charged it with the responsibility of protecting and developing the environment in Nigeria, as well as enforcing all environmental laws, regulations, standards, policies, guidelines and conventions on the environment to which Nigeria is a signatory.

- ***National Environmental and Sanitation Policy (2005).***
  This policy seeks to stimulate, promote and strengthen all government regulations concerned with housing and urban development, food security water supply, sanitation related endemic diseases and illnesses, flood and erosion control, drought control, school health services and environmental education.

- ***Livestock Disposal Manual S.244 of the Criminal Code Act Cap 77 LFN 1990***
  This Act provides penalty for punishment of any person that indulges in sales and supply of dead carcass of animal for human consumption

- ***National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations, 1991(S.I.No.15).***
  The Regulations make provisions for the handling and management of solid hazardous waste. It defines the objectives of hazardous waste management, the functions of appropriate Governmental agencies and the obligations of industries. It also contains the dangerous waste lists and guidance on the management of spills and discharges into the environment.

- ***NationalEnvironmental(SanitationandWastesControl)Regulations,2009.(S.I.No.28)***
  ThepurposeoftheRegulationistheadoptionofsustainableandenvironmentfriendly practicesinenvironmentalsanitationandwastemanagementtominimizepollution. The Instrument amongst others makes provisions for the control of solid wastes, hazardous wastes and effluent discharges. It in addition spells out roles and responsibilities of State and Local Government Authorities.

- ***Public HealthLaw,1958***
  This provides justificationfortheexecutionofdevelopmentalprojectsunderguidelines that promote health by protecting the environment and safeguarding the humans' health. The Public Health Laws empower Medical Officers of Health (operating at the local government council, under the supervision of the State and Federal Ministries) to ensure the promotion of good health.

***Specific Laws on Animal Waste Management in Nigeria***
Derived from Nigeria's policies and legislations described in the above section, and on poultry, abattoir effluents and solid waste management in particular as articulated in the National Environmental and Sanitation Policy (2005), and also evidenced in National Environmental Protection (Effluent limitations) Regulations (S.I.8) 1991, the Protocol for Animal Waste Management in Nigeria subsists as follows:
Livestock Disposal Manual S.244 of the Criminal Code Act Cap 77 LFN 1990 provides that: Any person who; (1) knowingly takes into a slaughter house for the slaughter of any animal intended for the food of man, the whole or any part of the carcass of any animal which has died of any diseases or(2) knowingly sells the whole or part of the carcass of any animal which has died of any disease or which was diseased when slaughtered is guilty of a misdemeanor and is liable to imprisonment for 2 years.

Paragraph (b) of Section 247 of the same code provides that any person who does any act which is, and which he knows or has reason to believe to be likely to spread the infection of any diseases dangerous to life, whether human or animal is guilty of a misdemeanor and is liable to imprisonment to 6 months.
Sections 8 of the Animal Diseases (Control) Act Cap 18 LFN 1990 also have a provision that further protects the unsuspecting consumer from access to diseased meat.
Subsection (1) of that section provides that: any person having in his charge or under his control any animal infected or suspected to be infected with any of the diseases listed in the first schedule to this Act shall keep such animal separate from other animals not so infested or suspected to be infected and shall forthwith give notice of the fact of the animal being so infected or suspected to be infected to a veterinary officer or the nearest veterinary surgeon or the prescribed officer the LGA.

***Key components of the protocol - National Environmental and Sanitation Policy (2005),*** include:
- A poultry farm should not be co-located with human settlement – this is with a view to avoiding contacts and emissions of wastes from poultry that can cause pollution and communicable diseases.
- There should be regular collection and sanitary disposal of wastes including solid and liquid wastes;

Similarly, abattoir operators and slaughters are to strictly comply with the following:
- Subject cattle and vicinity to inspection by designated sanitary inspectors before slaughtering
- must ensure control of reared and stray of animals;
- Must ensure disposal of the dead (man and animals); and
- Engage in environmental education and sanitation

**2. Protocol for Managing Animal Wastes under the REDISSE Program.**
***Management of wastes generated at the animal laboratory:*** The project will provide funds in this area to ensure that the infectious wastes-sharps generated at the animal laboratory are properly managed. This involves collection of the infectious wastes-sharps separately from common wastes, on-site treatment of these wastes by autoclaving, and collection of the treated wastes along with garbage by the municipality for disposal. Procurement of another autoclave may become necessary if the existing treatment capacity is exceeded from infectious wastes generated as a result of the analysis of potential specimens/ samples.

***Response to outbreaks by the veterinarians and livestock officers.*** The information contained in the Department of Livestock and Fisheries (DLF) manual will be updated for different audiences, including: (i) veterinarians and livestock officers, (ii) the commercial farm owners, (iii) backyard farm owners, and (iv) the general public. The manual for the veterinarians and livestock officers will be presented in the form of Standard Operating Procedures (SOPs).

***Transportation of animal carcasses and farm wastes (if necessary).*** If proper measures are not taken, transportation of infected animal carcasses and farm wastes would likely spread the virus outside of the infected farm areas. Under this project, transportation of carcasses and farm wastes to another site for disposal will be avoided to the maximum extent possible. However, if transportation is required, then the SOPs will specify the specific requirements for vehicle design and operation as well as containment of carcasses and farm wastes for transportation. These SOPs will also include decontamination of vehicle surfaces (e.g. tires) prior to exiting the farm. The IATA Regulations for packaging of biological specimen will be adopted and included in the SOPs.

***Culling of animals/poultry:*** It is important that culling of animal/poultry be conducted in a humane, safe, and efficient manner. The following methods for culling poultry were identified from the FAO guidelines: (i) neck breaking (manual), (ii) neck cutting (using mechanical devices), (iii) gassing with inhalation agents (e.g. carbon dioxide), and (iv) culling following electrocution or poisoning. The SOPs will specify the criteria for using one versus the other method; and will provide the design and operating requirements on of the gassing systems (e.g. specific locations and quantities of stocked carbon dioxide).

***Personal hygiene:*** If proper hygiene measures are not taken, virus may spread to human. For this reason, for each of the above-mentioned activities to be conducted during outbreaks, the SOPs will specify the level of protection (e.g. gloves, masks, overalls, boots) to be used.

***Selection of disinfectants:*** It is important that the disinfectants to be selected for the disinfection of farm surfaces, equipment, materials, and wastes do not have adverse impact on human health and the environment. The selection of disinfectants in this project will be based on such criteria as impacts of disinfectants on human health and the environment, and availability and cost of disinfectant, and compatibility of the disinfectants with the disposal methods of the wastes. The selected disinfectant, which will comply with the World Bank's Pest Management Policy (OP4.09), will be specified in the SOPs.

***Disinfection of farm surfaces, equipment, materials, and wastes.*** Based on selected disinfectant, the type of equipment and procedures for preparing (e.g. dilution with water) and applying the disinfectant will be specified in the SOPs.

***Disposal of carcasses and farm wastes:*** It is important that the selected disposal method does not have adverse impacts on human and the environment. For example, improper burial practices may cause contamination of ground or surface water, and poorly designed and/or operated cremation or incineration systems may create particulate emissions and objectionable odors to neighbors. The following options for the disposal of animal carcasses and farm wastes were considered: (i) burial in a pit, (ii) open air burning (cremation), (iii) composting, (iv) incineration at a fixed location or mobile incineration. However, criteria will be developed and included in the SOPs for the applicability of this disposal option for specific sites. This criteria will include: (i) height of the water table (the base of the burial pit must be at least 1 meter above the water table), (ii) dry weather conditions (dry season), (iii) distance to watercourses, bores, and wells, (iv) slope of the land at the burial site to the nearest watercourse (drainage to and from the pit), (v) type of soil (or soil permeability), (vi) distance to human settlements and public lands (including roads), (vii) prevailing wind direction (for odor emissions), (viii) availability of space for temporary storage of excavated soil, and (viii) accessibility of burial site by digging equipment (e.g. excavator). For those situations where the burial criteria are not met (wet weather conditions, high water table), the SOPs will specify the most appropriate, environmentally-safe, and cost-effective disposal option The SOPs will provide detailed design (depth of the pit), construction, and operating requirements (how the pit will be filled).

***Disposal of used PPE:*** It is important that the selected PPE and disinfectant be compatible with the disposal method of the PPE to avoid generation of hazardous wastes (used PPE will be incinerated). As incineration of chlorine-bearing material with organics might generate emissions of dioxins and furans, care will be exercised in selecting PPE and disinfectants. First of all, all PPE procured under this project will be chlorine-free. In addition, best effort will be made to select a chlorine-free disinfectant. However, if this is not possible, then before incineration, used PPEs will be washed before incineration and the washed water needs to be disinfected and waited before discharge. The SOPs will describe these procedures in detail.

***Personal hygiene at hospitals***: If proper hygiene measures are not taken, epidemics may spread to humans. For this reason, guidelines regarding personal hygiene procedures will be developed at designated reference health facilities. Specifically, for each of the above-mentioned activities to be conducted during disease outbreaks, the SOPs will specify the level of protection (e.g. gloves, masks, overalls, boots) to be used.

***Healthcare waste management at hospitals to be receiving potentially infected patients:*** Animal virus may spread to humans if proper waste management measures are not taken at hospitals treating potentially infected patients. Under this project, only designated hospitals will receive infected (or potentially infected) patients.

***Rehabilitation of existing laboratory:*** Rehabilitation and refurbishment of existing laboratories will be financed through the REDISSE program. The adverse impacts during rehabilitation would include dust and noise emissions, generation of construction waste, disturbance of traffic, and discharge of untreated sewage. These adverse impacts will be mitigated by including in the construction contract a clause regarding observation of standards for good construction practices.

***Health laboratory-related personal hygiene measures:*** If proper hygiene measures are not taken, animal epidemics may spread to humans. For this reason, SOPs will be prepared for the collection, handling, and transportation of suspected specimens to the laboratory as well as handling of these specimens at the laboratory. In addition, PPE will be procured and supplied to the staff collecting, handling, and analyzing the suspected AI specimens. Training and then refresher training courses will be given to the staff on personal hygiene measures.

***Waste management at the laboratory:*** Infectious wastes from the serology/virology, bacteriology and toxicology laboratories will be collected separately from the garbage and treated on site by autoclaving. The treated wastes and garbage are stored in an open-top basket and collected by the municipality twice a week for disposal. A consultant will be engaged to identify the quantity of infectious waste generated from the laboratory. The consultant will evaluate alternative options for waste management. The consultant will prepare a waste management plan for the laboratory solid (this plan will address all waste types, including infectious wastes, sharps, liquid wastes, and common wastes). In addition, various supplies (e.g. bins, bags, labels) will be procured. The laboratory staff will be provided training on waste management.

**Policies and Regulations for Debris and Construction Waste Management in Nigeria**

***Rehabilitation of existing Buildings:*** Rehabilitation and refurbishment of existing buildings, including laboratories will be financed through the REDISSE program. The adverse impacts during rehabilitation would include dust and noise emissions, generation of construction waste, disturbance of traffic, and discharge of untreated sewage. Others include Sources of construction wastes such as: Waste wood, concrete rubble and tiles, Asbestos materials, Paints, Pesticides, PCBs, Excavated soil piles and demolition debris, Planks, Empty cement and plastic bags, etc. These adverse impacts will be mitigated by including in the construction contract a clause regarding observation of standards for good construction practices.

A number of policies, principles and regulations on debris and construction related wastes in Nigeria exist and includes the following:

***National Environmental Standards and Regulations Enforcement Agency (NESREA) Act, 2007***
This Act established NESREA and charged it with the responsibility of protecting and developing the environment in Nigeria, as well as enforcing all environmental laws, regulations, standards, policies, guidelines and conventions on the environment to which Nigeria is a signatory.

***W1National Environmental (Construction Sector) Regulations, S. I. No. 19 of 2011:***
The purpose of this Regulation is to prevent and minimize pollution of the Nigerian Environment from the impacting activities of Construction, Decommission and Demolition.

***National Building Code Regulation (2007)***
The National Building Code in Nigeria (2007) aside providing sets of regulations that ensure the quality and standards of buildings also provides clauses which parties in building contracts are expected to carry out to ensure health and safety of workers and the public. Construction waste collection and safe disposal is an integral of the health and safety measures in the national building code of Nigeria.

***Harmful Wastes (Special Criminal Provisions etc.) ActNo.42of 1988.***
This Actprohibits the carrying, depositing and dumping of harmful waste on any land, territorial waters and matters relating thereto. Specifically, Section 1 of the Actprohibits all activities relating to the purchase, sale, importation, transit, transportation, deposit, storage of harmful wastes. Section 6 of the Act spells out the penalty for offence sunder the Act to include life imprisonment or individual and appropriate punishment for corporate bodies.

**Description of Protocols on Debris and Construction Waste Management in Nigeria**
This waste management protocol will follow the standard principles of waste management consistent with the policies and regulations for Debris and Construction Waste Management in Nigeria. The steps shall involve waste minimization, collection, segregation, recycling, and disposal to approved dumpsites.
The protocol for debris and construction waste management is a requirement that is aptly contained in the construction contract agreements for sustainable construction project implementation in Nigeria. The responsibility for waste management is that of the developer or project proponent. In a situation where the proponent carries out the construction work through contracting, the responsibility for compliance to the protocols/standards in debris waste management is transferred to the contractor by the proponent and is regulated through the contract agreement, while the proponent monitors the implementation to ensure that the contractor complies fully to the waste management obligations.
The protocols are presented as follows:

***1) General:***

- Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore worksites to acceptable standards, and abide by any environmental performance requirements specified in an Environmental management plan or in the environmental clause of the contract. In general these measures include but not be limited to:

- Minimize the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity of dust producing activities.

- There should be adequate number of garbage bins and containers made available at strategic areas of the site. The use of plastic bin liners should be encouraged.

- Solids, sludge and other pollutants generated as are sult of construction ort hose removed during the course of treatment or control of waste waters will be disposed of in a manner that prevents their director indirect re-entry into any water course or ground waters.

- Any waste material that is in advertently disposed in or adjacent to watercourses will be removed immediately in a manner that minimizes adverse impacts, and the original drainage pattern should be restored original drainage pattern should be restored.

***2) Campsite Waste Management***

- All vessels (drums,containers,bags,etc.) containing oil/fuel/ surfacing materials and other hazardous chemicals shall be bunded in order to contain spillage. All waste containers, litter and any other waste generated during the construction shall be collected and disposed off at designated disposal sites in line with applicable government waste management regulations.

- All drainage and effluent from storage areas, workshops and camp sites shall be captured andtreatedbeforebeingdischargedintothedrainagesysteminlinewithapplicablegovernmentwaterpollutioncontrolregulations.

- Used oil from maintenance shall be collected and disposed off appropriately at designated sites or be re-used or sold for re-use locally.

- Entryofrunofftothesiteshallberestrictedbyconstructingdiversionchannelsorholdingstructuressuchas banks,drains,dams,etc.toreducethepotentialofsoilerosionandwaterpollution.

- Constructionwasteshallnotbeleftinstockpilesalongtheroad,butremovedandreusedordisposedofona dailybasis.

- Ifdisposalsitesforcleanspoilarenecessary,theyshallbelocatedinareas,approvedbytheSE,oflowlandu sevalueandwheretheywillnotresultinmaterialbeingeasilywashedintodrainagechannels.Whenever possible,spoilmaterialsshouldbeplacedinlow-lyingareasandshouldbecompactedandplantedwithspeciesindigenoustothelocality.

***3) New extraction sites:***

- Shallnotbelocatedinthevicinityofsettlementareas,culturalsites,wetlandsoranyothervaluedecosyste mcomponent,oronhighorsteepgroundorinareasofhighscenicvalue,andshallnotbelocatedlessthan1kmfromsuchareas.

- Shallnotbelocatedadjacenttostreamchannelswhereverpossibletoavoidsiltationofriverchannels.Wheretheyarelocatednearwatersources,borrowpitsandperimeterdrainsshallsurroundquarrysites.

- Shallnotbelocatedinarchaeologicalareas.Excavationsinthevicinityofsuchareasshallproceedwithgreatcautionandshallbedoneinthepresenceofgovernmentauthoritieshavingamandatefortheirprotection.

- Shallnotbelocatedinforestreserves.However,wheretherearenootheralternatives,permissionshallbe obtainedfromtheappropriateauthoritiesandanenvironmentalimpactstudyshallbeconducted.

- Shallbeeasilyrehabilitated.Areaswithminimalvegetationcoversuchasflatandbareground,orareascoveredwithgrassonlyorcoveredwithshrubslessthan1.5minheight,arepreferred.

- Shallhaveclearlydemarcatedandmarkedboundariestominimizevegetationclearing.

- Stockpileareasshallbelocatedinareaswheretreescanactasbufferstopreventdustpollution.Perimeter drainsshallbebuiltaroundstockpileareas.Sedimentandotherpollutanttrapsshallbelocatedatdrainageexitsfromworkings.

- TheContractorshalldepositanyexcessmaterialinaccordancewiththeprinciplesofthesegeneralconditions,andanyapplicableESMP,inareasapprovedbylocalauthoritiesand/ortheSE.

***4) Rehabilitation and Soil Erosion Prevention***

- Totheextentpracticable,theContractorshallrehabilitatethesiteprogressivelysothattherateofrehabilitationissimilartotherateofconstruction.
- Alwaysremoveandretaintopsoilforsubsequentrehabilitation.Soilsshallnotbestrippedwhentheyarewetasthiscanleadtosoilcompactionandlossofstructure.
- Topsoilshallnotbestoredinlargeheaps.Lowmoundsofnomorethan1to2mhigharerecommended.
- Revegetatestockpilestoprotectthesoilfromerosion,discourageweedsandmaintainanactivepopulationofbeneficialsoilmicrobes.
- Locatestockpileswheretheywillnotbedisturbedbyfutureconstructionactivities.
- Totheextentpracticable,reinstatenaturaldrainagepatternswheretheyhavebeenalteredorimpaired.
- Removetoxicmaterialsanddisposeofthemindesignatedsites.Backfillexcavatedareaswithsoilsoroverburdenthatisfreeofforeignmaterialthatcouldpollutegroundwaterandsoil.
- Identifypotentiallytoxicoverburdenandscreenwithsuitablematerialtopreventmobilizationoftoxins.
- Ensurereshapedlandisformedsoastobeinherentlystable,adequatelydrainedandsuitableforthedesiredlong-termlanduse,andallownaturalregenerationofvegetation.
- Compactedsurfacesshallbedeeprippedtorelievecompactionunlesssubsurfaceconditionsdictateotherwise.
- Revegetatewithplantspeciesthatwillcontrolerosion,providevegetativediversityand,throughsuccession,contributetoaresilientecosystem.Thechoiceofplantspeciesforrehabilitationshallbedoneinconsultationwithlocalresearchinstitutions,forestdepartmentandthelocalpeople.

***5) Water Resources Management***

- TheContractorshallavoidconflictingwithwaterdemandsoflocalcommunities.
- AbstractionofbothsurfaceandundergroundwatershallonlybedonewiththeconsultationofthelocalcommunityandafterobtainingapermitfromtherelevantWaterAuthority.
- Abstractionofwaterfromwetlandsshallbeavoided.Wherenecessary,authorityhastobeobtainedfromrelevantauthorities.
- Noconstructionwatercontainingspoilsorsiteeffluent,especiallycementandoil,shallbeallowedtoflowintonaturalwaterdrainagecourses.

***6) Blasting& Quarrying***

- Blastingactivitiesshallnottakeplacelessthan2kmfromsettlementareas,culturalsites,orwetlandswithoutthepermissionoftheSE.
- Blastingactivitiesshallbedoneduringworkinghours,andlocalcommunitiesshallbeconsultedontheproposedblastingtimes.
- Contractorshallobtainappropriatelicenses/permitsfromrelevantauthoritiestooperatequarriesorborrowareas.
- Thelocationofquarriesandborrowareasshallbesubjecttoapprovalbyrelevantlocalandnationalauthorities,includingtraditionalauthoritiesifthelandonwhichthequarryorborrowareasfallintraditionalland.

***7) Disposal of Unusable Elements***

- Unusablematerialsandconstructionelementssuchaselectro-mechanicalequipment,pipes,accessoriesanddemolishedstructureswillbedisposedofinamannerapprovedbytheSE.TheContractorhastoagreewiththeSEwhichelementsaretobesurrenderedtotheClient'spremises,whichwillberecycledorreused,andwhichwillbedisposedofatapprovedlandfillsites.

- Unsuitableanddemolishedelementsshallbedismantledtoasizefittingonordinarytrucksfortransport.

**Principles and Protocols for Rehabilitating Existing Buildings**

The matrix below summarizes types of construction and demolition wastes and procedures for their management

| S/N | Type of Waste | Principle for Recycling Disposal Method |
|---|---|---|
| 1 | ***Site Clearing and dredging materials*** – These are materials or objects that are displaced during the preparation of a construction or demolition site. They include vegetation stripping, trees & tree stumps, rubble, dirt, rocks and excavated soil piles | 1) Minimize/reduce waste by planning and sticking to appropriate engineering design and specification such as the size of land area to be cleared and depth of earth to be excavated.<br>2) Re-use soil materials for backfilling and wood as materials for construction<br>3) non-recyclable should be separated and regularly disposed in approved dumpsites |
| 2 | ***Building material waste*** - insulation, nails, electrical wiring, rebar, wood, plaster, scrap metal, cement, and bricks, Concrete, asphalt and waste tiles | These materials may be damaged or unused, but can be recycled or reused in other forms. Waste wood can be recovered and recycled into wood for new building projects. Cement, bricks, plaster and asphalt can be crushed and reused as aggregate materials in other construction or building projects. |
| 3 | ***Electronic wastes and Aluminum materials*** – desktop computer, television, mobile devices, air conditioners, rail | Electronic wastes and aluminum materials shall be recycled after dismantling and crushing; |
| 4 | Timber and Furniture from Buildings | Re-use materials or recycle as appropriate. Potential usages include: 1) particle board, charcoal, papermaking material; 2) use as fueling cement kilns; 3) energy recovery from incineration |
| 5 | ***Hazardous waste*** – such as Asbestos-containing buildings materials ( roofs and ceilings); paints, PCB, lead, pesticides, batteries, insulated materials for asbestos, etc | 1) Controlled management undertaken as necessary for each type of waste.<br>2) An inspection of building materials for the presence of asbestos and lead hazards must be conducted prior to initiating renovation and demolition.<br>3) Handling of hazardous wastes must follow proper procedures regarding collection, storage, transportation and disposal in approved landfill |
| 6 | Waste water, Waste oil, lubricant, sludge | 1) Ensure effluent collection measures and treatment of effluent before discharging into sewage system<br>2) Establish and enforce daily site clean-up procedures, including maintenance of disposal facilities for construction debris.<br>3) Ensure that all equipment maintenance activities, including oil changes, are conducted within demarcated maintenance areas designated for such.<br>4) Ensure that oil or other lubricants are never dumped on the ground, in designated areas. |