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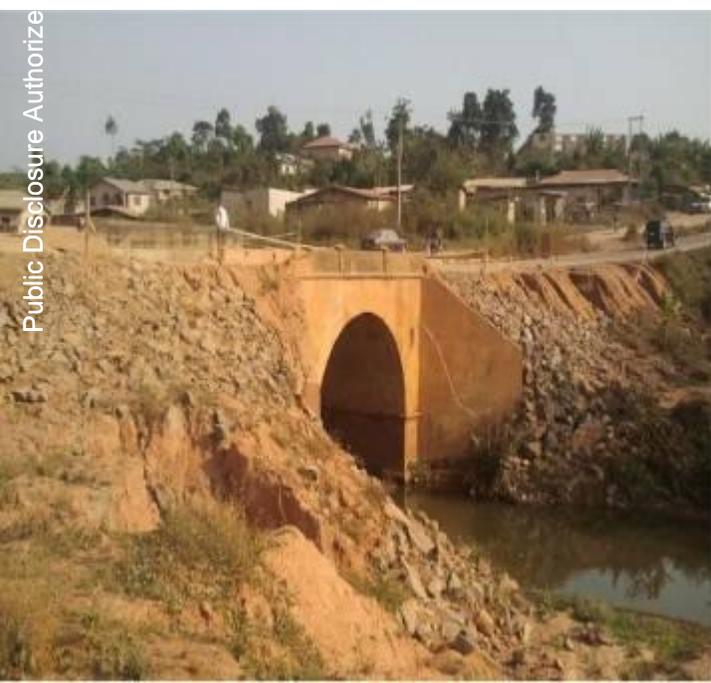
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# ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

## Ibadan Urban Flood Management Project

### FINAL REPORT



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# **ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK**

## **Ibadan Urban Flood Management Project (IUFMP)**

### **FINAL REPORT**

**Submitted to:**

**The Project Coordinator**

**Project Implementation Unit**

**Ibadan Urban Flood Management Project (IUFMP)**

**Ibadan Oyo State**

**NIGERIA**

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## **ABBREVIATIONS AND ACRONYMS**

AU	African Union
ARAPs	Abbreviated Resettlement Action Plans
BP	Bank Policy
CBOs	Community Based Organizations
CDA	Community Development Associations
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DRM	Disaster Risk Management
EA	Environmental Assessment
ECOWAS	Economic Community of West African States
EMS	Environmental Management Systems
ESMP	Environmental and Social Management Plan
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
EPA	Environmental Protection Agency
FEPA	Federal Environmental Protection Agency
FGN	Federal Government of Nigeria
FMEnv	Federal Ministry of Environment
GFDRR	Global Facility for Disaster Reduction and Recovery
GoN	Government of Nigeria
HIA	Health Impact Assessment
ICT	Information Communications Technology
ICRs	Implementation Completion Reports
IEE	Initial Environmental Examination
IITA	International Institute of Tropical Agriculture
IMSC	Inter-Ministerial Steering Committee
IUFMP	Ibadan Urban Floods Management Project
LGAs	Local Government Authority
LMDGP	Lagos Metropolitan Development Governance Project
MARPOL	Marine Pollution by Dumping of Waste
MDAs	Ministries Department and Agencies
M&E	Monitoring & Evaluation
MEH	Ministry of Environment and Habitat
MMPPUD	Ministry of Physical Planning and Urban Development
MWT	Ministry of Works and Transport
NEWMAP	Nigeria Erosion Watershed Management Project
NESREA	National Environmental Standards and Regulatory Enforcement Agency
NGOs	Non- Governmental Organizations
NIHORT	National Institute for Horticultural Research
NIWA	Nigeria Inland Water Authority
OHS	Occupational Health and Safety
OHSMP	Occupational Health and Safety Management Plan
OP	Operational Policy
OYSFIF	Oyo State Flood Investment Fund
OYSG	Oyo State Government
OYSEMA	Oyo State Emergency Management Agency
OYSEPA	Oyo State Environmental Protection Agency
PAD	Project Appraisal Document

PC	Project Coordinator
PCN	Project Concept Notes
PDOs	Project Development Objectives
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PLWHAs	People Living With HIV/AIDs
PSRs	Project Supervision Reports
RAPs	Resettlement Action Plans
RPF	Resettlement Policy Framework
SESA	Strategic Environmental and Social Assessment
SMEs	Small and Medium Scale Enterprises
TOR	Terms of Reference
EPMIS	Environment Planning & Management Information Systems
USD	United States Dollar
WB	World Bank
WHO	World Health Organization

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## EXECUTIVE SUMMARY

### ES 1: Background

Severe flood events are increasingly affecting major urban centers such as Ibadan—where people and economic activities are concentrated. Ibadan, the capital city of Oyo State and the third largest metropolitan area in Nigeria, after Lagos and Kano, is highly exposed to flooding. Notable of these events, was the Ogunpa disaster of year 1980 which was recorded to have resulted in a death toll of 500 people. The latest flood event took place after a downpour rainfall of 187.5 mm (about 7.38”) occurred in about 4-5 hours on August 26, 2011, induced by the overflow from Eleyele reservoir causing the death of more than 120 people and serious damages to infrastructure (many bridges collapsed, roads washed away, and substantial property loss).

Recognizing the need for an integrated and long term solution to flooding in the city, the Oyo State Government has requested the World Bank's support to finance a flood management project in Ibadan. So far, the responses to the past flooding events have been piecemeal; mainly focusing on alleviating immediate and short-term needs such as rebuilding of destroyed assets. However, in line with the global focus on disaster prevention following Hyogo Framework of Action, the Oyo State Government has realized the importance of moving from merely responding to pro-actively managing and preventing flood risk in the city. The Global Facility for Disaster Reduction and Recovery (GFDRR)'s support following 2011 floods, primarily a small training and awareness exercise, also recommended the need for urban flood risk assessment and an urban flood risk management program. Building on these recommendations, the Government of Nigeria and Oyo State Government requested the World Bank's support to finance a flood management project in Ibadan.

The IUFMP aims to develop long term flood resilience in the city—by collaboratively identifying and implementing robust and sustainable solutions for mitigating flood risk, and improving flood preparedness. In the short term, the project will finance priority and critical infrastructure investments, including setting up flood early warning and response system. An Integrated Flood Risk Management Master plan will assess and recommend flood risk management actions in the city along with the development of a long term Flood Resilience Strategy. The outcome of the assessment will guide long term flood risk mitigation and drainage improvement investments.

### ES 2: Project Development Objectives and Components

The project development objective is to improve the city of Ibadan's flood resilience by:

- (i) strengthening risk identification and response; and
- (ii) undertaking flood risk mitigation and urban drainage improvements in priority and targeted project sites.

The project consists of three main components. The project components include:

**Component 1:** Flood Risk Identification Planning and Preparedness

Sub-Component-1.1: Design of Flood Risk Management Investment Program;

Sub-Component-1.2: Development of an Oyo State Long -Term Flood Resilient Strategy;

Sub-Component-1.3: Establishment of an Integrated Flood Early Warning and Response System;

Sub-Component-1.4: Contingency Component

**Component 2:** Flood Risk Mitigation Measures

- Sub-Component 2.1: Priority Infrastructure Improvements;
- Sub-Component 2.2: Long- term Integrated Flood Risk Mitigation Measures; and
- Sub-Component 2.3: Community Resilience Development.

**Component 3:** Project Implementation Support

- Sub-component 3.1: Project Administrations; and
- Sub-component 3.2: Project Implementation Support

The sub-project activities in components 1 and 2 will trigger the 5 World Bank safeguards policies and the project disclosure policy. The policies triggered are:

- OP/BP 4.01: Environmental Assessment
- OP/BP 4.04: Natural Habitats
- OP/BP 4.12: Involuntary Resettlement
- OP 4.11: Physical Cultural Resources
- OP/BP 4.37: Safety of Dams  
Plus 1
- OP/BP 17.50: Public Disclosure

Potential activities may include construction and/or rehabilitation of various identified urban infrastructure or flood prone sites. These activities may lead to environmental and social impacts, which must be mitigated in accordance with today's tenets of sustainable development.

This Environmental and Social Management Framework (ESMF) seeks to provide a clear process including action plans to integrate environmental and social considerations into the Ibadan Urban Flood Management Project (IUFMP). A separate document provides Resettlement Policy Framework (RPF) to address possible involuntary physical and economic displacements by IUFMP.

**ES 3: Rationale and Scope of ESMF**

At the time of project preparation, the specific sites that the project would be implemented are not known in sufficient details. Therefore, there is a need for an ESMF to outline the principles and procedures that would be followed to ensure that implementation of IUFMP meets with the existing Environmental Impact Assessment (EIA) laws in Nigeria and World Bank safeguards policies.

To realize the objectives of this ESMF, the scope of work include the following tasks (See Annex 1 for details).

- Task 1: Environmental screening and scoping;
- Task 2: Environmental policy and regulatory framework;
- Task 3: Potential positive and negative environmental and social impacts;
- Task 4: Analysis of environmental and social mitigation principles;
- Task 5: Development of environmental and social management plan to mitigate negative impacts;
- Task 6: Institutional framework;
- Task 7: Training needs; and
- Task 8: Public consultation.

#### **ES 4: Policy and Regulatory Framework**

There are several National, State and International environmental guidelines and regulations in Nigeria that are applicable to the operations of IUFMP.

In Nigeria, the mandate to enforce all activities that might impact the environment is vested in the Federal Ministry of Environment (FMEnv). The FMEnv has a mandate to co-ordinate environmental protection and conservation of natural resources for sustainable development in Nigeria.

The most relevant legislation of interest for the IUFMP is the *Environmental Impact Assessment (EIA) Act No. 86 of 1992*. The act makes EIA mandatory for any development project, and prescribes the procedures for conducting and reporting EIA studies. It requires that development projects be screened for their potential impact. Based on the screening, a full, partial, or no EIA may be required. This is in tandem with the World Bank Environmental Assessment (EA) requirements for any development projects and her categorization (A, B, & C) of EA types.

In Oyo State, the Oyo State Ministry of Environment and Habitat (MEH) and other relevant MDAs have enabling laws which support the objectives of this ESMF and has the power to enforce all activities that might impact the environment.

The World Bank categorization (A, B, & C) corresponds in principle with the Nigeria EIA requirements of Category (I, II and III), which in actual practice is done with regard to the level of impacts associated with a given project activities. However, in the event of divergence between the World Bank safeguard policies and the Nigeria EA laws, the World Bank Safeguards policies takes precedence over Nigeria EA laws, guidelines and standards. Thus for this ESMF, the Nigeria's EIA requirements and World Bank safeguard policies are aligned to a great extent.

This is made effective with regard to the following:

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

#### **ES 5: Potential Positive and Negative Environmental and Social Impacts**

##### **Potential Positive Impacts**

###### *Positive environmental impacts*

- Prevention of surface and ground water pollution along the flood plains;
- Prevention of soil quality and quantity through improved drainage and flood protection systems;
- Improved management of storm water in urban space in Ibadan city;
- Minimization and control of flooding along Ona River;
- Sustained environmental performance and governance after project implementation; and
- Increased efficiency in the ESIA/ESMP process.

### *Positive social impacts*

- Increased capacity in knowledge, technology and skill through community development programs such as flood early warning system, preparedness and response;
- Improved drainage system through public workforce will mitigate against avoidable flooding conditions and related morbidity;
- Improved lives by solving the problem of flooding in urban areas along the Ona River;;
- Preventive management of consistent floods and mitigation through sanitation and proper drainage as well as integrated development plans;
- Culverts and bridges will allow improved health conditions, health and safety of people, effective sanitation, reducing the mortality and morbidity associated with floods; increasing the resilience of communities at risk of flooding, and the preservation of assets of households and businesses against flood risk;
- Improved safety: Security conditions in flood plains along the Ona River;
- Job creation and: Implementation activities will have a positive impact for the local economy, particularly with regard to job creation (labour for construction works, maintenance and monitoring) and related activities such as petty trading;
- Income generation: Civil works will have some impacts on the local economy, with the use of local SMEs whose project will lead to a high use of labour.

### *Positive health impacts*

- Improved hygiene and the health of populations affected areas due to poor sanitation in flood prone areas, stagnation of water and solid waste runoff;
- Enhanced sanitation, effective solid waste management and disposal in Ibadan city.

## **Positive impacts of proposed sub-projects**

### *Retention ponds*

- Retention basins allow a temporary or permanent storage of storm water, thereby avoiding or reducing the risk of flooding;
- The realization of these protective structures will prevent overflow of runoff and flooding in riparian peripheral areas along Ona River.

### *Storm water drainage works*

- The construction or rehabilitation of drainage networks will prevent water accumulation, reduce soil erosion as well as toxic materials and disease organisms.

Table ES 1 below describes potential negative impacts for the IUFMP.

Table ES 1: Potential Negative Impacts

PHASE: PRE-CONSTRUCTION		
TYPE OF IMPACT	IMPACT SOURCE	POTENTIAL IMPACT
<b>ENVIRONMENTAL</b>		
Site Preparation	Mobilization of equipment, construction activities including; movement of goods and services.	The clearing of natural vegetation and excavation may expose soil surface to erosion and water pollution.
Soil Erosion	Excavation, grading, compaction and filling.	The clearing of natural vegetation, excavation and compaction activities may expose the soil surface to erosion, and will alter the soil properties including loss of valuable top soils. However, the impact is going to be site specific. Soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities.
Water Quality	Channelization of river before dredging and channelization activities.	The mobilization and transport of soil particles may, in turn, result in sedimentation of surface drainage networks, which may result in impacts to the quality of natural water systems and ultimately the biological systems that use these waters; Increased sedimentation and runoff during the construction activities such as in the rehabilitation of culverts and bridges
Flora and Fauna	Mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.	Reduction in the number of species.
Noise and Vibration	Mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.	Damages of structures overtime as a result of vibration caused by the heavy machineries.
<b>SOCIAL</b>		
Land take	Land acquisition from members of the communities before the construction phase.	This impact would be addressed in the RPF which is a standalone report.
Transportation & Traffic	Mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.	Complaints from members of the community; Increased noise and air pollution; Increased roadside hazards and accidents.
Project Affected Persons (PAPs) which include: Affected individuals, Affected Households and Vulnerable households including internally displaced peoples, the elderly and women	Land acquisition, loss of livelihood, resettlement. Refer to RPF	This impact would be addressed in the RPF which is a standalone report.

PHASE: CONSTRUCTION		
TYPE OF IMPACT	IMPACT SOURCE	POTENTIAL IMPACT
<b>ENVIRONMENTAL</b>		
Water Quality	Seepage of fuel from powered machineries; Discharge of effluent from workers in the campsites, construction wastes;	Pollution of water as a result of improper disposal of excavated materials and construction wastes

	Eleyele dam spillway and stilling basin rehabilitation; Removing vegetation to exposed concrete surfaces; Clearing of river channels and drainage structures.	Oxygen depletion; Increased turbidity; Aggravation of eutrophication; Change in pH levels; Increased cases of disease, illnesses (especially waterborne diseases).
Soil quality	Site clearing, earth moving, and excavation activities	Soil pollution as a result of improper disposal of excavated materials and construction wastes; Exposure of soil surfaces to rain and wind; High sediment yields from construction activities;
Air quality	On-site excavation and movement of earth materials, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind; Exhaust from diesel engines of earth moving equipment, as well as from open burning of solid waste on-site.	Pollution caused by the emission of fugitive dust.
Soil Erosion	Excavation, grading, compaction, filling and other civil works; Clearing of natural vegetation;	Exposure the surface soil to erosion will alter the soil properties including loss of valuable top soils; Presence of undercutting in roads; Increased flooding in other areas, which can lead to destruction of lands, crops and properties
Landscape degradation	Construction activities such as grading, dredging and filling of the roads etc.	Increased sedimentation and runoff; Increased local run off and changes in flow pattern
Eco-system	Vegetation clearing in Eleyele dam to expose concrete surface; During cleaning of drainage channels along flood plains	Destruction of animal species breeding grounds and ecological niches; Ecosystem fragmentation
Flora and Fauna	Vegetation clearing in Eleyele dam to expose concrete surface; During cleaning of drainage channels along flood plains	Destruction of animal species breeding grounds and ecological niches; Ecosystem fragmentation
Solid Waste	Construction rubbles, debris and spoils; Excavated materials	Pollution of nearby surface water and soil as a result of improper disposal of excavated materials and construction wastes;
Noise and Vibration	Disturbance to the local communities from noise and vibration of civil works	Damages of structures overtime as a result of the vibration caused by the heavy machineries
<b>SOCIAL</b>		
Risk of social conflict	Civil work activities	Disruption of social and economic lives; Diverse interest and fora of change; Frustrations due to a non-employment of the resident labor and local labor at work
Project Affected Persons (PAPs) related to land acquisition/loss of livelihood which include: Affected individuals, Affected Households and Vulnerable households including internally displaced peoples, the elderly and women	Refer to RPF	This impact would be addressed in the RPF which is a standalone report.
Disruption of activities	Civil work activities. Damages to other infrastructure	Increased congestion resulting in temporary disturbance and interruption of

	Governance. (Corrupt practices)	commercial and social activities; Short-term disruption of certain public services; A collapse of the laws, rules and norms within construction sites; Increased anti-social behaviour.
Vices	Low living standards of members of the host community which will increase likelihood of social vices such as prostitution, robbery, etc	Crime rate and dispute amongst members of the communities. Increased crime rates; Risk of vandalism when unsupervised
Traffic	Transportation of construction materials and equipment Evacuation and clearance of debris, rubbles and spoils	Complaints from members of the community. Increase in noise and air pollution. Increase in roadside hazards and accidents Disruption of movement of community members
Aesthetics	Construction works.	Diminished aesthetic levels
Public Health	Evacuation and clearance of debris, rubbles and spoils	Increased exposure to health and safety risks for the site workers and local residents.
Water-Borne Diseases (e.g. Cholera, Dysentery, <i>Amoebiasis sp.</i> , <i>Salmonellosis sp.</i> etc.)	Poor environmental sanitation habits exhibited by members of the contractor's workforce. Overload of existing sanitation facilities; Poor environmental sanitation habits by members of the contractor's workforce. Movement of solid waste during drainage cleaning.	Increased outbreak of water borne diseases amongst the workforce and the local population; Increased cases of disease vector carrying infections amongst workers and members of the host communities.
Safety at Construction Site	Accidents may occur during the construction phase as a result of increased vehicular movements.	Increase in total number of accidents.
Chance Finds of Cultural Resources	This OP 4.11 policy on physical Cultural Resources is triggered due to: Excavation/earth works and other engineering activities. Construction operations and strong likelihood for chance find of archaeological and historical artifacts	Loss of valuable archaeological and historical artefacts Complaints from members of the community; Risk of damaging cultural property such as monuments, structures, works of art, or sites

		PHASE: OPERATION & MAINTENANCE
TYPE OF IMPACT	IMPACT SOURCE	POTENTIAL IMPACT
<b>ENVIRONMENTAL</b>		
Topography	Construction activities including movement of goods and services.	Scarification of landscape Increase in vehicular accidents
Soil quality	Grading, dredging and filling of the roads etc.	Soil erosion may be caused by exposure of soil surfaces to rain and wind Increased sedimentation and runoff
Water Quality	Local runoff, Wastes (municipal solid wastes, water weed wastes, effluent, hazardous wastes e.t.c)	Changes in pH levels; Turbidity; Change in water colour; Smell.
Air Quality	Increase in vehicular traffics.	Complaints from members of the community; Complaint from local residents on cases of respiratory problems; Increase in particulate matter and dust above the ambient air quality levels.
Eco-system	Clearing of vegetation around river and drainage channels as well as Eleyele dam site.	Ecosystem fragmentation.

Flora and Fauna	During mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.,	Reduction in the number of species.
Solid Waste	Construction rubbles, debris and spoils; Excavated materials.	Pollution of nearby surface water and soil as a result of improper disposal of excavated materials and construction wastes.
<b>SOCIAL</b>		
Transportation & Traffic	Increase in traffic within the roads and access roads of the project.	Increase in traffic in the areas around the sub-projects implementation.
Occupational Health & Safety	Exposure of workers to accidents, working in potential weather extremes, contact with natural hazards such as animals, insects, carnivorous and poisonous plants.	Injury of workers and the public during the operation and maintenance activities.

### Cumulative Environmental and Social Impacts

No long term or cumulative negative 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 projects 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 floods infrastructures may potentially affect other areas of the city 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 interventions and thus limit the risks. In addition, the proposed Strategic Environmental and Social Assessment (SESA) for the project would give priority to assessing cumulative impacts stemming from the proposed project activities.

### ES 6: Mitigation Measures

Mitigation measures are actions taken to enhance and minimize positive and negative environmental and social impacts respectively. Impact mitigation measures proffered in this ESMF are general guidelines for dealing with program and sub-project impacts. In recommending mitigation measures, the following principles have been taken into consideration.

- Design changes;
- Avoidance;
- Preservation;
- Minimization;
- Rehabilitation;
- Restoration;
- Replacement;
- Improvement;
- Development; and
- Diversification.

The application of each mitigation measure will be affected by differences in sub-project types, and environmental and social concerns. Moreover, some measures may be too costly or completely impractical to implement under certain conditions. In pursuing any of the proffered mitigation measures, therefore, it is important that each sub-project component assesses the following:

- Feasibility;
- Ease of implementation;
- Local suitability;
- Institutional requirements;
- Training requirements;
- Monitoring requirements;
- Cost (capital and operating); and
- Cost-effectiveness.

## **ES 7: Analysis of Alternatives**

Alternatives to the IUFMP include the following:

- No action alternative or civil works
- Use of civil works

The “No Action” alternative assumes that there will be no alteration to the existing areas. This would imply that the Eleyele dam site, downstream catchment areas and other targeted flood risk sites would be left in their present states with a real potential for worsening. Specifically, if the flood prone sites are left unimproved, more houses and farmlands will suffer from the recurrent flooding situation, which occurs quite frequently in Ibadan. Damage and loss rates may increase as unimproved flood prone sites will serve as unsuspecting death traps.

Intervention would lead to strengthening Eleyele dam safety, reduction in eroded soil and increased storm water runoff, reduction in the turbidity and silting of nearby rivers and channels as well as restoration of livelihood. Civil works will provide long-term effectiveness for flood management. However the benefits when completed outweigh a “no action” alternative.

## **ES 8: Implementing the ESMF**

This ESMF report incorporates a number of elements into an overall Environmental and Social Management process for the IUFMP and its sub-projects. The process involves distinct steps and associated activities that are linked to delivery of a robust and veritable management framework in line with the stated objectives of the ESMF.

## **ES 9: Project Screening, Scoping and Categorization**

All potential sub-project intervention sites will be screened for Environmental and Social (E&S) impacts prior to approval by the PIU. The Environmental Specialist and Social Development Specialist of the PIU can carry out the screening. The screening process will include a robust assessment of the project to determine:

- The appropriate project categorization EA;
- Applicable World Bank safeguards policies triggered;
- Potential for environmental and social liability; and,
- Cultural or other sensitivities such as archeological artifacts etc.

In addition, each sub-project will be screened to identify relevant stakeholders and the nature and extent of engagement for each stakeholder category. The report of the screening exercise will be sent to the

World Bank for review and approval after project proposal preparation has been completed and initial environmental examination (IEE)/preliminary assessment has been conducted according to the Nigerian EIA Law (decree 86 of 1992).

FME<sub>env</sub> does internal screening (IEE) to determine the project’s category under the mandatory study activities list. Where no negative environmental and social impacts exist, the EIA is issued and the project commences with appropriate mitigation and monitoring measures.

The Environmental Impact Assessment Act No. 86 of 1992 requires that development projects be screened for their potential environmental and social impact. Based on the screening, a full, partial, or no EIA may be required. Guidelines issued in 1995 direct the screening process. According to these guidelines the Nigeria EIA Categories include as shown in Table ES 2 below:

Table ES 2: Nigeria EIA Guidelines

Category		
I	II	III
Projects will require a full Environmental Impact Assessment (EIA) for projects under this category EIA is mandatory according to Decree No. 86. Projects includes large-scale activities such as agriculture (500 hectares or more), airport (2500m or longer airstrip), land reclamation (50 hectares or more), fisheries (land based aquaculture of 50 hectares or more), forestry (50 hectares or more conversion, etc.	Projects may require only a partial EIA, which will focus on mitigation and Environmental planning measures, unless the project is located near an environmentally sensitive area-- in which case a full EIA is required	Projects are considered to have “essentially beneficial impacts” on the environment, for which the Federal Ministry of the Environment will prepare an Environmental Impact Statement.

The client initiates the process in writing to the responsible officer. A notification form is duly completed with all relevant information on the proposal. Using the criteria of:

- Magnitude – The probable severity of each potential environmental and social impact;
- Prevalence/extent and scope – The extent to which the impact may eventually extend as regards the cumulative impacts;
- Duration and frequency – The length of time the activity/project will take (short term or long term);
- Risks – The probability of serious environmental impacts;
- Significance/importance – The value that is attached to a specified area in its present state; and
- Mitigation – measures available for associated and potential environmental impacts.

Following the screening and scoping process, the terms of reference (ToR) and the reports of the Environmental and Social Impact Assessments (ESIAs)/ Environmental and Social Management Plans (ESMPs) will be sent to the World Bank for review and approval prior to disclosure in Nigeria and at World Bank Info-Shop.

## ES 10: Description of subsequent safeguard instruments (ESIAs/ESMPs/SESA)

### Environmental and Social Impact Assessment (ESIAs)

The ESIA will identify and evaluate potential environmental and social impacts that IUFMP sub-projects activities may pose especially with activities at Eleyele dam. The preparation of the ESIA will be done in consultation with stakeholders, including PAPs. Public consultations are critical in preparing proposals for sub-project activities likely to have impacts on the environment and populations within the project site.

The public consultations should identify key issues and determine how concerns of all stakeholders will be addressed in the ESIA.

### **Environmental and Social Management Plans (ESMPs)**

The IUFMP and all sub-projects will include the preparation of ESMPs to address and achieve health, safety, and environmental regulatory compliance objectives, institutional responsibilities (e.g., World Bank), and other related commitments. An ESMP is an important element of the IUFMP overall Environmental and Social Management strategy to ensure environmental, social, and health performance of the entire program and sub-projects.

The ESMPs will identify and evaluate potential environmental and social impacts that IUFMP sub-projects activities may pose downstream i. e rehabilitation of flood management infrastructure.

At this stage, it is expected that the PIU submits an Environmental and Social Screening Checklist (ESSC) issues of the project will be addressed on a continuous basis. The ESMP is required all through the implementation stage of the project or sub-project.

### **Strategic Environmental and Social Assessment (SESA)**

A Strategic Environmental and Social Assessment (SESA) for the project would give priority to assessing cumulative impacts stemming from the proposed project activities. In addition, a SESA will be prepared early during project implementation in order to inform local, state and national authorities about the meso scale environmental and social implications of the proposed operation with a medium to long term horizon. The participatory approach with concerned stakeholder and in particular with locally affected people through extensive information, awareness and participation will further increase the likelihood of sustainable outcomes.

### **ES 11: Capacity Building and Training**

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

- Limited knowledge on Disaster Risk Reduction;
- Lack of enforcement of development control regulations;
- Limited knowledge on EIAs and Environmental and Social Audits during construction/rehabilitation of drainages and culverts;
- Limited knowledge on Strategic Environmental and Social Assessment;
- Limited monitoring of water quality, river flow and lack of systemic hydrologic data collection;
- Limited technical capacity on solid waste management; and
- Limited capacity at LGA level on waste collection.

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 state level MDAs – Oyo State Ministry of Environment and Habitat, Oyo State Ministry of Physical and Urban Planning, Oyo State Ministry of Works and Transport, Oyo State Ministry of Water Resources, Oyo State Ministry of Health, Oyo State Emergency Mangement Agency, Oyo State Waste Management Authority, LGAs and community levels

including the PIU and contractors. 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.

## ES 12: Stakeholder 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 IUFMP and the EA process. Table ES 3 below is a summary of the stakeholder consultation.

Table ES 3: Summary of the stakeholder consultation

State	Summary of concerns/comments
Oyo State Ministry of Physical Planning and UD	<ul style="list-style-type: none"> <li>▪ Responsible for building regulations;</li> <li>▪ Immediate cause of flood was identified with task forces in zonal planning offices</li> <li>▪ Landscape design/plan for major streams and river courses to prevent encroachment along the water shed is being undertaken;</li> <li>▪ River setback standards are under review with a committee set up.</li> <li>▪ Training and awareness programmes are required to make people aware about the various aspects related to the Ona River catchment and Eleyele dam.</li> </ul>
Oyo State Ministry of Environment and Habitat	<ul style="list-style-type: none"> <li>▪ Proper systems should be developed to maintain regulated release of water from the Eleyele dam which can minimize flooding of areas located on the downstream;</li> <li>▪ Catchment area management plan needs to be developed to stop the degradation along Ona River;</li> <li>▪ Most of the catchment of Eleyele dam is forested area, hence comes under jurisdiction of the Forestry Department. Interdepartmental co-ordination is necessary to built up with the forest department for catchment treatment. The work force available with that department, in the form of Forest Protection Committee, may be used in catchment management;</li> </ul>
Oyo State Ministry of Works and Transport	<ul style="list-style-type: none"> <li>▪ Intervened by rehabilitating damaged roads and hydraulic structures across river crossings.</li> <li>▪ Have no knowledge of any shrine, cemetery or sacred forest or historical monuments within the areas of intervention but this should be verified with community heads.</li> <li>▪ They have been carried along at every stage of preparation and have been making contributions;</li> <li>▪ Optimistic that the project will succeed.</li> </ul>
Oyo State Ministry of Water Resources	<ul style="list-style-type: none"> <li>▪ Dams are under the auspices of the ministry</li> <li>▪ Government was able to clean the river channels around the state;</li> <li>▪ Government is in the process of rehabilitating the intake valves in Eleyele dam and mapping of structures along flood plains;</li> <li>▪ Government put up jingles conveying warnings about flood risks;</li> <li>▪ Government proposed establishing river gauges in some rivers; Ogun/Osun river along Ona has been made available.</li> <li>▪ The holding capacity of Eleyele dam has greatly reduced caused by siltation;</li> <li>▪ Intake structures and controls are not functioning;</li> <li>▪ Wing walls/retaining walls in the spillway of Eleyele dam have cracks and not in order.</li> <li>▪ Channel downstream in some areas which is 25m has been reduced to 5m;</li> <li>▪ Living trees have fallen reducing the natural flow of water;</li> </ul>

<p>Oyo State Ministry of Lands Housing and Survey</p>	<ul style="list-style-type: none"> <li>▪ The Eleeye dam needs to be desilted.</li> <li>▪ Catchment area around Eleyele dam is under the Department of forestry, Ministry of Agriculture as well as Water Cooperation.</li> <li>▪ Government acquired 200m as set back to the dam but not adequately followed up by enforcement;</li> <li>▪ Buildings and business owners had their structures marked for demolition.</li> <li>▪ Temporary Occupational Licences were given to persons living in flood plain zones but quit notices were served in 2011.</li> <li>▪ Synergy with other line MDAs is low</li> <li>▪ Solid waste if not disposed properly with good drainages created, the project will be wasting money;</li> <li>▪ There is need for <u>proper education on solid waste collection and disposal</u>,</li> </ul>
<p>Oyo State Emergency Management Agency</p>	<ul style="list-style-type: none"> <li>▪ Structural efforts by the Oyo State Government include: the cleaning of drains; desilting of streams and channels; weekly environmental exercise.</li> <li>▪ Non-structural efforts include: Running of jingles on radio and TV, sensitization and advocacy across the state, strengthening local emergency management committees (LEMC) to mainstream DRM in development activities, making available funds from local governments to LEMCs, strengthening six Committee Emergency Response Team (CERT) which include Saki, Ibadan, Ogbomoso, Oyo etc vulnerability assessment and Oyo State stakeholder platform on emergency management which include civil defence, police, army, Red Cross, faith based organisations, NGOs/CBOs to brainstorm on disaster preparedness.</li> <li>▪ There is a need to make the Nigerian Army involved through their Disaster Reduction Unit (DRU);</li> <li>▪ Responsibilities for MDAs should be synergized;</li> <li>▪ Activities within the IUFMP should be prompt but political instability may deter continuity.</li> <li>▪ Raised concerns about sub-standard project by the Oyo State Government and town planning irregularities.</li> </ul>
<p>Oyo State Ministry of Health</p>	<ul style="list-style-type: none"> <li>▪ Intervened through Community sensitization, treatment of IDPs and disease surveillance</li> <li>▪ The debris in Eleyele dam is high and the dam can retain little water;</li> <li>▪ Expressed hopes on the channelization downstream which should be wide enough to accommodate volume of water passage;</li> <li>▪ Buffer zone around Eleyele Dam should be maintained by planting trees for excess water to be absorbed;</li> <li>▪ Laws should be enforced to regulate people and activities encroaching on flood plains;</li> <li>▪ <u>Oyo State has a high rate of Cholera and Gastroenteritis due to improper solid waste management.</u></li> </ul>
<p>Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation</p>	<ul style="list-style-type: none"> <li>▪ Interventions by the Oyo State Government include: Government has removed structures along the flood plains, social workers alongside SEMA intervened with relief materials after the flood, followed up in monitoring evacuation of people from the flood plains is ongoing, some bridges are being rehabilitated/reconstructed, donors like Aliko Dangote have been very helpful.</li> <li>▪ Sensitization was carried out but was not targeted towards flooding;</li> <li>▪ Residents on the flood plain have to be evacuated through collaboration between Government and community leaders.</li> <li>▪ Drainages are blocked due to improper solid waste disposal;</li> <li>▪ There should be a participatory approach involving stakeholders for project sustainability;</li> </ul>
<p>Federal Ministry of Environment, Oyo State</p>	<ul style="list-style-type: none"> <li>▪ A good desk review of the NEWMAP and synergy with the flood management project will be required;</li> <li>▪ Forests offer a lot of control to floods with watershed improvement through plantation establishment;</li> <li>▪ Government should be aware of green issues and not only on brown issues;</li> <li>▪ The Ibadan Sustainable Project document should be reviewed;</li> <li>▪ Oyo State has no problem with compliance or enforcement related to people occupying flood prone areas</li> <li>▪ Expressed surprise over new construction and clearing of forests by Government in flood prone areas i.e (downhill premier hotel opposite Ogunpa retention pond).</li> <li>▪ Called for Government to replant with tress the fragile ecosystem</li> </ul>
<p>NESREA, Oyo State</p>	<ul style="list-style-type: none"> <li>▪ All stakeholders should have a common understanding about the issues of the environment;</li> <li>▪ Inadequate collection and disposal of solid waste as well as structures erected on flood prone areas constituted the major causes of flood effects.</li> <li>▪ NESREA has started an enlightenment program on waste management.</li> <li>▪ Attitudinal change and strong political will is key to the success of the project.</li> </ul>
<p>Oyo State Waste Management</p>	<ul style="list-style-type: none"> <li>▪ Every Thursday and on the last Saturday of the month, the Government made it mandatory between 8-10 am to collect and dispose of solid waste at no cost.</li> </ul>

<p>Authority</p>	<ul style="list-style-type: none"> <li>▪ A record of solid waste collected for each month is complied.</li> <li>▪ Yes-O Cadet are supervised by Environmental Health Officer who assist with waste disposal monitoring;</li> <li>▪ There has been trainings and enlightenment through the mass media as well as meetings with market women on solid waste management.</li> </ul>
<p>General Stakeholders Consultation which includes: PIU IUFMP; Oyo State Ministry of Physical Planning and UD, Environment and Habitat, Works and Transport, Water Resources, Lands Housing and Survey, Oyo State Ministry of Health, Women Affairs, Community Development, Social Welfare and Poverty Alleviation Oyo State Waste Management Authority, Emergency Management Agency; Federal Ministry of Environment, Oyo State; NESREA, Oyo State; NGOS; and CBO's/CDA's;</p>	<p><u>Community Commitment and Government Interventions:</u></p> <ul style="list-style-type: none"> <li>▪ Engr. Magregore spends about 300,000-500,000 Naira to desilt, clean drains and evacuate solid waste around the living areas of Eleyele dam;</li> <li>▪ Some rivers were channelized after the 2011 floods; standard drainages were constructed; road constructions follow best practice designs;</li> <li>▪ Shanty buildings/developments have been demolished thereby allowing free flow of storm water and reducing risk tendencies;</li> <li>▪ Emergency sanitation exercise especially in the Iwo road axis has improved; The restoration bridge in Bodija is laudable; There was dredging of rivers along Ona.</li> <li>▪ Eleyele dam has been visited and mapping has been done; GIS students were engaged to carry out mapping of all streams in Ibadan; Government is willing.</li> </ul> <p><u>Concerns and recommendations</u></p> <ul style="list-style-type: none"> <li>▪ Appeal to the Government to dredge the Eleyele dam and protect the dam walls and channels using concrete;</li> <li>▪ Service contractors who operate around Eleyele to collect solid waste take off after a few months;</li> <li>▪ It is important to ensure that solid waste is collected and a policy for upper class citizens taking care of the solid waste of low class citizens.</li> <li>▪ It is better to collect/dispose waste at the household level rather than the middle of the main roads;</li> <li>▪ Policies should be people driven, technocrats should be given hearing;</li> <li>▪ Eleyele dam has never been rehabilitated. There should be routine maintenance and a limit to design years;</li> <li>▪ Proper systems should be developed to maintain regulated release of water from the dam which can minimize flooding of areas located on the downstream;</li> <li>▪ Land tenure system/law has not given directives to land owners to the setbacks from the roads; There is no law to compel land owner for space for markets, garage</li> <li>▪ No intervention has been carried out after demolition of houses and moving of individual from the flood plains; there is no enforcement of law on people Constructing is on-going on flood plains; There should be an arrangement to put solid waste into use such as the waste to wealth initiative; Environmental clubs in secondary schools should be trained.</li> <li>▪ Environmental education needs to be taken into cognizance to educate the masses/youth on environmental issues.</li> <li>▪ Nothing was done in terms of the needs of the children; SEMA has been written but no support.</li> <li>▪ There is injustice in displaced areas especially in Oremeji area; The problem of effective implementation should not be affected by lack of political will; mistakes during projects made in the past should guide policy implementation and interpretation.</li> <li>▪ A careful consideration towards implementing activities in component 1 and 2 should be noted as these are entirely massive projects on its own.</li> <li>▪ The project should plan for prevention and not for solutions; Early warning systems is important.</li> <li>▪ Vulnerable groups such as women and children should be extremely considered in all facets of disaster risk reduction; Reduce, Reuse and Recycle of solid waste should be taken into consideration.</li> </ul>

### ES 13: 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 PIU costing.

Table ES 4 below shows an indicative budget breakdown and responsibility of the cost for implementing the due diligence in the project. The total cost for implementing the ESMF is estimated at **Three Hundred and Ninety Four Thousand Six Hundred and Twenty Five US Dollars only (\$394,625)**

Table ES 4: Summary of indicative budget breakdown and responsibility of the cost for implementing the ESMF Instruments

Item	Responsibility	Cost Breakdown	Cost Estimate in Nigerian Naira (N)	Cost Estimate in Us Dollars (US\$)
Mitigation	PIU, Ministry of Environment and Habitat		45,920,000	287,000
Management	PIU , Ministry of Environment and Habitat	5% of Mitigation Cost	2,296,000	14,350
Capacity Building	PIU, Ministry of Environment and Habitat / Relevant MDAs	10% of Mitigation Cost	4,592,000	28,700
Monitoring	PIU, Ministry of Environment and Habitat	10% of Mitigation Cost	4,592,000	28,700
Sub- Total			57,400,000	358,750
Contingency		10% of Sub- Total	5,740,000	35,875
<b>Total</b>			<b>63,140,000</b>	<b>394,625</b>

#### ES 14: Disclosures of Safeguard Instruments

The ESMF has been prepared in consultation with the PIU, relevant state MDAs, CBOs/NGOs and some community groups. Copies of this ESMF, like other safeguard instruments (such as ESIA/ESMP/SESA) that would be prepared for IUFMP and its sub-projects will be made available to the public by the PIU.

The PIU will disclose the ESMF as required by the Nigeria EIA public notice and review procedures as well as the World Bank Disclosure Policy at the World Bank Infoshop. Copies of other safeguards instruments (such as ESIA/ESMP/SESA) should be disclosed in like manner. Table ES 5 below outlines documents to be disclosed.

Table ES 5: Typical safeguards documents to be disclosed

Topic	Documents to be disclosed	Frequency	Media
Public Consultation	Minutes of Formal Public Consultation Meetings	Within two weeks of Meeting	Oyo State Ministry of Environment and Habitat; Project Implementation Unit (PIU); Local government Secretariat; Oyo State website..
Environment Management	ESMF, Environment and Social Assessment (ESIAs);  Report & Environment and Social Management Plans (ESMPs);	Prior to awarding works and to remain on website	Oyo State Ministry of Environment and Habitat; Oyo State Ministry of Physical and Urban Planning, Oyo State Ministry of Works and Transport, Oyo State Ministry of Water Resources, Oyo State Ministry of Health, Oyo State Emergency Mangement Agency, Oyo State Waste Management Authority Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation

	Strategic Environmental and Social Assessment (SESA.)		Project Implementation Unit (PIU); Local government Secretariat; Oyo State website; World Bank Infoshop.
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## 1.0 INTRODUCTION

### 1.1 Background to the IUFMP

Severe flood events are increasingly affecting major urban centers such as Ibadan—where people and economic activities are concentrated. Nigeria has been affected by several extreme flood events in recent years. These have resulted in severe devastation and economic damages. The 2012 floods alone resulted in an estimated US\$16.9 billion<sup>1</sup> in damages with impacts across priority sectors such as housing, agriculture, commerce, oil and education. Climate change, although uncertain, is also likely to increase frequency and magnitude of natural disasters such as flooding.<sup>2</sup>

To sustain the rapid pace of economic growth and support Nigeria's vision of becoming one of the World's 20 largest economies by 2020<sup>3</sup>, Nigeria will have to ensure flood risk is managed sustainably in a way that promotes the safety and resilience of urban areas (housing the majority of current and future economic investments) and healthy ecosystems. Some of the challenges in reducing and mitigating flood risks are related with inadequate flood control infrastructure and management practice, risk insensitive land use planning, aging or weak dams, lack of flood risk awareness, inadequate solid waste, sewage, and surface water drainage services.

Ibadan, the capital city of Oyo State and the third largest metropolitan area in Nigeria, after Lagos and Kano, is highly exposed to flooding. The city has a population of 3 million<sup>4</sup> and a growth rate of 3.4% (City of Ibadan, 2013). It is the largest metropolitan geographical area in West Africa (1,190 sq mi or 3,080 km<sup>2</sup>) with a highly built up and dense population. The city is frequently exposed to floods. Notable of these events, was the Ogunpa disaster of year 1980 which was recorded to have resulted in a death toll of 500 people. The latest flood event took place after a downpour rainfall of 187.5 mm (about 7.38") occurred in about 4-5 hours on August 26, 2011, induced by the overflow from Eleyele reservoir causing the death of more than 120 people and serious damages to infrastructure (many bridges collapsed, roads washed away, and substantial property loss) (Government's Task Force Report, November 2011). Based on government assessments after the floods the following impacts of the flood disaster have been highlighted: (i) the housing sector suffered the biggest impact with about 2100 homes partially or severely affected, estimated to approximately Naira 2 billion (US\$12.5 million equivalent); (ii) the agriculture sector experienced damages to hardware, infrastructure, fish and food stocks (losses included the actual year's production) estimated at over Naira 300 million (US\$1.9 million equivalent); and (iii) substantial damages occurred to the transport sector, particularly bridges and culverts, estimated to have cost more than Naira 4 billion (US\$25 million equivalent). The water sector, including Eleyele dam, experienced substantial damages and losses.

Recognizing the need for an integrated and long term solution to flooding in the city, the Oyo State Government has requested the World Bank's support to finance a flood management project in Ibadan. So far, the responses to the past flooding events have been piecemeal; mainly focusing on alleviating immediate and short-term needs such as rebuilding of destroyed assets. However, in line with the global focus on disaster prevention following Hyogo Framework of Action, the Oyo State Government has realized the importance of moving from merely responding to pro-actively managing and preventing flood

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<sup>1</sup> Nigeria Post Disaster Needs Assessment 2012 Floods, May 2013, Government of Nigeria. A weighted exchange rate of 160 Naira per US Dollar was adopted.

<sup>2</sup>The World Bank, "Nigeria: Enhancing the resilience of development to climate change" Report No. 69027, November 2012

<sup>3</sup> Nigeria Vision 20: 2020

<sup>4</sup> Estimated on the basis of 2006 census; However, the City of Ibadan estimates the population close to 5 million; Starting as a war camp, the city grew from 60,000 in 1856 to 1,228, 663 in 1991(source: Population Census of Nigeria).

risk in the city. The Global Facility for Disaster Reduction and Recovery (GFDRR)'s support following 2011 floods, primarily a small training and awareness exercise, also recommended the need for urban flood risk assessment and an urban flood risk management program. Building on these recommendations, the Government of Nigeria and Oyo State Government requested the World Bank's support to finance a flood management project in Ibadan.

A preliminary assessment by the World Bank and State Government team identified multiple and interconnected reasons which contribute to the growing challenge of flooding in Ibadan. As a response to the Government's request, the World Bank constituted a team of experts to work with the city stakeholders to assess the causes of flooding and the associated impacts. A preliminary flood risk assessment was carried out based upon field visits and discussions with local officials and community leader and supported by an initial broad scale hydrological and hydraulic analysis. The assessment identified a complex combination of different factors: (i) prolonged and torrential rainfall, (ii) a landscape typified by small rounded hills and relatively flat bottomed valleys, (iii) a highly interconnected drainage network, and (iv) a dense urban development, which inevitably creates significant flood risk in the city. More specifically, the initial investigations highlighted the following main drivers of flood risk within the city.

## 1.2 Main Drivers of Flood Risk in Ibadan

- *Rapid and uncontrolled runoff from the built environment* (in particular the large expanses of impermeable tin roofs, characteristic of Ibadan, and the hard packed soils, contribute to a rapid runoff response)
- *Deforestation and loss of vegetation in the upper parts of the catchment* (resulting in greater run-off rates and volumes).
- *Poorly controlled development in the natural floodplain* (placing property and life in danger, and reducing the effectiveness of the floodplain as a natural flood storage area and conveyance).
- *Inadequate and poorly maintained road ways and watercourse crossings* (numerous small watercourses intersect the city and are typically crossed by low bridges or carried by culverts. These structures are prone to scour leading to collapse. Unsurfaced, or poorly surfaced, road ways soon become unpassable during the floods).
- *The lack of effective debris management within the City means high levels of debris (man-made and natural) are readily recruited by flood flows leading to blockages of the culverts and bridges* (causing significant local flooding and severely reducing the capacity of the channel to convey flood flows).
- *Inadequate surface drainage throughout the City* (forcing the majority of rainfall to be carried as overland flow, the formation of deep rills and gullies on the steeper slopes, exacerbating the rapid run-off and contributing to severe soil erosion).
- *Limited community awareness of the risks associated with flooding and how to respond.*
- *Lack of formal emergency response capability* (both at government level with limited civil contingency planning and at a local, with limited community resilience means that response to flood events is difficult to coordinate and actions taken are not as effective in reducing impacts as they could be).
- *Lack of flood forecasting and warning capability* (a lack of technical infrastructure and clarity of ministerial responsibility and organizational structure means little warning is given regarding the onset of flooding and how best to minimize impacts).
- *The Eleyele Dam on the River Ona (just upstream of the city) designed as a water resources reservoir (although not heavily silted) is in an uncertain structural condition and requires improvement to ensure safety.*

### 1.3 Purpose of the Environmental and Social Management Framework (ESMF)

The purpose of the ESMF is to assess the potential environmental and social impact of the IUFMP with an emphasis on proposed activities related to (i) *Priority urban drainage infrastructure improvements* involving the rehabilitation of priority infrastructure in thirteen (13) identified sites, including rehabilitation of culverts, drains, roads and floodplain management activities in secondary and tertiary sub-catchments; and (ii) *Enhancing flood resilience of critical public assets* such as hospitals, airport, public buildings, including ensuring access/egress and functionality. Other aspects include structural measures for dam safety, including the rehabilitation of the damaged spillway and stilling basin to improve dam safety at Eleyele dam etc.

The framework will provide guidelines for assessing the environmental, socio-economic, and health impacts of the project, as well as recommending appropriate mitigation measures and monitoring plans.

### 1.4 Objectives of the ESMF

The objective of the ESMF is to enable support for effective decision making in order to ensure that implementation processes during the execution of sub-project activities such as; construction, expansion, upgrading and rehabilitation works are undertaken in an environmentally sound and sustainable manner, encourage stakeholder consultation and participation and enhance social wellbeing. Specifically, this ESMF seeks to provide a clear process including action plans to integrate environmental and social considerations into the IUFMP.

The specific objectives of the ESMF are to:

- Provide a structure/strategy for the integration of social and environmental consideration into all stages of the program planning, design, execution and operation of various sub-projects;
- Identify potential environmental and social Nigeria's policies, legislation, regulatory and administrative frameworks in conjunction with the World Bank's safeguard policies. Where gaps exist between these policies, make recommendations to bridge the gaps in the context of the proposed project;
- Establish clear procedures and methodologies for incorporating environmental and social management requirements including stake holder engagement in the implementation of all sub-projects;
- Develop a comprehensive baseline for the project, including a review of the biophysical and socio-economic characteristics of the environment to be covered by the project, highlighting the major constraints that need to be taken into account in the course of the project implementation-
- Assess the potential environmental and social impacts (positive and negative) of the different project components, including, constructions of channels , drains, bridges as well as strengthening Eleyele dam safety including damaged spillway and stilling basins and recommend appropriate mitigation measures and plans to reduce or mitigate negative environmental and social impacts and enhance the positive impacts of the project;
- Develop a proposed Environmental and Social management plan for the project as a whole (understanding that site specific activities may require site specific plans). The ESMF should recommend feasible and cost-effective measures to prevent or reduce significant impacts to acceptable levels, estimate the impacts and costs of those measures. Institutional responsibility for mitigation and monitoring should be clearly specified and articulated;
- Assess the current institutional ability at the community, local and state levels to implement the recommendations of the ESMF and make appropriate capacity strengthening recommendations;

- Develop an environmental and social screening process, including monitoring indicators for future rehabilitation and construction activities referred to above, capturing the below mentioned steps: Screening of physical infrastructure investments; Assigning the appropriate environmental categories; Outline steps for carrying out environmental work, i.e. preparation of Environmental and social checklist; Draft terms of reference to facilitate preparation of separate Environmental and Social Impact Assessment (ESIAs) during project implementation;
- Establish clear directives and methodologies for the preparation of Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs) as might be needed for specific sub-projects
- Develop an outline review and approval process for the screening results and as necessary for separate ESIA reports; and
- Develop an outline appropriate mitigation measures as well as a monitoring framework with key indicators for envisioned activities; describe relevant institutions in charge of monitoring and their capacity strengthening measures;

With regard to the ESMF, in seeking to implement the IUFMP, the Oyo State Government intends to take into cognisance relevant state-owned laws, where the project will be executed and as well comply with all state, national and international environmental requirements in order to meet legal obligations and to ensure a sustainable project.

The PIU will disclose the ESMF as required by the Nigeria EIA public notice and review procedures as well as the World Bank Disclosure Policy at the World Bank Infoshop.

## **1.5 Justification for Environmental and Social Safeguard Study**

IUFMP has been classified as Category “A” project implying that the expected environmental and social impacts are sensitive, diverse, and unprecedented, felt beyond the immediate project environment and is potentially irreversible over the long term. Such projects require full Environmental Assessment (EA). The EA instruments for a Category “A” project usually:

- examines the project’s potential positive and negative environmental and social impacts;
- recommends measures to prevent, minimize, mitigate, or compensate for negative impacts; and
- recommends measures to improve environmental performance.

The rationale for preparing this ESMF is as follows:

- The detailed operational activities/civil works of the IUFMP are yet to be carried out;
- The bulk detailed project activities to be financed under the IUFMP are yet to be identified;
- The specific sites for each sub-project activities pertaining to IUFMP are not known.

This document did not attempt to address environmental and social impacts related to individual sites in the study area. However, issues on ways of integrating and management of environmental and social aspects of the sub-project activities at all stages of the project planning, design, execution and operation of the entire IUFMP were established.

This ESMF will be shared with the various relevant stakeholders in the sectors of sub-projects and it should form the principles and procedures that will govern the mitigation of negative environmental and social impacts that would be apparent by the proposed IUFMP activities.

## 1.6 Application of the ESMF

The application of the ESMF to the sub-projects enables preparation of a standardized environmental and social assessment documents for appraisal and implementation. For sub-projects that will trigger significant environmental / social impacts it will be necessary to undertake 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. The criteria established shall enable the identification of such projects.

## 1.7 Study Approach and Methodology

This ESMF was prepared in accordance with standard procedures for environmental assessment including the applicable World Bank safeguard policies and Nigerian environmental assessment guidelines.

### 1.7.1 Project Strategy

The preparation of the ESMF was for a period of 10 weeks - within which the tasks as stated in the Terms of Reference (TOR) were accomplished. The indicative work plan, desktop study, scoping activities to understand the projects field of influence, onsite visit to Ibadan, mapping, review of the existing state laws and polices currently in place at each level of government as well as relevant World Bank policies and processes constituted activities for successful project output.

Below is a brief description of activities performed in the implementation process of the methodology.

### 1.7.2 Literature Review

The approach was based on review of available literature and other strategic planning documents at the national and state level (See Annex 3). Documents consulted in the process of preparing the ESMF study include:

- Federal and state environmental laws regulations, decrees, acts, policies and guidelines;
- Draft Project Concept Notes (PCN);
- World Bank Safeguards Policies;
- Baseline information relating to the physical, biological and socio-cultural environment of Ibadan, Oyo State;
- FME<sub>Env</sub> Environmental Impact Assessment Act (Decree No. 86). 1992;
- International Financial Corporation, Environmental, Health and Safety Guidelines;
- Existing published and unpublished papers and research on the project area such as:
  - Report on the 26th of August 2011 flood in Ibadan;
  - The World Health Organization's submission to the World Commission on Dams (WCD);
  - Babatunde, S. *et al.*, (2012). The August 2011 Flood in Ibadan, Nigeria: Anthropogenic: Causes and consequences; and
  - Ajayi, O. (2012). Flood Management in an Urban Setting: A Case Study of Ibadan Metropolis
- ESMF's prepared by other World Bank projects in Nigeria and other parts of the world e.g. Nigeria Erosion Watershed Management Project (NEWMAP) Lagos Metropolitan Development Governance Project (LMDGP), Senegal Storm Water and Climate Change Adaptation Project.

### **1.7.3 Data Gathering**

Data on the details of the environmental management policies and regulations were sourced from different institutions, including the Oyo State Ministry of Environment and Habitat Oyo State Ministry of Physical and Urban Planning, Oyo State Ministry of Works and Transport, Oyo State Ministry of Water Resources, Oyo State Ministry of Health, Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation, Oyo State Emergency Mangement Agency, Oyo State Waste Management Authority. Information gathered was reviewed to obtain detailed descriptive, qualitative and quantitative data on the physical environmental, sociological, and economic laws, regulations, standards, and policies relating to the project.

In addition, environmental and social screening and scoping of the project's field of influence and activities were undertaken in line with the Federal Ministry of Environment guidelines and the World Bank.

### **1.7.4 Field Visits**

This activity involved:

- Visits to the priority flood risk sites and assessment which include Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West and Akinyele, Egbeda, Ido, Local Government Areas (LGAs);
- Potential Environmental and Social Impacts Identification and Prediction; and
- Oral interviews, use of questionnaires and focused group discussions.

Field survey and visits were undertaken in Ibadan, Oyo state especially in flood risk areas as well as at Eleyele dam. Discussions were held with officials of the PIU and relevant state MDAs for the purpose of eliciting baseline data of the proposed project.

Issues covered during the field visits include:

- Knowledge of flooded areas and potential project activities;
- Knowledge of specific sub- projects to be carried out under the project components;
- Necessary state laws/edicts that affects proposed project;
- Environmental responsibility and capacity of the Oyo State Ministry of Environment and Habitat;
- Ecological issues facing Ibadan, Oyo State, especially the proposed project areas; and
- Public awareness of the project and stakeholder consultation

### **1.7.5 Stakeholder consultations**

This step involved intensive stakeholder / public involvement and participation. The issues discussed with focus groups include:

- Land degradation & land use;
- Water pollution and drainage systems;
- Solid waste management;
- Waste Water Management;
- Floods;
- Anthropogenic activities;
- Labour issues and socio-economics;
- Public Health (Especially HIV/AIDs; Water-borne diseases & Cholerias; STIs; Malaria; etc).

Table 1 below outlines a summary of stakeholder consultation carried out during the field visits. Full details are described in annex 17.

Table 1: Summary of stakeholder consultation

State	Summary of concerns/comments
Oyo State Ministry of Physical Planning and UD	<ul style="list-style-type: none"> <li>▪ Responsible for building regulations;</li> <li>▪ Immediate cause of flood was identified with task forces in zonal planning offices</li> <li>▪ Landscape design/plan for major streams and river courses to prevent encroachment along the water shed is being undertaken;</li> <li>▪ River setback standards are under review with a committee set up.</li> <li>▪ Training and awareness programmes are required to make people aware about the various aspects related to the Ona River catchment and Eleyele dam.</li> </ul>
Oyo State Ministry of Environment and Habitat	<ul style="list-style-type: none"> <li>▪ Proper systems should be developed to maintain regulated release of water from the Eleyele dam which can minimize flooding of areas located on the downstream;</li> <li>▪ Catchment area management plan needs to be developed to stop the degradation along Ona River;</li> <li>▪ Most of the catchment of Eleyele dam is forested area, hence comes under jurisdiction of the Forestry Department. Interdepartmental co-ordination is necessary to built up with the forest department for catchment treatment. The work force available with that department, in the form of Forest Protection Committee, may be used in catchment management;</li> </ul>
Oyo State Ministry of Works and Transport	<ul style="list-style-type: none"> <li>▪ Intervened by rehabilitating damaged roads and hydraulic structures across river crossings.</li> <li>▪ Have no knowledge of any shrine, cemetery or sacred forest or historical monuments within the areas of intervention but this should be verified with community heads.</li> <li>▪ They have been carried along at every stage of preparation and have been making contributions;</li> <li>▪ Optimistic that the project will succeed.</li> </ul>
Oyo State Ministry of Water Resources	<ul style="list-style-type: none"> <li>▪ Dams are under the auspices of the ministry</li> <li>▪ Government was able to clean the river channels around the state;</li> <li>▪ Government is in the process of rehabilitating the intake valves in Eleyele dam and mapping of structures along flood plains;</li> <li>▪ Government put up jingles conveying warnings about flood risks;</li> <li>▪ Government proposed establishing river gauges in some rivers; Ogun/Osun river along Ona has been made available.</li> <li>▪ The holding capacity of Eleyele dam has greatly reduced caused by siltation;</li> <li>▪ Intake structures and controls are not functioning;</li> <li>▪ Wing walls/retaining walls in the spillway of Eleyele dam have cracks and not in order.</li> <li>▪ Channel downstream in some areas which is 25m has been reduced to 5m;</li> <li>▪ Living trees have fallen reducing the natural flow of water;</li> <li>▪ The Eleyele dam needs to be desilted.</li> </ul>
Oyo State Ministry of Lands Housing and Survey	<ul style="list-style-type: none"> <li>▪ Catchment area around Eleyele dam is under the Department of forestry, Ministry of Agriculture as well as Water Cooperation.</li> <li>▪ Government acquired 200m as set back to the dam but not adequately followed up by enforcement;</li> <li>▪ Buildings and business owners had their structures marked for demolition.</li> <li>▪ Temporary Occupational Licences were given to persons living in flood plain zones but quit notices were served in 2011.</li> <li>▪ Synergy with other line MDAs is low</li> <li>▪ Solid waste if not disposed properly with good drainages created, the project will be wasting money;</li> <li>▪ There is need for proper education on solid waste collection and disposal,</li> </ul>
Oyo State Emergency Management Agency	<ul style="list-style-type: none"> <li>▪ Structural efforts by the Oyo State Government include: the cleaning of drains; desilting of streams and channels; weekly environmental exercise.</li> <li>▪ Non-structural efforts include: Running of jingles on radio and TV, sensitization and advocacy across the state, strengthening local emergency management committees (LEMC) to mainstream DRM in development activities, making available funds from local governments to LEMCs, strengthening six Committee Emergency Response Team (CERT) which include Saki, Ibadan, Ogbomoso, Oyo etc vulnerability assessment and Oyo State stakeholder platform on emergency management which include civil defence, police, army, Red Cross, faith based organisations, NGOs/CBOs to brainstorm on</li> </ul>

	<p>disaster preparedness.</p> <ul style="list-style-type: none"> <li>▪ There is a need to make the Nigerian Army involved through their Disaster Reduction Unit (DRU);</li> <li>▪ Responsibilities for MDAs should be synergized;</li> <li>▪ Activities within the IUFMP should be prompt but political instability may deter continuity.</li> <li>▪ Raised concerns about sub-standard project by the Oyo State Government and town planning irregularities.</li> </ul>
Oyo State Ministry of Health	<ul style="list-style-type: none"> <li>▪ Intervened through Community sensitization, treatment of IDPs and disease surveillance</li> <li>▪ The debris in Eleyele dam is high and the dam can retain little water;</li> <li>▪ Expressed hopes on the channelization downstream which should be wide enough to accommodate volume of water passage;</li> <li>▪ Buffer zone around Eleyele Dam should be maintained by planting trees for excess water to be absorbed;</li> <li>▪ Laws should be enforced to regulate people and activities encroaching on flood plains;</li> <li>▪ Oyo State has a high rate of Cholera and Gastroenteritis due to improper solid waste management.</li> </ul>
Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation	<ul style="list-style-type: none"> <li>▪ Interventions by the Oyo State Government include: Government has removed structures along the flood plains, social workers alongside SEMA intervened with relief materials after the flood, followed up in monitoring evacuation of people from the flood plains is ongoing, some bridges are being rehabilitated/reconstructed, donors like Aliko Dangote have been very helpful.</li> <li>▪ Sensitization was carried out but was not targeted towards flooding;</li> <li>▪ Residents on the flood plain have to be evacuated through collaboration between Government and community leaders.</li> <li>▪ Drainages are blocked due to improper solid waste disposal;</li> <li>▪ There should be a participatory approach involving stakeholders for project sustainability;</li> </ul>
Federal Ministry of Environment, Oyo State	<ul style="list-style-type: none"> <li>▪ A good desk review of the NEWMAP and synergy with the flood management project will be required;</li> <li>▪ Forests offer a lot of control to floods with watershed improvement through plantation establishment;</li> <li>▪ Government should be aware of green issues and not only on brown issues;</li> <li>▪ The Ibadan Sustainable Project document should be reviewed;</li> <li>▪ Oyo State has no problem with compliance or enforcement related to people occupying flood prone areas</li> <li>▪ Expressed surprise over new construction and clearing of forests by Government in flood prone areas i.e (downhill premier hotel opposite Ogunpa retention pond).</li> <li>▪ Called for Government to replant with tress the fragile ecosystem</li> </ul>
NESREA, Oyo State	<ul style="list-style-type: none"> <li>▪ All stakeholders should have a common understanding about the issues of the environment;</li> <li>▪ Inadequate collection and disposal of solid waste as well as structures erected on flood prone areas constituted the major causes of flood effects.</li> <li>▪ NESREA has started an enlightenment program on waste management.</li> <li>▪ Attitudinal change and strong political will is key to the success of the project.</li> </ul>
Oyo State Waste Management Authority	<ul style="list-style-type: none"> <li>▪ Every Thursday and on the last Saturday of the month, the Government made it mandatory between 8-10 am to collect and dispose of solid waste at no cost.</li> <li>▪ A record of solid waste collected for each month is complied.</li> <li>▪ Yes-O Cadet are supervised by Environmental Health Officer who assist with waste disposal monitoring;</li> <li>▪ There has been trainings and enlightenment through the mass media as well as meetings with market women on solid waste management.</li> </ul>
General Stakeholders Consultation which includes: PIU IUFMP; Oyo State Ministry of Physical Planning and UD, Environment and Habitat, Works	<p>Community Commitment and Government Interventions:</p> <ul style="list-style-type: none"> <li>▪ Engr. Magregore spends about 300,000-500,000 Naira to desilt, clean drains and evacuates solid waste around the living areas of Eleyele dam</li> <li>▪ Some rivers were channelized after the 2011 floods; standard drainages were constructed; road constructions follow best practice designs</li> <li>▪ Shanty buildings/developments have been demolished thereby allowing free flow of storm water and reducing risk tendencies;</li> <li>▪ Emergency sanitation exercise especially in the Iwo road axis has improved; The restoration bridge in Bodija is laudable; There was dredging of rivers along Ona.</li> <li>▪ Eleyele dam has been visited and mapping has been done; GIS students were engaged to carry out mapping of all streams in Ibadan; Government is willing.</li> </ul> <p>Concerns and recommendations:</p> <ul style="list-style-type: none"> <li>▪ Appeal to the Government to dredge the Eleyele dam and protect the dam walls and channels using</li> </ul>

<p>and Transport, Water Resources, Lands Housing and Survey, Oyo State Ministry of Health, Women Affairs, Community Development, Social Welfare and Poverty Alleviation</p> <p>Oyo State Waste Management Authority, Emergency Management Agency;</p> <p>Federal Ministry of Environment, Oyo State;</p> <p>NESREA, Oyo State;</p> <p>NGOS; and CBO's/CDA's;</p>	<p>concrete;</p> <ul style="list-style-type: none"> <li>▪ Service contractors who operate around Eleyele to collect solid waste take off after a few months;</li> <li>▪ It is important to ensure that solid waste is collected and a policy for upper class citizens taking care of the solid waste of low class citizens.</li> <li>▪ It is better to collect/dispose waste at the household level rather than the middle of the main roads;</li> <li>▪ Policies should be people driven, technocrats should be given hearing;</li> <li>▪ Eleyele dam has never been rehabilitated. There should be routine maintenance and a limit to design years;</li> <li>▪ Proper systems should be developed to maintain regulated release of water from the dam which can minimize flooding of areas located on the downstream;</li> <li>▪ Land tenure system/law has not given directives to land owners to the setbacks from the roads; There is no law to compel land owner for space for markets, garage</li> <li>▪ No intervention has been carried out after demolition of houses and moving of individual from the flood plains; there is no enforcement of law on people Constructing is on-going on flood plains; There should be an arrangement to put solid waste into use such as the waste to wealth initiative; Environmental clubs in secondary schools should be trained.</li> <li>▪ Environmental education needs to be taken into cognizance to educate the masses/youth on environmental issues.</li> <li>▪ Nothing was done in terms of the needs of the children; SEMA has been written but no support.</li> <li>▪ There is injustice in displaced areas especially in Oremeji area; The problem of effective implementation should not be affected by lack of political will; mistakes during projects made in the past should guide policy implementation and interpretation.</li> <li>▪ A careful consideration towards implementing activities in component 1 and 2 should be noted as these are entirely massive projects on its own.</li> <li>▪ The project should plan for prevention and not for solutions; Early warning systems is important.</li> <li>▪ Vulnerable groups such as women and children should be extremely considered in all facets of disaster risk reduction; Reduce, Reuse and Recycle of solid waste should be taken into consideration.</li> </ul>
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## **2.0 POLICY, LEGAL AND REGULATORY FRAMEWORK**

### **2.1 Introduction**

This chapter presents an overview of applicable state, federal and international policies and regulations that guides the implementation of the ESMF in addition to an assessment of the institutional framework for the implementation of the sub-projects.

### **2.2 State Policies**

#### **2.2.1 Oyo State Policy on Environment (2013)**

Oyo State Policy on environment is a broad course of action that the Oyo State Government adopts so that it meets its objectives. The following are the environmental policies in Oyo State.

- Be responsible for formulation, enforcing and coordinating policies, statutory rules and regulation on Solid Waste collection and disposal, general environmental protection, flood control and regulation of the ecological system and all activities related therein, throughout the state;
- To advise the Government on state environmental policies and properties and on scientific and technological activities affecting the environment;
- Conduct public enlightenment campaigns and disseminate vital information on environmental and ecological matters, and to mobilize the inhabitants of all area for effective observance of environmental rules and guidelines, for purpose of healthy and safe environment;
- Render advisory services and support to all Local Government in the State in areas of Flood Control, Solid Waste Management, Ecological and Sanitation Matters;
- Preparation of annual State of the Environment report for the State and transmit same to the Secretariat of the National Council on Environment;
- Monitor sources of toxic pollutants in air, land and water and offering of necessary advice to industrial establishments;
- Initiate measure to ensure pollution-free air, land, water throughout the State including any other steps to obviate, mitigate or eliminates environmental discomfort to individuals or groups or danger to lives and properties;
- Ensure that the lawns and the surroundings of the departmental offices in Secretariat precincts are kept tidy and well trimmed;
- Study, investigate, advice and recommend any all matters pertaining to beautification and citizens' participation relating of same to the Government;
- Obtain research findings from the relevant Federal and State Agencies for the purpose of policy formulation and dissemination of same on environmental sanitation and beautification to the public in the State; and
- Carry out both administrative supervision and establishment duties with a view to ensuring well-managed finances and administration of the Ministry in line with Government policies

### **2.3 National Policies**

Nigeria National Policy on environment is a broad course of action that the Government of Nigeria adopts so that it meets its objectives.

### 2.3.1 National Policy on the Environment (1988)

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

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

## 2.4 Regulatory Framework

The regulatory framework is a system of regulations and the means used to enforce them. They are established by the Government of Nigeria to regulate environmental specific activities and are recognized by the law. The following gives an overview if the existing Federal legislations.

### 2.4.1 Federal Legislation

Federal Environmental Protection Agency Decree No 58 (1988)

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

The FMEnv has developed statutory documents to aid in the monitoring, control and abatement of industrial waste. These guidelines stipulate standards for industrial effluent, gaseous emissions and hazardous wastes. Table 2 summarizes the existing national legal instruments applicable to environmental protection.

Table 2: Existing National Environmental Protection Regulations

S/N	Regulations	Year	Provisions
1	National Environmental Protection (Effluent Limitation) Regulations	1991	The regulation makes it mandatory for industrial facilities to install anti-pollution equipment, makes provision for effluent treatment and prescribes a maximum limit of effluent parameters allowed.
2	National Environmental Protection (Pollution and Abatement in Industries in Facilities Producing Waste) Regulations	1991	Imposes restrictions on the release of toxic substances and stipulates requirements for monitoring of pollution. It also makes it mandatory for existing industries and facilities to conduct periodic environmental audits.
3	National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations.	1991	Regulates the collections, treatment and disposal of solid and hazardous wastes from municipal and industrial sources.
4	Harmful Wastes (Special Criminal Provisions etc) Decree No. 42	1988	Provides the legal framework for the effective control of the disposal of toxic and hazardous waste into any environment

			within the confines of Nigeria
5	Environmental Impact Assessment Act (Decree No. 86).	1992	The decree makes it mandatory for an EIA to be carried out prior to any industrial project development
6	National Guideline and Standard for Environmental Pollution Control	1991	The regulations provide guidelines for management of pollution control measures.
7	Workmen Compensation Act	1987	Occupational health and safety
8	Urban and Regional Planning Decree No 88	1992	Planned development of urban areas (to include and manage waste sites)
9	Environmental Sanitation edicts, laws and enforcement agencies		General environmental health and sanitation. Enforcing necessary laws
10	State waste management laws		Ensure proper disposal and clearing of wastes
11	Public Health Law		Covering public health matters
12	National Guidelines on Environmental Management Systems (EMS)	1999	Recognizes the value of EMS to EIA and sets out objectives and guideline on general scope and content of an EMS
13	National Policy on the Environment	1989	The policy identifies key sectors requiring integration of environmental concerns and sustainability with development and presents their specific guidelines
14	National Guidelines and Standards for Water Quality	1999	It deals with the quality of water to be discharged into the environment, sets standards and discharge measures for for a wide range of parameters in water discharged from various industries. It also sets out the minimum/maximum limits for parameters in drinking water
15.	National Air Quality Standard Decree No. 59	1991	The World Health Organization (WHO) air quality standards were adopted by the then Federal Ministry of Environment (FMEnv) in 1991 as the national standards. These standards define the levels of air pollutants that should not be exceeded in order to protect public health.
16.	National Environmental Standards and Regulations Enforcement Agency (NESREA Act)	2007	Established to ensure compliance with environmental standards, guidelines and regulations.
17.	National Policy on Flood and Erosion Control (FMEnv)	2006	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
18.	National Oil Spill Detection and Response Agency (NOSDRA Act)	2005	This statutory regulation makes adequate regulations on waste emanating from oil production and exploration and its potential consequences to the environment.

Table 3 below presents a list of proposed National legislations.

Table 3: List of proposed environmental national legislation

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

## **2.4.2 Other Acts and Legislations**

Other formal written enactment produced by a legislature or by a legislative process important in the project includes:

### *2.4.2.1 Land Use: Land Use Act (1978)*

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

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

State governments have the right to grant statutory rights of occupancy to any person for any purpose; and the Local Government has the right to grant customary rights of occupancy to any person or organization for agricultural, residential and other purposes. Further details on the Land Use Act (1978) are discussed in the RPF.

## **2.5 Assessment of the Policy and Regulatory Framework**

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

### *2.5.1 Environmental Impact Assessment (EIA) Act*

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

### *2.5.2. Federal Environmental Protection Agency (FEPA) Sectoral Guideline*

FEPA's Guideline covering infrastructural projects deals with both the procedural and technical aspects of EIA for construction projects. The guideline stresses the need to carry out an EIA at the earliest stage possible. Infrastructure Project EIAs have been conducted in rather loose form, and often taken as a supplementary requirement to overall economic and engineering issues.

### *2.5.3 National Policy on Environment*

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

## **2.6 International Environmental Agreements**

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

- Basel Convention on the control of hazardous wastes and their disposal;
- Bonn Convention on conservation of Migratory Species;
- Stockholm Convention on Persistent Organic Pollutants;
- The African Convention on the Conservation of Nature and Natural Resources, The African Convention, 1968;
- The Convention Concerning the Protection of the World Cultural and Natural Heritage, The World Heritage Convention, 1972;
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES, 1973;
- The Framework Convention on Climate Change, Kyoto Protocol, 1995;
- The Convention on Biological Diversity, 1992; and
- The Convention on the Prevention of Marine Pollution by Dumping of Waste, MARPOL, 1972;

In addition, Nigeria also has obligations to protect the environment through various commitments to the African Union (AU), the Economic Community of West African States (ECOWAS) and the Commonwealth. It is also committed through relations with the European Community under the Lome IV Convention.

## **2.7 Institutional Framework**

The framework for the EA of the IUFMP involves the following in conjunction with the implementing MDAs. The following institutions and agencies are responsible for regulating and monitoring environmental issues, information and waste management standards applicable to the IUFMP.

### *2.7.1 Oyo State Ministry of Environment and Habitat*

Some of the mandate of the Oyo State Ministry of Environment and Habitat is as follows:

- Ensure the implementation of the provisions of the National Environmental Sanitation Policy and Guidelines at all levels of Government;
- Enforce compliance with the provisions of these regulations;
- Issue permits as prescribed in the relevant section of these regulations;
- Ensure compliance with conditions of the permits as contained in the relevant schedules;
- Establish strategic alliance with other Federal MDAs other states, local government areas and other relevant stakeholders;
- Ensure that the waste management facilities comply with the Environmental Impact Statement;
- Embark on intensive environmental education and awareness campaign on sound environmental sanitation and waste management; and
- Develop and publicize set standards, for environmental sanitation, waste management and equipment procurement and maintenance.

### *2.7.2 Federal Ministry of Environment (FMEnv)*

The FMEnv in accordance with its mandatory functions will ensure that the project implementation conforms to the Environmental Impact Assessment Act 1992.

FME<sub>env</sub> has responsibility to administrate and enforce environmental laws in Nigeria. The specific responsibilities of the ministry include:

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

## 2.8 World Bank Safeguard Policies

The World Bank has 10 + 2 Safeguard Policies to reduce or eliminate the negative environmental and social impacts of potential projects, and improve decision making. Details of the safeguard policies can be seen in Annex 2. These World Bank safeguard operational policies are:

- OP/BP 4.01: Environmental Assessment
- OP/BP 4.04: Natural Habitats
- OP 4.09: Pest Management
- OP/BP 4.12: Involuntary Resettlement
- OP 4.10: Indigenous Peoples
- OP 4.11: Physical Cultural Resources
- OP 4.36: Forests
- OP/BP 4.37: Safety of Dams
- OP/BP 7.50: Projects on International Waters
- OP/BP 7.60: Projects in Disputed Areas

### Plus 2

- OP/BP 4.00: Use of Country System
- OP/BP 17.50: Public Disclosure

Figure 1 below illustrates the safeguard operational policies.

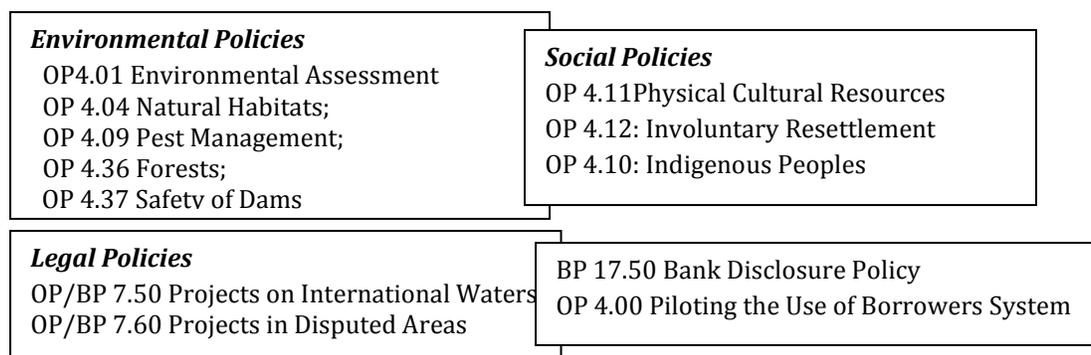


Figure 1: Illustration of the Safeguards Policies

Sub-project activities in components 1 and 2 will trigger the 5 World Bank Safeguards Policies and the project disclosure policy. Table 4 below describes reasons for triggers.

Table 4: Summary of safeguards policies triggered

Operational Policy	Yes	Reasons	No
Environmental Assessment(OP.4.01);	X	Safeguards policy OP 4.01 is triggered, in component 2 and the potential civil work activities include rehabilitation of the damaged spillway and stilling basin to improve dam safety (incl. removing vegetation to expose concrete surface, making access), immediate repairs and restoration of bridges and CDC on critical secondary and tertiary sub-catchment areas across the city of Ibadan and major rehabilitation of bridges and CDC, cleaning of river channel on main three rivers, restoring or establishing natural flood retention ponds, and undertaking flood plain management activities. However, the exact locations in which the project will be intervening are not known in sufficient details at the time of project preparation. Therefore the client will prepare an Environmental and Social Management Framework (ESMF) which will be reviewed and cleared by the Bank. In addition, the cleared ESMF will be publicly disclosed countrywide in Nigeria and at the World Bank InfoShop prior to appraisal at least 120 days before the Board Date.	
Natural Habitat (OP/BP 4.04)	X	This policy is triggered because some project activities may take place near to critical natural habitats (forests, wetlands, mangroves, etc.) or environmentally sensitive areas and some mitigation measures may be necessary to minimize any negative environmental and social impacts. The project is not being implemented in any area with critical natural habitats, nor does it involve the significant conversion or degradation of natural habitats.	
Forests (OP 4.36)		The project will not finance the development of forests. The area in which this project would be implemented will not have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests.	X
Pest Management OP 4.09		The project will not raise potential pest management issues or finance the development the procurement of pesticides, pesticide application equipment or the use of pest management practices.	X
Physical Cultural Resources (OP 4.11)	X	Some activities in components 2 may include civil works that could expose chance finds. These chance find sites may include sacred shrines and burial sites. The environmental and Social Screening Checklist and the Generic Environmental and Social Mitigation Measures Checklist that are annexed to the ESMF will address the Physical Cultural Resource (PCR), and the ESMF includes provisions for addressing such cultural heritage chance finds. To mitigate this risk, specific procedures (such as chance find procedures) will be included in the sub-project ESIA as required.	
Indigenous Peoples (OP 4.10)		There are no indigenous peoples in the project area.	X
Involuntary Resettlement (OP/BP 4.12)	X	This policy is triggered because most of the sub-projects could involve minimal or moderate land acquisition and or restriction of access to usual means of livelihood as most of the sub-projects will largely be rehabilitation of existing infrastructure. However, some of the projects may involve significant land acquisition and displacement of affected people. As part of the safeguards due diligence, the client will prepare a Resettlement Policy Framework RPF which will be reviewed and cleared by the Bank. Also, site specific Resettlement Action Plans (RAPs) or Abbreviated Resettlement Action Plans (ARAPs) will address the needs of persons who will be affected by loss of economic activities, land acquisition and/or relocation. The preparation of these safeguards documents will be inclusive and participatory, promoting community ownership and social accountability. The RPF and/or RAPs will be reviewed and cleared by both the project safeguards team and the Regional Safeguards Advisor. The RPF will have to be sent to the bank for review and clearance before it is disclosed publicly in country and on the Bank's info shop prior to project appraisal.	
Safety of Dams (OP/BP 4.37)	X	The IUFMP will not be directly involved in the construction of new dams. However, component 2 may include the rehabilitation of the damaged spillway and stilling basin to improve dam safety. The client will carry out a detailed environmental and social and safety audit of these dam prior to the appraisal. The outcome of the audit will include dam safety and sedimentation reports would underpin the preparation of dam specific environment and social management plans, early warning and response systems and composition of dam safety panel to be put in place by the borrower.	
Projects on International Waters (OP/BP 7.50)		The Rivers Odo Ona, Ogbere and Ogunpa do not take their sources from outside Nigeria. These rivers come together in Ogun State and flow out into the Atlantic via Lagos State.	X
Projects in Disputed Areas (OP/BP 7.60)		The area in which this project would be implemented is not a conflict or disputed area.	X
Disclosure Policy (OP/BP 17.50)	X	All projects must disclose key information in country and through the Bank's Infoshop	

## 2.9 Nigeria EIA Guidelines and World Bank EA Guidelines

The Environmental Impact Assessment Act No. 86 of 1992 requires that development projects be screened for their potential environmental and social impact. Based on the screening, a full, partial, or no EIA may be required. Guidelines issued in 1995 direct the screening process. According to these guidelines the Nigeria EIA Categories include: (See Table 5 below).

Table 5: Nigeria EIA Guidelines and World Bank EA Guidelines

FMEnv				
Category	I	II	III	
	Projects will require a full Environmental Impact Assessment (EIA) for projects under this category EIA is mandatory according to Decree No. 86. Projects includes large-scale activities such as agriculture (500 hectares or more), airport (2500m or longer airstrip), land reclamation (50 hectares or more), fisheries (land based aquaculture of 50 hectares or more), forestry (50 hectares or more conversion, etc.	Projects may require only a partial EIA, which will focus on mitigation and Environmental planning measures, unless the project is located near an environmentally sensitive area--in which case a full EIA is required	Projects are considered to have “essentially beneficial impacts” on the environment, for which the Federal Ministry of the Environment will prepare an Environmental Impact Statement.	
World Bank				
Category	A	B	C	F1
	Projects are those whose impacts are sensitive, diverse, and unprecedented, felt beyond the immediate project environment and are potentially irreversible over the long term. Such projects require full EA.	Projects involve site specific and immediate project environment interactions, do not significantly affect human populations, do not significantly alter natural systems and resources, do not consume much natural resources (e.g., ground water) and have negative impacts that are not sensitive, diverse, unprecedented and are mostly reversible. Category B projects will require partial EA, and environmental and social action plans.	Projects are mostly benign and are likely to have minimal or no negative environmental impacts. Beyond screening, no further EA action is required for a Category C project, although some may require environmental and social action plans.	A proposed project is classified as Category F1 if it involves investment of Bank funds through a financial intermediary, in sub-projects that may result in negative environmental and social impacts.

This World Bank categorization (A, B, & C) corresponds in principle with the Nigeria EIA requirements of Category (I, II and III), which in actual practice is done with regard to the level of impacts associated with a given project. However, in the event of divergence between the World Bank safeguard policies and the Nigeria EA laws, the World Bank Safeguards policies takes precedence over Nigeria EA laws, guidelines and standards.

Thus for this ESMF, the Nigeria’s EIA requirements and World Bank safeguard policies were harmonized as far as possible.

This is made responsive with regard to the following:

- Early consideration of environmental and social issues (starting at the screening stage);

- Identification and early consultation with stakeholders;
- Prevention of negative environmental and social impacts through the consideration of feasible alternatives; and
- Incorporation of mitigation measures into planning and (engineering) design.

## **2.10 Adequacy of Legal Instruments for Environmental & Social Issues**

Generally with regard to environmental and social management issues, legislation is in a continuing process of development in Nigeria. Amongst the existing pieces of legislations highlighted above, there are a number of state, national and international environmental guidelines applicable to the sub-projects under the proposed IUFMP.

*In other words, Oyo State has a good governance framework and laws to back up and manage the environmental and social safeguard issues that shall be triggered.*

The Oyo Ministry of Environment and Habitat are conversant with the Environmental Assessment (EA) legislation, procedures and framework applicable based on the Federal EIA Act 86 of 1992. The main challenge would be enforcement of these legislation/guidelines.

Thus as part of this ESMF, in order to support the due diligence process, to avoid causing harm and to ensure consistent treatment of environmental and social issues across the sub-project intervention areas, institutional capacity strengthening and funding have been recommended.

## 3.0 PROJECT DESCRIPTION

### 3.1 Project Design to Support Long-term Risk Reduction Framework

Formulation of an effective and sustainable urban flood risk management strategy for Ibadan is a long and complex process requiring a mutually agreeable understanding (among different stakeholders) of (i) source and probability of flooding in Ibadan, especially due to climate change, and (ii) dynamic and growing vulnerability of public and private assets in the city. Similarly, promoting an integrated approach to urban flood risk management that combines both structural and non-structural measures requires a good understanding of available alternatives depending upon the future growth of the city. These must be based on transparent and accountable cost-benefit analyses facilitating the prioritization of financing on the most urgent and effective of these measures.

The project design, thus, focuses on developing a long term risk reduction framework in the city building on multi-sectoral nature of flood management, and ensuring long-term implementation, funding size, and planning horizons. The adoption of this framework approach effectively sets the “*rules of the game*” and allows infrastructure investments to be selected in a dynamic and ongoing basis following the adoption of strategic master plans which will be carried out as a part of the project. The studies will provide much needed clarity on the future land use and urban development of Ibadan as well as the range and options of structural and non-structural measures that can be implemented in a cost-effective manner. Finally, any social resettlement decision to clear the flood plains is also linked to the completion of the above studies.

The IUFMP aims to develop long term flood resilience in the city—by collaboratively identifying and implementing robust and sustainable solutions for mitigating flood risk, and improving flood preparedness. In the short term, the project will finance priority and critical infrastructure investments, including setting up flood early warning and response system. An Integrated Flood Risk Management Master plan will assess and recommend flood risk management actions in the city along with the development of a long term Flood Resilience Strategy. The outcome of the assessment will guide long term flood risk mitigation and drainage improvement investments.

### 3.2 Project Objectives

The project development objective is to improve the city of Ibadan’s flood resilience by:

- (i) Strengthening risk identification, planning and preparedness; and
- (ii) Undertaking flood risk mitigation and urban drainage improvements in priority and targeted project sites.

### 3.3 Components of the IUFMP

The project consists of three main components, namely:

#### **COMPONENT 1: FLOOD RISK IDENTIFICATION, PLANNING, AND PREPAREDNESS (US\$22.0 million):**

The objective of this component is to assess flood risk in the city, plan risk reduction measures, and finance non-structural measures to enhance preparedness to floods. This will be achieved, on one hand, through a number of sector-specific and specialized master plan studies, and on the other hand by designing and establishing an integrated flood early warning and response system.

**Sub-Component-1.1: Design of Flood Risk Management Investment Program (US\$16.0million):** The identification and preparation of flood risk management investment program will be based on three key Master Plans for the city to be financed under this sub-component. These include Ibadan's Integrated Flood Risk Management Master Plan, Ibadan's Physical Master Plan, and Ibadan's Solid Waste Management Master Plan. The Integrated Flood Risk Management Master Plan will form the basis for long term investment and will include developing integrated urban drainage master plans. It will also cover the structural, geotechnical and hydraulic assessment of Eleyele Dam. A Strategic Environmental and Social Assessment (SESA) will be undertaken to cover potential environmental and social safeguards during project implementation and beyond. This sub-component will finance the feasibility and the preparation of detailed engineering designs for early investments on priority sites severely affected by 2011 floods in Ibadan. Also, relevant capacity building and on-the-job training to the various MDAs and LGAs involved will be provided as part of the formulation of the three Master Plans.

**Sub-Component-1.2: Development of an Oyo State Long-Term Flood Resilience Strategy (US\$ 1.0million):** This sub-component will support the development of a long-term Oyo State Flood Resilience Strategy building on the Integrated Flood Risk Management Master Plan to be financed under this sub-component. The long-term flood resilience strategy will aim at providing recommendations on the:(i)*policy, regulatory and institutional reforms* required including clarifying the legal and institutional mandates among the various stakeholders as well as mainstreaming disaster and climate risk reduction planning into federal, state and local urban planning and land management tools, (ii) *means of addressing the long-term financing need* including the possible setting up an Oyo State Flood Management Fund that will provide investment finance, capacity building and technical assistance activities to fund activities identified under the Strategy. This sub-component will also fund the development of local governments' capacities for disaster risk management including risk evaluation, risk-informed planning, preparedness and response, as well as maintenance capacities as an integral part of routine development processes.

**Sub-Component-1.3: Establishment of an Integrated Flood Early Warning and Response System (US\$5.0million):** This sub-component finances the design and establishment of an Integrated Flood Early Warning and Response System for the city of Ibadan with the aim of providing timely flood alert to communities and ensuring effective government and community response. The early warning system includes the enhancement of data collection networks including the procurement and installation of one weather radar, development of hydraulic and hydrological model, establishing an early warning center, setting up of city's early warning committee to help in decision making, and training on response, operations and maintenance. State, City, and Local Government Contingency Plans will be developed and operationalized to ensure prompt government response to flood warnings.

**Sub-Component- 1.4 Contingency Component: (US\$0):** Following an adverse natural event that causes a major disaster, the Government of Oyo State may request the Bank to re-allocate project funds to support mitigation, response, recovery and reconstruction. This component would draw resources from unallocated expenditure category and/or allow the government to request the Bank to re-categorize and reallocate financing from other components to partially cover emergency response and recovery costs. Disbursements would be made against a positive list of goods, works, and services required supporting mitigation, response, recovery and reconstruction needs. All expenditures under this component, should it be triggered, will be in accordance with paragraph 11 of OP 10.00 Investment Project Financing and will be appraised, reviewed and found to be acceptable to the Bank before any disbursement is made. This component will also be used to channel resources from rapid restructuring of the project to finance emergency response

expenditures and meet crisis and emergency needs under an Immediate Response Mechanism (IRM).

## **COMPONENT 2: FLOOD RISK MITIGATION MEASURES- (US\$138.0million):**

The objective of this component is to ensure flood risk mitigation through public infrastructure works and community-based resilience measures and investments. The component will finance flood mitigation and drainage improvements works through three sub-components:

***Sub-Component 2.1: Priority Infrastructure Improvement (US\$18.0million):*** This component will finance critical infrastructure improvements in priority secondary and tertiary sub-catchments and will include: (i) *Priority urban drainage infrastructure improvements (\$15million)* involving the rehabilitation of priority infrastructure in thirteen (13) identified sites, including rehabilitation of culverts, drains, roads and floodplain management activities in secondary and tertiary sub-catchments; and (ii) *Enhancing flood resilience of critical public assets (\$3 million):* This sub-component will finance developing contingency plans and undertaking structural improvements for critical public assets such as hospitals, airport, public buildings, including ensuring access/egress and functionality.

***Sub-Component 2.2: Long-term Integrated Flood Risk Mitigation (US\$115.0million):*** This sub-component will be based on the recommendations of the Integrated Flood Risk Management Master plan (initiated in Component-1), and will finance major rehabilitation and construction of robust infrastructure such as drains, bridges, culverts, and roads; cleaning of river channel on main three rivers; restoring or establishing natural flood retention ponds; and undertaking flood plain management activities (conservation, linkage, and urban design of green spaces and water bodies, and floodplain zoning). The component will provide for goods and equipment needed to support implementation of works. It will also finance structural measures for dam safety, including the rehabilitation of the damaged spillway and stilling basin to improve dam safety, removing vegetation to exposed concrete surfaces, making access, and installation of safety monitoring equipment in main dam body, such as piezometers, seepage gauges, settlement gauge, and water level gauges.

***Sub-Component 2.3: Community Resilience Development (US\$ 5.0million):*** This sub-component aims to enhance community<sup>5</sup> resilience to flooding through the implementation of: (i) a *community awareness and outreach program (US\$ 1million)* which aims at raising awareness and inculcating a culture of prevention and preparedness in the city, especially in public schools and colleges. This component will develop and implement information, education and communication (IEC) strategy and media support tools targeting local and state stakeholders focusing on floodplain management based on risk maps, urban drainage improvements, preparedness, and response; (ii) *Community Resilience Plans and investments(US\$3million):* This includes the development of Resilience Plans for communities in priority and targeted project sites in phase I (which will feed into City contingency plan and Local Government Contingency Plans developed in sub-component 1.3) as well as in phase II project sites. Based on a highly consultative process facilitated by community facilitators, the Community Resilience Plans will identify community investments to upgrade access roads, public schools buildings (to be used as shelters), ensuring functionality of certain key community services or facilities during crisis, and developing/implementing drills in schools, community centers, and medical centers. These plans will also identify protocols during emergency situations, and (iii) *Appointing and training*

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<sup>5</sup> Community includes citizens, local governments (which have locally elected officials), NGOs, CBOs, and academia.

*community volunteers as River Guards US\$1million*): Implementation of this sub-component will be done by “community facilitators” –non-governmental organizations and consulting firms who will lead a highly consultative and participatory process involving local stakeholders and communities to accompany the larger infrastructure investments planned under this component (both phase I and II).

### **COMPONENT 3: PROJECT IMPLEMENTATION SUPPORT (US\$16million)**

***Sub-component 3.1: Project Administration (US\$7.0million)*** through: (i) the procurement of office furniture, ICT equipment, transport vehicles for PIU and; procuring a comprehensive set of Project maps (geospatial, soil, topography, etc.) (US\$ 2.0million); and (ii) the hiring of external Financial and Technical Audits which will monitor the project execution periodically and reporting directly to PIU/Steering Committee (US\$1.0million).

***Sub-component 3.2: Project Implementation Support (US\$9.0million)*** through: (i) the procurement of Project Management Services Consultancy Contract, (ii) the procurement of Construction Supervision Consultancy Services for both Phase-I and Phase-II investment plans; and preparation and implementation of Resettlement Action Plans in project affected areas.

The project would have a total of **US\$22.0million** for Physical and Price contingencies, and **US\$22.0million** as Unallocated including advance made under Project Preparation Facility (\$4.875 million).

### **3.4 Scope of work**

The ESMF shall clarify environmental and social mitigation principles, organizational arrangements and design criteria to be applied to sub-projects, which are to be prepared during project implementation. Sub-project ESIA/ESMPs consistent with the policy framework will be subsequently submitted to the Bank. The expected output is a report that provides basic information about the scope of negative environmental and social impacts to be induced by project planning, operation, & management; mitigation and monitoring actions to be taken and cost implications. It is expected that the ESMF will cover the following:

- Environmental and social scope analysis;
- Environmental and Social Screening;
- Baseline Data;
- Policy and Regulatory Framework;
- Institutional Needs and Capacity;
- Analysis of Alternatives;
- Development of Management Plans to Mitigate Negative Impacts;
- Public Consultation;
- Preparation of the Strategic Environmental and Social Assessment;
- Budgeting & Costs Planning for ESMPs; and
- Monitoring and Evaluation (M&E) methodologies for ESMPs implementations.

## 4.0 DESCRIPTION OF PROJECT ENVIRONMENT

### 4.1 Location

Ibadan is located in South-Western Nigeria and is the capital of Oyo State. Ibadan is centred about latitude 7° 25' North and longitude 3° 5' East and is located approximately 145 km North of Lagos. It is situated close to the boundary between forest and grassland, which makes it a melting point for people and products of both the forests and grassland areas. Ibadan is regarded as the largest indigenous city in tropical Africa. It was the capital of the old Western Region, when Nigeria had only three regions.

### 4.2 Organization and Administration of Local Government

There are 11 Local Governments in Ibadan Metropolitan area as seen Figure 2 and Table 6 below consisting of 5 urban local governments in the city and 6 semi-urban local governments in the less city. Local Governments at present are institutions created by the military governments but recognized by the 1999 constitution and they are the third tiers of government in Nigeria.

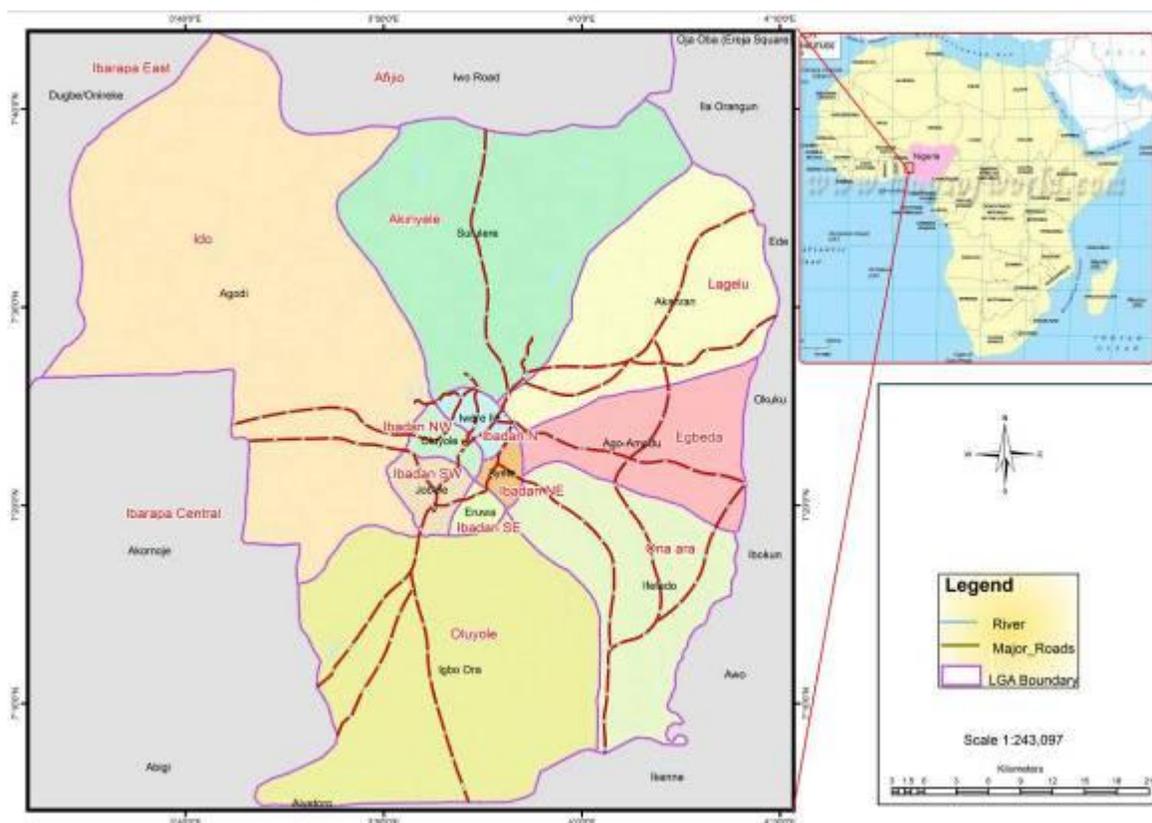


Figure 2: Map of Ibadan showing the 11 LGAs

Table 6: Local Government Areas in Ibadan

Urban	Semi- Urban
Ibadan North	Akinyele
Ibadan North East	Egbeda
Ibadan North West	Ido
Ibadan South East	Lagelu
Ibadan South West	Ona Ara
	Oluyole

Local Governments Councils consist of the executive arm, the executive chairman, the vice chairman, the secretary and the supervisory councilors. There are 6 major departments in each Local Government which in turn are made up of divisions and sections. Various departments execute the policies and directives of the Executive. The senior staff members are employed and disciplined by the Local Government Service Commission (LGSC).

### 4.3 Physical Setting

#### 4.3.1 Physical expansion and land coverage

This pre-colonial urban centre has expanded very fast sprawling daily into the hinterland. The developed land in Ibadan increased from only 100 ha in 1830 to 12 km<sup>2</sup> in 1931, 30 km<sup>2</sup> in 1963, 112 km<sup>2</sup> in 1973, 136 km<sup>2</sup> in 1981 and 214 km<sup>2</sup> in 1988 (See Table 7). In 1964 the city had spread beyond the drainage basins of Ogunpa and Kudeti and to the catchment area of Ogbere stream in the East. Today the city spread has extended to Odo-Ona Kekere village in the South to Iroko/Motunde villages in the North, Asejire in the East and Bakatari in the West.

Table 7: Physical Expansion of Ibadan (1830-1988)

Year	Land Size
1830	100 ha
1931	12 km <sup>2</sup>
1963	30km <sup>2</sup>
1973	112 km <sup>2</sup>
1981	136 km <sup>2</sup>
1988	214 km <sup>2</sup>

Source: Wahab (2011)

#### 4.3.2 Relief and Drainage

Ibadan lies mostly on lowlands which are punctuated by rocky outcrops and series of hills. These outcrops are mainly granitic. Three major landforms of hills, plains and river valleys dominate the whole landscape of the region. The average elevation is 230 m above mean sea level. The metropolis is drained by three important rivers, River Ogunpa, River Ona and River Ogbere and their several tributaries including River Omi, Kudeti, Alaro and Alapata. This combination of hills and river valleys provide a good drainage for the city but it has suffered a lot of abuse due to blockages of the water courses by solid wastes coupled with the construction of structures along the river courses and sometimes right within the river course itself.

The major tributary of River Ogunpa is the River Kudeti, both of them drain the eastern part of Ibadan. The Western part of the city, which consists of more recent residential and other developments, is drained by the River Ona and its numerous tributaries, including the Alalubosa, Oshun and Yemoja streams.

#### 4.3.3 Geology and Soils

Ibadan is underlain by basement complex rocks which are mainly metamorphic rocks of Precambrian age with granite, quartzite and migmatite as the major rock types. The minor rock types include pegmatite, aplite and diorite.

The soils of Ibadan region were formed from the underlying rocks especially granite gneisse, quartzschist, biotite gneisse and schist. They were formed under moist semi-deciduous forest cover and belong to the major soil group called ferruginous soils.

#### 4.3.4 Climate

Ibadan exhibits the typical West African monsoon climate marked by distinct seasonal shifts in wind patterns. Between March and October, the city is under the influence of moist maritime South-West monsoon winds which blow inland from the Atlantic Ocean, marking the rainy season. The dry season occurs from November to February when the dry dust laden winds blow from the Sahara desert. The area experiences high relative humidity and generally two rainfall maxima regimes during the rainfall period of March to October.

The mean temperatures are highest at the end of the Harmattan (averaging 28°C), that is from the middle of January to the onset of the rains in the middle of March. Even during the rainfall months, average temperatures are relatively high, between 24°C and 25°C, while annual fluctuation of temperature is about 6°C. Table 8 below describes the depth of rainfall causing flood from 1951-2011.

Table 8: Flooding Rainfall Data in Ibadan

Date	Depth of Rainfall Causing Flood (mm)
9-10 July, 1951	161
16-17 June, 1955	173
16-17 August, 1960	178
27-28 August, 1963	258
14 May, 1969	137
20 April, 1978	126
31 August, 1980	274
1982	-
1984	-
April, 1986	-
June/July, 1987	-
April, 1997	151
26 August, 2011	187.5

Source: NEST (1991:107), Nigerian Meteorological Services (2011), Ibadan Station, National Water Resources Institute (2011)

#### 4.3.5 Water resources

Ibadan city has 8 dams located in 5 LGAs. The Eleyele dam is a 14.63 meter high earthfill dam with its body heavily vegetated on both the upstream and downstream sides which grows extremely fast. Table 9 lists and describes the dams located in Ibadan. Figure 3 on the next page shows the spatial illustration of the dams in Ibadan.

Table 9: Description of dams in Ibadan

Name/Location of Dam	Year of Construction	L G A	Type of Dam	Height of Dam (m)	Total Capacity (mcm)
Asejire-Ibadan	1972	Egbeda	Earth Fill	26.213	32.218
Eleyele-Ibadan	1942	Ido	Earth Fill	14.63	6.8975
Ogunpa Lake	-	IB North-East	Concrete	-	-
Sanusi	2006	Oluyole	Earth Fill	9.5	0.624
Akufo	2007	Ido	Earth Fill	8.5	0.11
Ijaye/Alabata	2006	Akinyele	Earth Fill	11	2.025
Pade	1993	Akinyele	Earth Fill	10	0.74
Eniosa	-	Akinyele	Earth Fill	-	-

Source: Official information by Oyo State Ministry of Water Resources

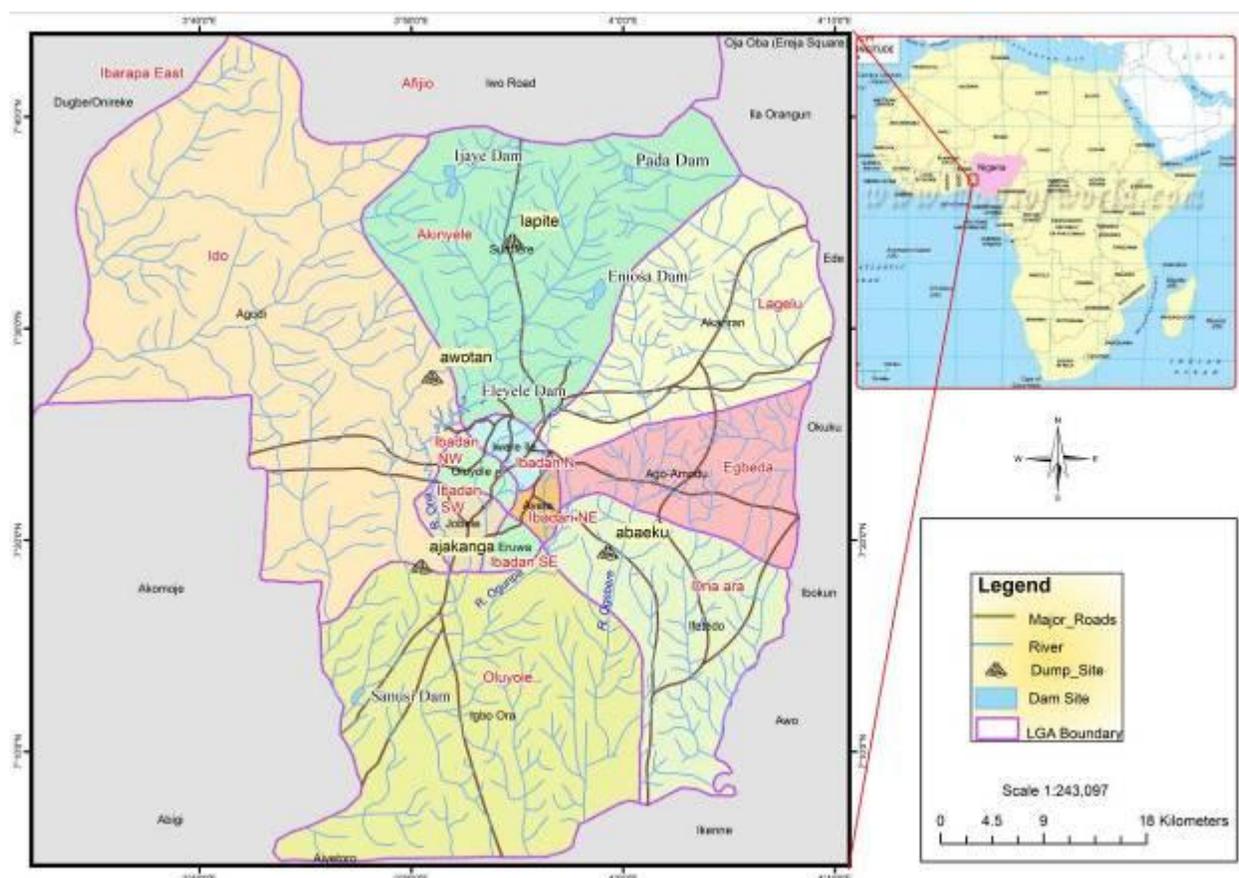


Figure 3: Map of Ibadan showing location of dams and dumpsites

#### 4.4 Solid waste generation

There are 4 dumpsites located at the cardinal points of Ibadan city. These dumpsites are Lapite, Ajakanga, Aba-Eku and Awotan (See Figure 3 above and Table 10 below).

Table 10: Dumpsite Areas in Ibadan

Cardinal points	Name	Size (Hectares)
North	Lapite	9
South	Ajakanga	20
East	Aba-Eku	20
West	Awotan	50

**Source:** Official information by Oyo State Waste Management Authority

The solid waste composition in Ibadan comprises leaves, paper, food waste, tins, glass and rags. This is because Ibadan is located in the heart of a rich agricultural land and has a large old and unplanned section

Table 11 below shows the quantity in tons of waste moved in the month of September, 2013.

Table 11: List of Local Government in Ibadan Metropolis and the quantity of waste moved by volume (tons) by each for the month of September, 2013

LOCAL GOVERNMENT AREA	QUANTITY (tons)
IBADAN NORTH EAST	199.10
IBADAN NORH WEST	397.61
IBADAN SOUTH EAST	718.52
IBADAN SOUTH WEST	492.55
IBADAN NORTH	869.65
AKINYELE	1164.80
ONA-ARA	818.06
OLUYOLE	646.34
LAGELU	541.84
EGBEDA	514.38
IDO	259.83
<b>TOTAL</b>	<b>6622.68</b>

Source: Official information by Oyo State Waste Management Authority

## 4.5 Socioeconomics

### 4.5.1 Demography

Ibadan experienced geometrical increase in population between 1851 and 1921. By 1856 the population was estimated at 60,000 which rose to over 200,000 in 1890, 238,094 in 1921, and 386,359 in 1931. The 1991 census in Nigeria put the population at 1,222,570 with a density of 475.11 persons per square kilometer. Its population is estimated to be about 2,559,853 people according to the 2006 estimates. Its projected population by 2010, using 3.2 percent growth rate, is about 2,893,137 (See Table 12 and 13 below).

Table 12: Distribution of the population in the 11 LGAs of Ibadan

		Growth rate March 2006	2006 Census	2006	2006	2006- 2012 (March)		
S/N	LGA	1991-2006F	Male	Female	Total	Total	Male	Female
1	Ibadan NE	1.29	163,844	167,600	331,444	358,043	176,993	181,050
2	Ibadan N	0.13	152,608	155,511	308,119	310,600	153,837	156,763
3	Ibadan NW	0.28	75,410	78,619	154,029	156,661	76,699	79,963
4	Ibadan SE	1.16	130,334	136,123	266,457	285,579	139,687	145,892
5	Ibadan SW	0.15	139,622	143,476	283,098	285,670	140,891	144,780
6	Akinyele	2.88	105,594	106,217	211,811	251,808	125,534	126,274
7	Egbeda	5.47	137,527	146,116	283,643	393,879	190,976	202,903
8	Ido	4.63	52,465	51,622	104,087	137,440	69,276	68,163
9	Lagelu	4.11	74,220	73,913	148,133	204,083	102,253	101,830
10	Ona Ara	5.37	130,615	134,956	265,571	366,470	180,240	186,230
11	Oluoyole	5.57	102,371	101,090	203,461	284,255	143,022	141,233

Source: Federal Republic of Nigeria official gazette of 2nd February 2009 No. 2 Vol. 96.

Table 13: The population growth of Ibadan (1856-2010)

Year	Population
1856	60,000
1890	200,000
1921	238,094
1931	386,359
1991	1,222,570
2006	2,550,593
2010	2,893,137

Source: Wahab (2011)

## 4.5.2 Urbanization and development

### 4.5.2.1 Land use and location

The total land area of the 11 Local Government Area (LGAs) of the Ibadan metropolitan area is 3.123km<sup>2</sup> out of which about 15% falls in urban Ibadan while the remaining 85% is in rural Ibadan.

Table 14 below gives an illustration of the size of the LGAs in Ibadan.

Table 14: Size (Km<sup>2</sup>) of LGAs in Ibadan

Urban	Size (Km <sup>2</sup> )
Ibadan North	27.00
Ibadan North East	18.00
Ibadan North West	26.00
Ibadan South East	17.00
Ibadan South West	40.00
Akinyele	464.89
Egbeda	191.00
Ido	986.00
Lagelu	338.00
Ona Ara	290.00
Oluyole	629.00
<b>Total</b>	<b>3,026.89</b>

### 4.5.2.2 Economic activities

Ibadan is located at a strategic location on the operational railway route in the Southern region connecting Lagos to Kano in the North of Nigeria. It is a major trade stop for traders who trade in cassava, cocoa, cotton, timber, rubber, and palm oil. The main industries in the area include the processing of agricultural products; tobacco processing and cigarette (manufacture); flour-milling, leather-working and furniture-making. There is abundance of clay, kaolin and aquamarine in its environs, and there are several cattle ranches, a dairy farm as well as a commercial abattoir in Ibadan. Table 15 below lists the economic activities in Ibadan city.

Table 15: Economic activities in Ibadan

Agricultural products	Cottage Industry	Other industries/Institutes	Tourist attractions
Yams	Cotton spinning	Cannery	Ibadan University Zoo
Corn (Maize)	Weaving	Brewery	Agodi Zoological Garden
Cassava (manioc)	Dyeing	Publishing	
Beans	Leather working (sheep and goat skins)	Tobacco-processing	
Millet	Wood carving	Wood and steel furniture	
Plantain	Mat making	Motor vehicle assembly plant	
Tobacco		International Institute of Tropical Agriculture	
Cocoa		Cocoa Research Institute of Nigeria	
Palm oil and Palm Kernels		Federal Agricultural Research Institute	
Cotton			
Kola nuts			
Indigo			
Fruits			

#### 4.6 Flood prone areas and drainage system

The consequence of poorly managed urbanization is the settlement on unstable and risky locations such as along Ogunpa, Kudeti, Ogbere and Orogun floodplains and hillside of Oke-Are, Oke-Aremo, Sapati and Mokola hills in the centre of the city. This phenomenon is partly responsible for the Ogunpa flood disasters and soil erosion. Within the city core residential areas, there is lack of comprehensive water and sewage systems, inadequate garbage collection and disposition and unstable urban environments that increase vulnerability to natural disasters and jeopardize public health. Figure 4 on the next page shows flooded areas and extent during the August 2011 floods. Table 16 below describes the approved setbacks for major rivers in the Ibadan metropolitan area.

Table 16: Approved setbacks for major rivers in the Ibadan metropolitan area

No	River Name	Setback (m)
1	Odo- Ona Elewe	15
2	Adamo	15
3	Alalubosa	15
4	Sango	15
5	Oluyole	15.5
6	Kudeti	30.5
7	Orogun	30.5
8	Onire	30.5
9	Gbaremu	30.5
10	Alaro	30.5
11	Ogbere	30.5
12	Gege	30.5
13	Ogunpa	45
14	Odo-Ona	45
15	Ona-Ara	45.7
16	Others	15

Source: Oyo State of Nigeria, 2005

Because of its ever-increasing population and inadequate drainage system, Ibadan had suffered a lot from the problem of refuse disposal. This has resulted in blocking of the few existing drainage consequent upon which Ibadan’s major river Kudeti and river Ogunpa and other smaller ones such as Ogbere stream, Orogun stream and Labelabe stream had to overflow their banks.

#### 4.7 Water Supply in Ibadan

Water is sourced from the Eleyele and Asejire dams. The two dams supply three water works operated by Water Cooperation of Oyo State (WCOS). Below, lists the supply capacity per day from the dams.

- Asejire 82 000 m<sup>3</sup>/day;
- Osegere 13 500 m<sup>3</sup>/day;
- Eleiyele 33 000 m<sup>3</sup>/day.

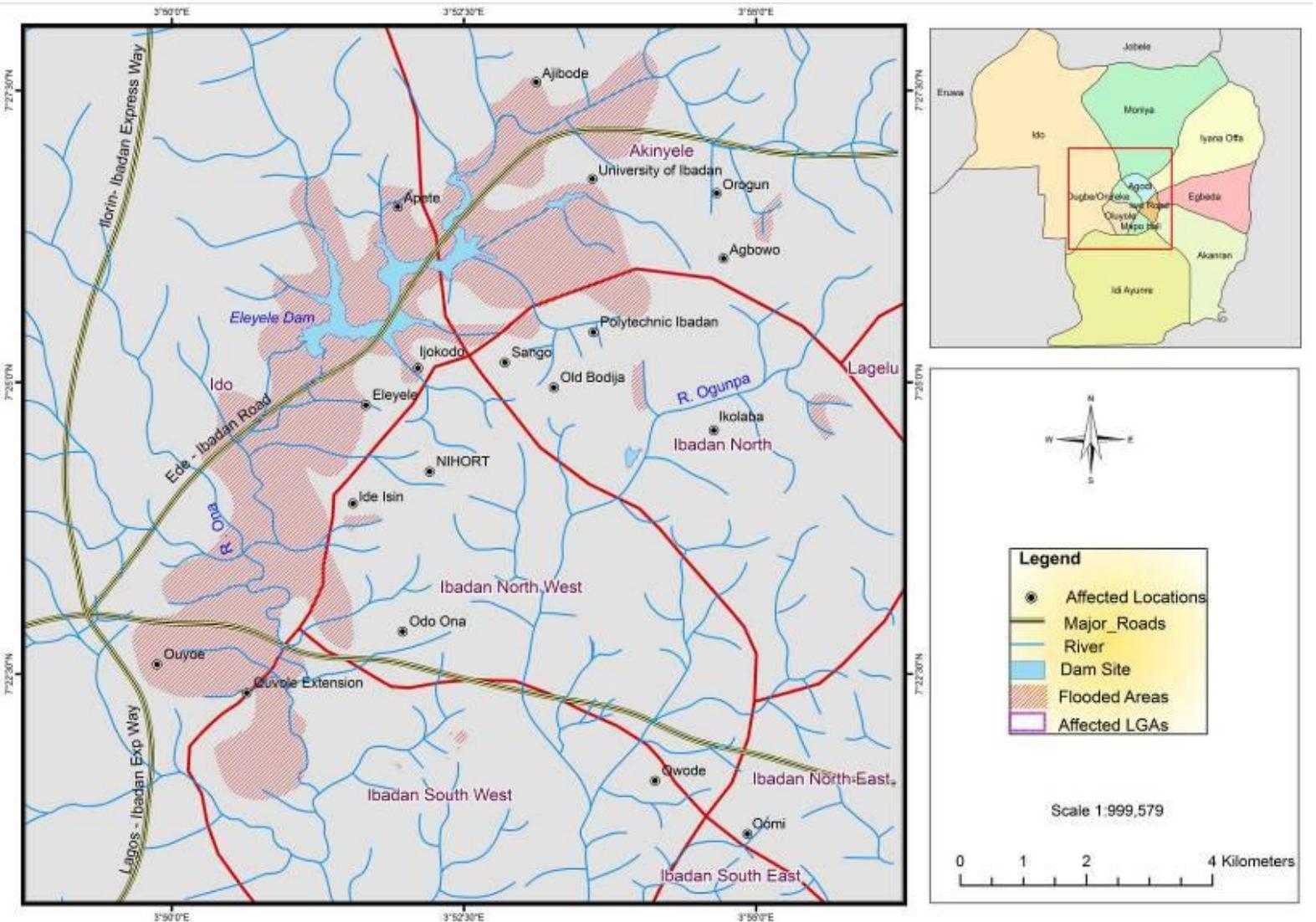


Figure 4: Map of Ibadan showing flooded areas during the August 2011 floods

## **4.8 Biological Environment**

### **4.8.1 Flora**

Ibadan city lies wholly within the high forest zone. Structurally, the vegetation of the forest zone consists of an upper stratum of trees (emergent) with isolated crowns, rising to 120 feet and above in height; a middle stratum varying in height from 50 to 120 feet with crowns in lateral contact with each other; a lower stratum or under storey of trees up to 50 feet high with spreading crowns bound together with woody climbers. Beneath the understory there is still another stratum consisting of small-stemmed shrubs. The thick, low-lying forests are prone to flooding as observed in areas like Ajibode, National Institute for Horticultural Research (NIHORT) and Oke Ayo along the course of River Ona. The International Institute of Tropical Agriculture (IITA) forest is covered by thickest of climbers and clumps of bamboo, *Bambusa vulgaris*.

### **4.8.2 Fauna**

A mixture of forest and grassland provide habitat for a range of species from large animals such as the, leopard and antelops to grey duckler, squirrel and crocodile as well as more localized species including crickets, monkeys and lizards.

## **5.0 INSTITUTIONAL ARRANGEMENT FOR IMPLEMENTING THE IUFMP**

### **5.1 Introduction**

It is necessary to highlight and define the roles, responsibilities and institutional arrangements for the implementation of the IUFMP, as they are fundamental to the effective implementation of the environmental and social safeguard measures outlined in this ESMF. Accordingly, details of institutional arrangements and the roles and responsibilities of the various institutions in the implementation of the IUFMP are highlighted below.

### **5.2 IUFMP Institutional Arrangement**

Generally, the IUFMP is expected to run at the state level supervised by Office of the Executive Governor, Oyo State which will manage the coordination and program support and is expected to work in collaboration with MDAs (See figure 5 on the next page)

Furthermore, the PIU will have an advisory board or a technical steering committee and a management unit. The board will include representatives from civil society and the government. The PIU shall be headed by a Project Coordinator (PC) who will supervise sub-project activities (See figure 6 on the next page).

### **5.3 Roles and Responsibilities**

The successful implementation of the ESMF depends on the commitment of the PIU and the MEH and other related institutions, and the capacity within the institutions to apply or use the ESMF effectively, and the appropriate and functional institutional arrangements, among others.

Thus details of institutional arrangements, the roles and responsibilities of the institutions that would be involved in the implementation of the ESMF are highlighted below. For the purpose of this ESMF, the institutions identified include:

- State Level Institutions: PIU and other relevant Ministries, Departments and Agencies (MDAs);
- Local Government Level Institutions;
- Direct and Other Stakeholder/Groups: CDA; CBO/NGOs;
- Consultants, Contractors and Site Engineers; and
- World Bank and other development partners.

Their roles and responsibilities are highlighted below:

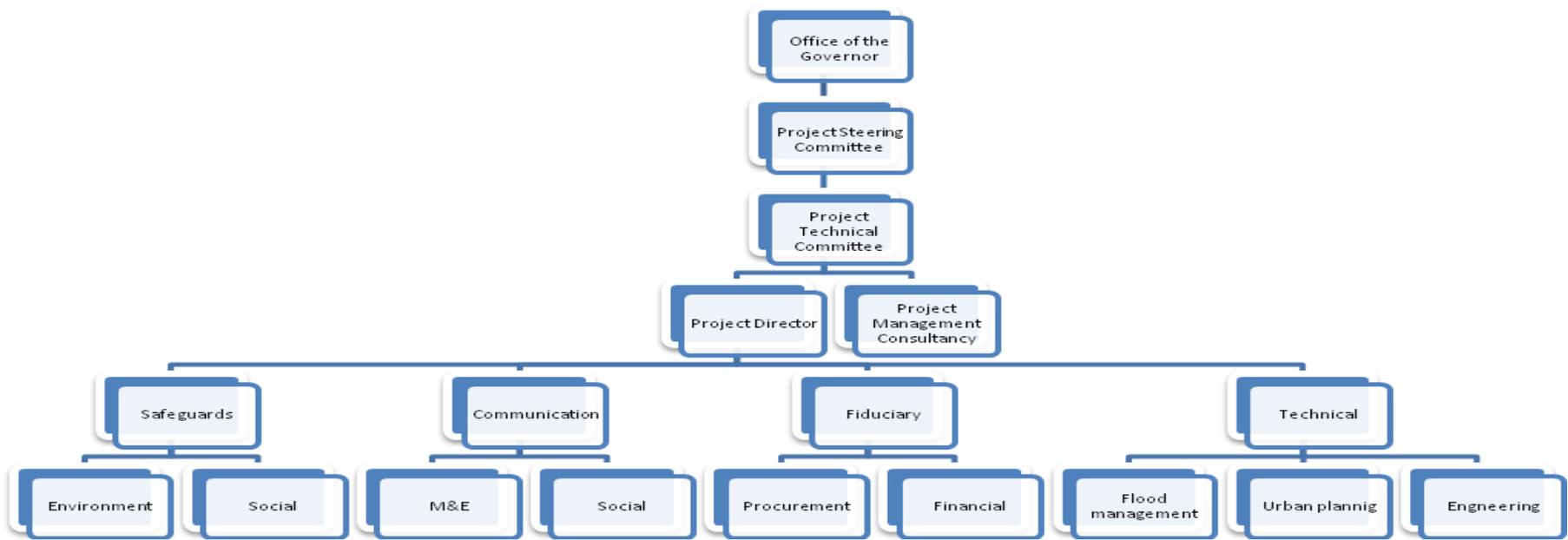


Figure 5: Organogram of Project Implementation Arrangements

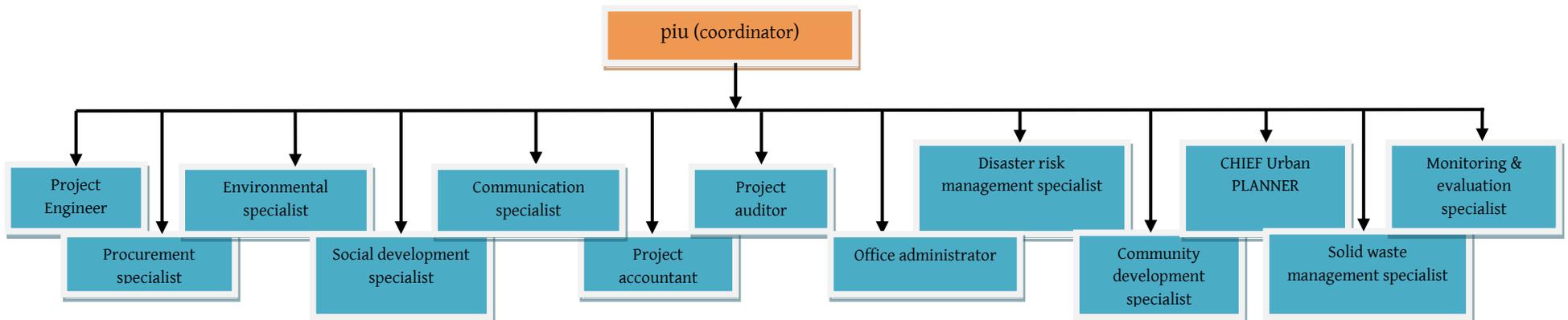


Figure 6: Organogram for PIU

### **5.3.1 State Level Institutions**

The state level institutions include the PIU and other relevant MDAs in Oyo State. Some relevant agencies include:

#### **Oyo State Ministry of Environment and Habitat (MEH)**

The Ministry comprises of 4 departments namely: Planning and Research, Administration and Supplies, Finance and Accounts and Sanitation and Sewerage. The Department of Sanitation and Sewerage has 3 units namely: Engineering, Pollution control and Environmental Health. Some of the institutional roles and responsibilities of the Ministry include:

- To ensure the implementation of the provisions of the National Environmental Sanitation Policy and Guidelines;
- To enforce compliance with the provisions of these regulations;
- To issue permits as prescribed in the relevant section of these regulations;
- To ensure compliance with conditions of the permits as contained in the relevant schedules; and
- To ensure that the waste management facilities comply with the Environmental Impact Statement.

#### **Oyo State Ministry of Water Resources**

The Ministry law was enacted by the Oyo State House of Assembly in 2011 with the following departments: Water supply, dams, hydro-electricity, irrigation and drainage, quality control and sanitation, finance and administration, planning, research and statistics.

Some of the functions of the Ministry include:

- To control and manage all water resources facilities vested under the provisions of this law in the Ministry;
- To establish control manage, extend and develop such new water resources facilities and to extend and develop such existing ones as the Ministry may consider necessary for the purpose of providing water services in order to meet the requirements of the general public , agriculture, trade in various part of the state;
- To ensure that water or waste water is supplied to or conveyed for the consumer thereof at reasonable charge and in potable quality and adequate quantity where applicable; and
- To monitor sources of toxic pollution in water and often necessary advice to industrial establishments.

#### **Oyo State Emergency Management Agency (OYSEMA)**

The Agency was established by Oyo State Emergency Management Agency Law, 2008.

Some of the functions include:

- To formulate policy on all actions relating to disaster management and coordinate plans and programmes for efficient and effective response to disasters at the state level;
- To co-ordinate and promote research activities relating to disaster management at the state level;
- To monitor the state of preparedness of all organizations or/ agencies which may contribute to disaster management in the state; and
- To collate data from relevant agencies on disaster risk areas in the state so as to enhance forecasting, planning and field operation in disaster management;

- To distribute emergency relief materials to victims of natural or other disasters including internally displaced persons within the State and assist in the rehabilitation of the victims where necessary; and
- To promote disaster management capacity building, training and education into school curriculum.

### **Oyo State Ministry of Lands and Housing**

The Ministry of Lands is a service ministry and ensures that there is optimal utilization of land resources in their states in order to achieve development.

The functions include:

- To facilitate access to land so that Government, its agencies and private developers may own parcels of land for social and economic development of Oyo state through implementation of the provision of the general land policy;
- Management and control of land and landed properties and valuation of the interest in land;
- Formulation of general housing policy for Government and the Management of the public servants' Housing Loan scheme;
- Creating, registering and keeping record of all interest in land in Oyo state; and
- Realizing optimal revenue returns from all land transaction in state.

### **Oyo State Ministry of Works and Transport**

The Ministry evolved from Public Works Department in charge of the execution of Government projects to become a full-fledged Ministry, to also incorporate operation, planning and management of Government infrastructure. The operational departments under the ministry include Public Buildings, Highways, Mechanical & Electrical and the State Fires Service. It also provides and monitors the construction of hydraulic structures across river crossings.

The functions include:

- Advising Government on policy matters in respect of road transportation including efficient well maintained road network, road safety measures , creation of motor parks, identification of other modes of transportation and traffic management with a view to providing an effective and efficient movement of goods and services that will enhance socio-economic growth throughout the State;
- Increasing awareness on road safety including organization of annual road safety campaign;
- Advising Government on policy matters in respect of public buildings including construction of new Public Buildings and maintenance of existing ones;
- Advising Government on policy matters in respect of procurement, installations and maintenance of mechanical and electrical appliances and gadgets throughout the State; and
- Provision of firefighting services, equipment and qualitative training of personnel to combat outbreak of fire and other disasters to safeguard lives and property of its citizens including the creation of necessary awareness of dangers of fire outbreaks and other related hazards.

## **Oyo State Ministry of Physical Planning and Urban Development (MPP&UD)**

The Ministry was formerly under the Oyo State Ministry of Environment. The Board was created in 2008 and law was enacted in 2012. Policy is still under review, guidelines and functions are entrenched in the law.

The Ministry is saddled with 4 technical departments namely: development planning, development control, urban renewal and environmental management, housing and rural development.

The 33 LGAS have units of Physical Planning in Oyo State.

The functions of the Ministry include:

- Initiation, preparation and review of regional, sub-regional strategic Physical Development;
- Creation of Master Plans for major cities in Oyo State;
- Formulation of policy on collapsed buildings in Oyo State;
- Development of Plans to protect catchment areas of the public water reservoirs;
- Continuous monitoring and strict enforcement of Physical Planning laws, regulations & standards on developments along stream/river courses;
- Serving of contravention notices on illegal structures for registration and possible reconciliation;
- Carrying out publicity and enlightenment activities on physical planning;
- Tightening control over the reins of outdoor advertisement, signage & billboards in Oyo State;
- Carrying out state-wide inventory of Water bodies;
- Charting hydrological maps for Oyo State;
- Computerization of Town-planning operations;
- Establishment of Urban Environment Planning & management Information Systems (UEPMIS);
- Preparation of strategic Physical Development Plans for Oyo State;
- Verification of statuses of existing petrol stations & GSM telecoms base stations; and
- Establishment of proper & befitting offices for the ministry & its 33 local planning offices.

## **Oyo State Ministry of Health**

The Ministry of Health is one of the oldest in the State established in 1957. The ministry is saddled with the responsibility of policy initiation and implementation on issues relating to the health and well being of the people of the State.

Other major functions include: Planning Research & Statistics; Primary Health Care & Disease Control; Secondary Health Care & Training; Nursing Services; Pharmaceutical Services; Food, Water and Laboratory Services; Health and Hospital Monitoring.

Some of the functions include:

- To improve health status and social-economic advancement of individual in the State using preventive and curative approaches;
- To ensure that satisfactory standards are maintained in both government and private health institutions throughout the state; and
- To provide essential infrastructure in all public health institutions in the State for efficient, qualitative, affordable and effective health services.

## **Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation**

The Ministry was created to provide an enabling environment where the rights to survival, protection and development of the people, most especially the most vulnerable groups, as well as their empowerment to participate in and benefit from the socio-economic, development processes are enhanced.

The objectives of the Ministry include:

- To ensure full positive participation of women in socio-economic programmes and elimination of all forms of discrimination against women in the state;
- To provide adequate health care, protection and social rehabilitation and re-integration services for the society's less privileged persons;
- To mobilize and encourage community members in the design and execution of self-help projects for community sustenance and advancement in all sectors;
- To encourage an all round positive participation of all stakeholders in the protection of the Right of the child for quality development;
- To coordinate and monitor all Poverty eradication activities of the State Government; and
- To initiate and implement schemes that could eradicate or alleviate poverty amongst the citizenry, as well as source for job placement for the unemployed in Industry, Agriculture and Mining.

## **Oyo State Ministry of Information and Orientation**

The Ministry of Information and Orientation is saddled with the responsibility of disseminating information on Government Policies, programs and activities.

The objectives include:

- To publicize the day to day activities of the Government by means of various instruments of mass communication and available public relations skills in order to achieve mass awareness and citizens' participation in public affair;
- To act as catalyst for change among the people and ensure adequate feedback to Government as regards people's reactions to Government policies and actions;
- To project the image of the State Government and its activities through Modern Information and Communication Technology; and
- To play supervisory roles on the activities of the Broadcasting Corporation of Oyo State (BCOS), and the Government Printing Press.

## **Oyo State Waste Management Authority**

In 1992, an edict was enacted to establish a Solid Waste Management Board. There are also zonal agencies in the LGAs replicating the functions carried out in Ibadan.

The functions of the Board include:

- To collect, transport and dispose of solid waste in Oyo State; and
- To regulate and compliment the functions of the private contractors in collecting solid waste from unreachable areas.

The Yes 'O' cadet is supervised by Environmental Health Officers who help with waste disposal monitoring.

## **Oyo State National Environmental Standards and Regulatory Enforcement Agency (NESREA)**

The agency is responsible for the protection and development of the environmental, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology including liaison with relevant stakeholders within and outside Nigeria on matter of enforcement of environmental standards, regulations, rules, laws, policies and guidelines.

The list of regulations includes:

- National Environmental (Wetlands, Riverbanks and Lakeshores) Regulations;
- National Environmental (Protection of Watershed, Mountainous, Hilly and Catchment Areas) Regulations;
- National Environmental (Coastal and Marine Area Protection) Regulations;
- National Environmental (Soil Erosion and Flood Control) Regulations; and
- National Environmental (Surface and Ground Water Quality Control) Regulations.

## **Highlights of the National Environmental (Soil Erosion and Flood Control) Regulations, 2011**

Of all the environmental problems currently in Nigeria, soil erosion and flooding have in recent years, remained the most devastating. Lives are sometimes lost, residential buildings and access roads are destroyed, farmlands are washed away and socio-economic activities of the people in the communities are adversely affected.

The objectives include:

- To control accelerated soil erosion, flooding of vulnerable areas and sediment deposition in water bodies and water courses and also to prevent pollution of these water resources.
- To restrict or prohibit land disturbing activities or uses which are dangerous to health, safety and property due to water induced erosion caused by increased flow velocity and surface run off.

## **Project Implementation Unit (PIU)**

The PIU, as the implementing authority, has the mandate to:

- Ensure that the PDOs of the IUFMP are fully achieved in a timely manner;
- Co-ordinate programmes and actions related to the project;
- Ensure the smooth and efficient implementation of the project's various technical programmes;
- Cooperate through a Steering Committee that provides guidance to the technical aspects of all project activities;
- Maintain and manage all funds effectively and efficiently for the sub-projects;
- Plan, coordinate, manage and develop IUFMP projects to ensure success;
- Recommend on policy issues to the Governor including mechanisms for implementation;
- Prepare plans for the management and development of IUFMP project;
- Monitor the project work to ensure that the activities are carried out in a satisfactory manner;
- Organize the necessary orientation and training for the departmental officials so that they can carry out consultations with local governments, support local governments in carrying out the recommendations in the ESMF, ESIA/ESMP; and
- Ensure that progress reports are submitted to the World Bank regularly.

## **Environmental and Social Safeguards Unit**

To ensure sustainability in all the IUFMP sub-project activities, an environmental and social development safeguards unit have been formed which includes the environmental and social development safeguards officers that reports directly to the 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 of IUFMP, 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 OP. 4.01, 4.04, 4.11, 4.37 and 4.12 (See Table 4 in Chapter 2) 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 IUFMP, 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 IUFMP sub-projects.

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

### **Roles & Responsibilities of Environmental and Social Safeguards Unit**

- Review all ESIA/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 ESIA/ 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 PIU staff, the contractors and others involved in the project implementation, in collaboration with the PIU;
- 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 PIU;
- Liaise with the Contractors and the PIU / 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 State Government Agencies and the World Bank to supervise the implementation.

### **5.3.2 Local Government Level Institutions**

The LG governs the affairs in the various communities. It is expected that it serves as an inter-phase between the community members who are leaving in the flood plains and the IUFMP. The LG can assist in the implementation of the proper community mechanism. Their staff can work together with the other relevant MDAs and CBOs.

The Local Government Council has to be fully briefed and enlightened in the process and steps to be taken in the ESMF/ESIA/ESMP and the overall project execution. The council should in turn engage and be encouraged to carry out a comprehensive and practical awareness campaign for the proposed project, amongst the various relevant grass roots interest groups.

### **5.3.3 Community Based Organizations / Community Development Associations (CBOs/CDAs)**

The primary aim of the CBOs/CDAs is to sensitize community members for community actions with minimal support from Government.

Some of their functions include:

- Mobilizing urban communities with a view to providing basic amenities;
- Sensitize community members for community actions; and
- Responsible for everyone in a community which include women groups, vulnerable groups and the youth.

These are organizations based in the communities. Organizations in the state can serve as an inter-phase and can speak for the people. They can communicate to the IUFMP office, the intentions and needs of the people and vice versa. CDAs in priority intervention sites but not limited to the following include: Ojobusa CDA, Gada CDA, Akako CDA, Agara, CDA, Okeayo CDA; Moradeyo CDA, Areokuta CDA, Atolu CDA, Araromi CDA, Ogbere Elere CDA, and Irewole Oke Ogbere CDA.

The mechanism, structure and characteristics of CDAs in Ibadan city are the same. CDAs essentially mobilize people in their locality for the purpose of finding solutions to common problems through self-help efforts (with less support from Government) for the benefit of their immediate environment. CDA members are Government agents but not under financial payroll of the Government. In principle, all residents of a community are members of a Community Development Association.

Usually, CDAs operate at the ward level. All CDA's in a Local Government are under the headship of the Local Government Community Development Council. In the same vein, all Local Government Community Development Councils in Oyo State are under the umbrella body of Oyo State community Development Council which is the supreme institution governing Community Development programs in the State.

For convenience of administration, each CDA has an executive body with the following position:- Chairman, Vice-Chairman, Treasurer, Ex-officio, Auditor, Project Officer, Financial Secretary which are

elective offices where Women, Youth and vulnerable persons can aspire to any office in the executive positions.

CDA's are involved in infrastructural development, management and maintenance of roads, water supply, electricity, sanitation, forest management, flood and erosion control, security, cultural and religious programs within their localities and provide sustainable empowerment in the aforementioned areas as well as serve as platforms for conflict resolution and arbitration in communities. Also, the youth monitor projects within their communities/local government while the women groups act in the capacity of sanitation and treasurers within their locality.

### 5.3.4 World Bank

The World Bank will supervise monitoring indicators in the ESIA/ESMP and recommend additional measures for strengthening the management framework and implementation performance, where need be. The reporting framework, screening procedures and preparation of management and mitigation plans shall be discussed and agreed by the Bank team and PIU during the early part of project implementation.

### 5.3.5 Consultants, Contractors and Site Engineers

The consultants and contractors will work with the PIU and other stakeholders in prompt and effective projects delivery.

Safeguards responsibilities for proposed sub-projects are summarized in Table 17 below.

Table 17: Safeguards Responsibilities for IUFMP sub-projects

S/No	Category	Roles
<b>I</b> Safeguards Unit		<u>Environmental Safeguards</u> Collate baseline data on relevant environmental characteristics of the selected project sites; Analyse potential community/individual sub-projects and their environmental impacts; Ensure that project activities that are implemented will in accordance to best practices and guidelines set out in the ESMF and site specific ESIA/ESMPs; Identify and liaise with all stakeholders involved in environment related issues in the project; and Be responsible for the overall monitoring of mitigation measures and the impacts of the project during implementation.
		<u>Social Safeguards</u> Develop , coordinate and ensures the implementation of the RAPs; Identify and liaise with all stakeholders involved in social related issues in the project; Conduct impact evaluation and beneficiaries assessment; and Establish partnerships and liaise with organisations, Community Based Organizations (CBOs) and Civil Society Organizations (CSOs).
<b>II</b>	PIU	Liaise closely with Oyo State Ministry of Environment and Habitat and the Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation in preparing a coordinated response on the environmental and social aspects of project development respectively. Safeguards due diligence
<b>III</b>	State Government MDAs (Oyo State Ministry of Environment and Habitat, etc.	Lead role -provision of advice on screening, scoping, review of draft final ESIA/ ESMP report receiving comments from stakeholders, public hearing of the project proposals, and convening a technical decision-making panel, monitoring and evaluation process and criteria; This ESMF will be reviewed and disclosed by the Oyo State Ministry of Environment and Habitat.
<b>IV</b>	Other State MDAs	The MDAs applies when relevant areas or resources under their jurisdiction are likely to be affected by or implicated sub-projects. They participate in the EA processes and in project decision-making that helps prevent or minimize impacts and to mitigate them. These institutions may also be required, issue a consent or approval for an aspect of a project; allow an area to be included in a project; or allow impact to a certain extent or impose restrictions or conditions, monitoring responsibility or supervisory oversight.

<b>V</b>	Federal Government MDAs (Federal Ministry of Environment and her agencies such as NESREA)	Provision of advice on screening, scoping, review of draft final ESIA/ESMP report (in liaison with Oyo State Ministry of Environment and Habitat), receiving comments from stakeholders, public hearing of the project proposals, and convening a technical decision-making panel, Project categorization for EA, Applicable standards, Environmental and social liability investigations, Monitoring and evaluation process and criteria.
<b>VI</b>	World Bank	Overall supervision and provision of technical support and guidance. Recommend additional measures for strengthening the management framework and implementation performance; Supervising the application and recommendations of sub- project ESIA/ESMPs.
<b>VII</b>	Local Government	Liaising with the PIU. Engage and encourage carrying out comprehensive and practical awareness campaign for the proposed sub-projects, amongst the various relevant grass roots interest groups.
<b>VIII</b>	CDA (Community Development Organisations)	Ensure community participation by mobilizing, sensitizing community members on environmental and social awareness;
<b>IX</b>	Consultants, Contractors, and Site Engineers	Will work with the PIU and other stakeholders. They are to ensure effective project delivery in a timely, safe and environmentally sound manner.
<b>X</b>	NGOs/CSOs	Assisting to ensure effective response actions and providing wide support as third party monitoring of the application of the EA instruments – ESIA/ ESMPs as well as management planning, institutional/governance issues and other livelihood related matter and awareness campaigns
<b>XI</b>	The General Public	Assist to ensure effective dissemination, ensuring safe use of volunteers and identifying where the volunteers can best render services effectively.

## 6.0

## ENVIRONMENTAL AND SOCIAL IMPACTS IDENTIFICATION

This chapter contains a summary of the potential positive and negative impacts due to the implementation of sub-project activities. In order to determine the potential impacts of sub-projects, robust screening measures were put in place as follows:

### 6.1 Screening Process

The objective of screening is to determine the appropriate level of environmental and social impact assessment and management for a proposed sub-project. Environmental and Social screening process distinguishes sub-projects and activities that will require thorough environmental review to prevent/mitigate negative environmental impacts or those which will provide opportunities to enhance positive impacts.

Thus, one of the objectives of the screening process is to rapidly identify those sub-projects which have little or no environmental or social issues so that they can move to implementation in accordance with pre-approved standards or codes of practices for environmental and social management. Figure 7 below describes a typical screening procedure.

In other words, based on environmental screening, sub-projects with no noticeable impacts are cleared. Sub-projects with some environmental and social impacts proceeds to another level of conducting an EA, which will be evaluated to clear the sub-project.

### 6.2 Environmental and Social Screening Criteria

The screening exercise will be carried out prior to initiation of the project preparation activities. The screening exercise will be used as a tool to identify the severity of environmental and social impacts and integrate relevant mitigation measures into the project preparation accordingly.

The screening also shall provide information on the following:

- Categories of sub-projects and inclusion in the project; and
- Categories of sub-projects to be excluded in sensitive areas through exclusion criteria.

The categorization is done through the use of an Environmental and Social Screening Checklist (ESSC) of the proposed sub-projects to determine if they fall under any EA Category A, B or C as seen in Table 5 in Chapter 2.

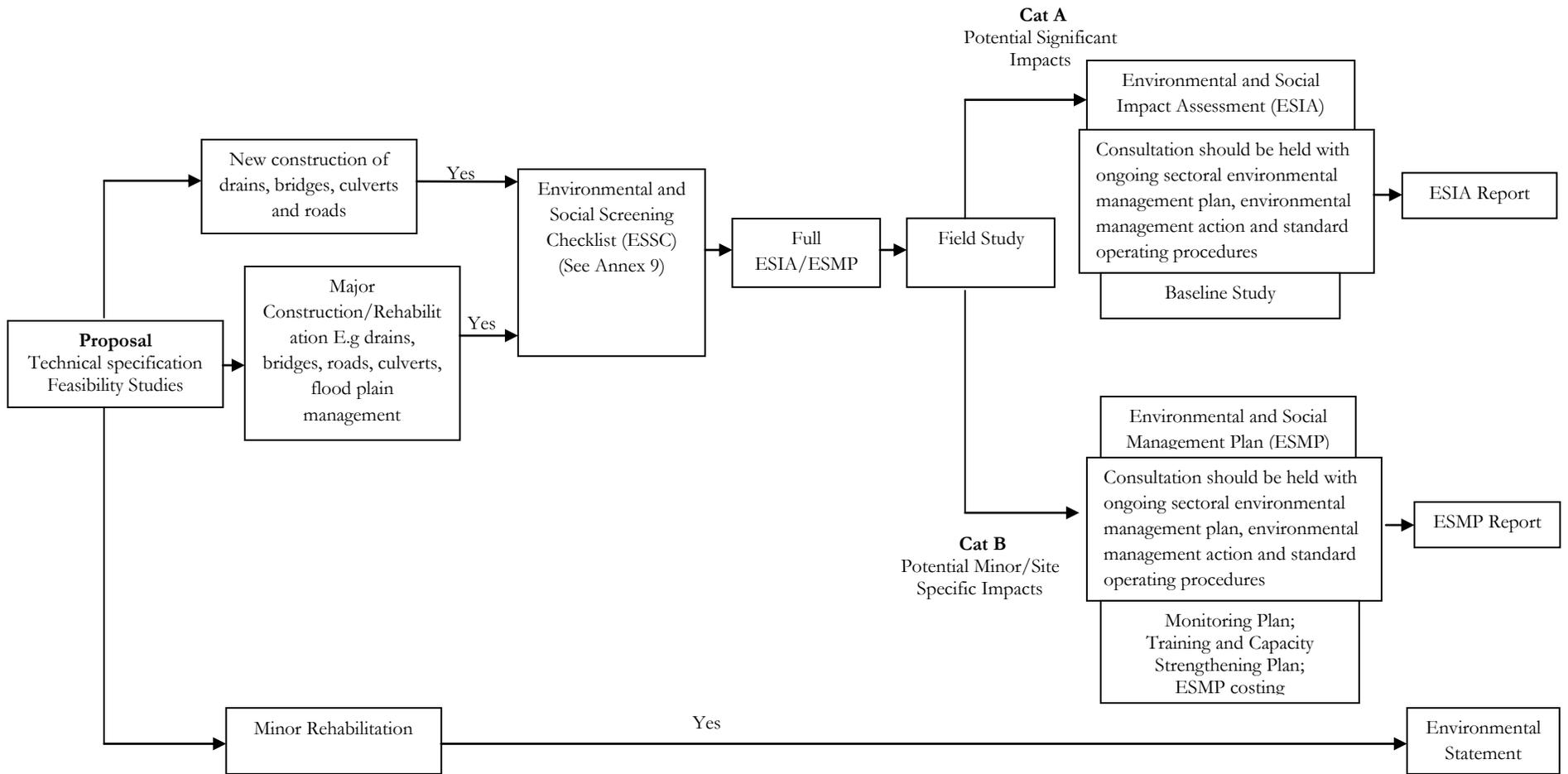


Figure 7: Typical Environmental Screening Procedure

### 6.3 Project Screening, Scoping and Categorization

All potential sub-project intervention sites will be screened for Environmental and Social (E&S) impacts prior to approval by the PIU. The Environmental and Social Development Officer of the PIU can carry out the screening. The screening process will include robust assessment of the project to determine:

- The appropriate EA category;
- Applicable local and international regulations and standards (e.g., labour, pollution, occupational health and other standards);
- Applicable World Bank policies triggered;
- Existing environmental and social liabilities; and
- Location sensitivities (e.g sensitive environments and culture) - natural habitats.

In addition, each project will be screened to identify relevant stakeholders and, the nature and extent of engagement for each stakeholder category. The report of the screening exercise (according to both Nigeria EIA decree and World Bank requirements) will be sent to the World Bank for review and clearance. Following the review of the screening and scoping, the terms of reference (TOR) and the reports of the ESIA/ESMPs that would ensue will be sent to the World Bank for review and clearance prior to disclosure in Nigeria and at World Bank Infoshop.

### 6.4 Impact analysis and prediction

Predicting the magnitude of a development likely impacts and evaluating their significance is core of environmental and social assessment process. Prediction should be based on the available environmental and social baseline of the project area. Such predictions are described in quantitative or qualitative terms See Table 18 below.

Table 18: Considerations in impact prediction

Consideration	Summary
<b>Magnitude of Impact:</b>	This is defined by the severity of each potential impact and indicates whether the impact is irreversible or, reversible and estimated potential rate of recovery. The magnitude of an impact cannot be considered high if a major negative impact can be mitigated.
<b>Extent of Impact:</b>	The spatial extent or the zone of influence of the impact should always be determined. An impact can be site-specific or limited to the project area; a locally occurring impact within the locality of the proposed project; a regional impact that may extend beyond the local area and a national impact affecting resources on a national scale and sometimes trans-boundary impacts, which might be international.
<b>Duration of Impact</b>	Environmental impacts have a temporal dimension and needs to be considered in an ESIA. Impacts arising at different phases of the project cycle may need to be considered. An impact that generally lasts for only three to nine years after project completion may be classified as short-term. An impact, which continues for 10 to 20 years, may be defined as medium-term, and impacts that last beyond 20 years are considered as long-term.
<b>Significance of the Impact:</b>	This refers to the value or amount of the impact. Once an impact has been predicted, its significance must be evaluated using an appropriate choice of criteria. The most important forms of criterion are: <ul style="list-style-type: none"> <li>• Specific legal requirements e.g. state, national laws, standards, international agreements and conventions, relevant policies etc.</li> <li>• Public views and complaints</li> <li>• Threat to sensitive ecosystems and resources e.g. can lead to extinction of species and depletion of resources, which can result, into conflicts.</li> <li>• Geographical extent of the impact e.g. has trans- boundary implications.</li> <li>• Cost of mitigation</li> <li>• Duration (time period over which they will occur)</li> <li>• Likelihood or probability of occurrence (very likely, unlikely, etc.)</li> <li>• Reversibility of impact (natural recovery or aided by human intervention)</li> <li>• Number (and characteristics) of people likely to be affected and their locations</li> <li>• Cumulative impacts e.g. adding more impacts to existing ones.</li> <li>• Uncertainty in prediction due to lack of accurate data or complex systems. Precautionary principle is advocated in this scenario.</li> </ul>

## 6.5 Types of impacts considered under the IUFMP

Identified impacts that are likely to be associated with the IUFMP have been classified to occur in 3 phases during civil works.

The phases include:

- Pre-construction;
- Construction; and
- Operational and Maintenance.

While the project is designed to have positive impacts on the environment and population in terms of reduced vulnerability to flooding and improved living conditions, there are also potential negative environmental and social impacts. The environmental and social impact associated with proposed sub-project activities which are expected to be moderate because the existing environment is already largely degraded and vulnerable to flood risks.

## 6.6 Assessment of key environmental and social issues

The Eleyele Dam on the River Ona (just upstream of the city) designed as a water resources reservoir (although not heavily silted) is in an uncertain structural condition and requires improvement to ensure safety.

The three key Master Plans for the city: Ibadan's Integrated Flood Risk Management Master Plan, Ibadan's Physical Master Plan, and Ibadan's Solid Waste Management Master Plan will provide much needed clarity on the future land use and urban development of Ibadan as well as the range and options of structural and non-structural measures that can be implemented in a cost-effective manner. A Strategic Environmental and Social Assessment (SESA) will be undertaken to would give priority to assessing cumulative impacts stemming from the proposed project activities.

## 6.7 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.

### *Positive environmental impacts*

- Prevention of surface and ground water pollution along the flood plains;
- Improved soil quality and quantity through improved drainage and flood protection systems;
- Improved management of storm water in Ibadan city;
- Minimization and control of flooding along Ona River;
- Sustained environmental performance and governance after project implementation; and
- Increased efficiency in the ESIA/ESMP process.

### *Positive social impacts*

- Increased capacity in knowledge, technology and skill through community development programs such as flood early warning system, preparedness and response;

- Improved drainage system through public workforce will mitigate against avoidable flooding conditions and related morbidity;
- Improved lives by solving the problem of flooding in urban and peri-urban areas along the Ona River;
- Preventive management of consistent floods and mitigation through sanitation and proper drainage as well as integrated development plans;
- Culverts and bridges will allow improved health conditions, health and safety of people, effective sanitation, reducing the mortality and morbidity associated with floods; increasing the resilience of communities at risk of flooding, and the preservation of assets of households and businesses against flood risk;
- Improved safety: Security conditions in flood plains along the Ona River;
- Job creation: Implementation activities will have a positive impact for the local economy, particularly with regard to job creation (labour for construction works, maintenance and monitoring) and related activities such as petty trading.
- Income generation: Civil works will have some impacts on the local economy, with the use of local SMEs whose project will lead to a high use of labour.

#### *Positive health impacts*

- Improved hygiene and the health of populations affected areas due to poor sanitation in flood prone areas, stagnation of water and solid waste runoff;
- Enhanced sanitation, effective solid waste management and disposal in Ibadan city.

### **Positive impacts of proposed sub-projects**

#### *Retention ponds*

- Retention basins allow a temporary or permanent storage of storm water, thereby avoiding or reducing the risk of flooding;
- The realization of these protective structures will prevent overflow of runoff and flooding in riparian peripheral areas along Ona River.

#### *Storm water drainage works*

The construction or rehabilitation of drainage networks will prevent water accumulation, reduce soil erosion as well as toxic materials and disease organisms.

## **6.8 Potential Negative Impacts**

Implementation of IUFMP could exert some negative impacts on the social and physical environment within the project areas which they are implemented. The sub-sections below describe the potential negative impacts on physical, biological and socio-economic activities. The following sub-sections illustrates on this.

### **6.8.1 Protected Areas, Natural Habitats and Forests**

Natural habitats are land and water areas whose ecological functions have not been essentially modified by human activities. Sub-projects like constructions, excavations are likely to lead to significant conversion or degradation of natural habitats.

## 6.8.2 Biological and Physico-chemical Impacts

These relate to effects on biological resources such as vegetation, wildlife, crops, and aquatic life. Impacts affecting soil and landforms, or vulnerability to soil erosion, floods and sedimentation, would be considered as physical impacts. Chemical impacts relate to sub-project activities that will cause a chemical change in air, water and soil quality. The biological component covers all elements, including different forms of plant life, their functions and interaction with other components of the ecosystem.

## 6.8.3 Social Impact

The socio-economic impacts would examine the sub-project activities that will alter the existing social and economic conditions of the communities within Ibadan. Socio-economic impacts may prove either negative or positive. Social impacts can be subdivided into the following:

- **Demographic impacts** – such as changes in population characteristics;
- **Socio-economic impacts** - including income and income multiplier effects, employment rates and patterns, effects on prices of local goods and services, and taxation effects;
- **Cultural impacts** - traditional patterns of life and work, family structures and leadership, religious and tribal factors, archaeological features, social networks and community cohesion;
- **Institutional impacts** - including demands on the government and social service, NGOs housing, schools, criminal justice, health, welfare and recreation, and
- **Gender impacts** - the implications of the sub-projects on the roles of women in society, income-generating opportunities, access to resources, employment opportunities and equity.

For the IUFMP, analysis must include the following socio-cultural parameters:

- Quality of life;
- Social organization and structures;
- Cultural life, including language, rituals and general lifestyle. A cultural life makes a social group immediately recognizable as being distinct from other groups.

## 6.8.4 Cultural Impacts

For the IUFMP, it is important that sub-project impacts on cultural heritage are considered. Areas of study should include:

- Historic sites;
- Religious shrines or areas; and
- Traditional practices that may be affected.

Cultural resources refer to archaeological, historical, religious, cultural and aesthetic values. Cultural resources are part of the resource base, it is therefore important that the development options, under consideration are screened for potential impacts on cultural properties.

Additionally, establishments such as Oyo State museum, Odu'a museum, Departments of Archaeology, Anthropology and the Institute of African Studies, University of Ibadan and other relevant agencies should be consulted.

If in the project site, there are some buried materials of archaeological/ historical value, discovered within three meters under the earth's surface, they are called "Archaeological Chance Finds" and the sub-project construction contractor should comply with the following rules and Federal or State archaeological laws:

- Notify relevant departments of such findings;
- Request a site inspection;
- Completely halt work until inspection results are received; and
- Decide whether or not to proceed with further work.

(See Annex 14 for procedures)

### **6.8.5 Health Impact**

The effects of a development project on individual mental and physiological well being (health status and trends) are often omitted or treated in an unsatisfactory manner. The World Health Organization (WHO) defines health as a state of social and individual well being and not just the absence of disease.

Some groups of individuals may be more exposed to harmful pollutants and their health status will decline. Health impacts also can occur directly from project activities, particularly from hazardous wastes stream, improper disposal of construction wastes, air and water pollution.

### **6.8.6 Economic Impact**

The focus in economic impact assessment is the estimation of the change in economic variable caused by:

- Sub-project construction and operation;
- Workforce requirement and the income earned by workers;
- Materials and other inputs for the project; and
- Capital investment.

It is essential to estimate the size of labour force, skilled manpower requirement and the duration of their involvement and whenever possible priority should be given to local workers. Requirement of manpower will vary at different stages of the sub-project implementation; for example, the need for labour peaks at construction phase and then declines gradually. An estimation of capital expenditure on local materials, and services is also required for economic evaluation.

A thorough analysis of the labour force and the local economy requires information on:

- The categories of labour available;
- The categories of labour that are highly demanded and employed, not employed and partly employed;
- Estimation of unemployed labour; proportion of female looking for employment, and
- The number and type of employment likely to be generated by the sub-project implementation.

Table 19 summarizes the potential identified negative environmental and social impacts and sources of occurrence.

## **6.9 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 projects 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 floods infrastructures may potentially affect other areas of the city 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 interventions and thus limit the risks. In addition, the proposed Strategic Environmental and Social Assessment (SESA) for the project would give priority to assessing cumulative impacts stemming from the proposed project activities.

Table 19: Identified impacts and sources of occurrence

		PHASE: PRE-CONSTRUCTION
TYPE OF IMPACT	IMPACT SOURCE	POTENTIAL IMPACT
<b>ENVIRONMENTAL</b>		
Site Preparation	Mobilization of equipment, construction activities including movement of goods and services.	The clearing of natural vegetation and excavation may exposure soil surface to erosion and water pollution.
Soil Erosion	Excavation, grading, compaction and filling.	The clearing of natural vegetation, excavation and compaction activities may exposure the soil surface to erosion, and will alter the soil properties including loss of valuable top soils . However, the impact is going to be site specific. Soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities.
Water Quality	Channelization of river before dredging and channelization activities.	The mobilization and transport of soil particles may, in turn, result in sedimentation of surface drainage networks, which may result in impacts to the quality of natural water systems and ultimately the biological systems that use these waters; Increased sedimentation and runoff during the construction activities such as in the rehabilitation of culverts and bridges
Flora and Fauna	Mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.	Reduction in the number of species.
Noise and Vibration	Mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.	Damages of structures overtime as a result of vibration caused by the heavy machineries.
<b>SOCIAL</b>		
Land take	Land acquisition from members of the communities in before the construction phase.	This impact would be addressed in the RPF which is a standalone report.
Transportation & Traffic	Mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.	Complaints from members of the community; Increased noise and air pollution; Increased roadside hazards and accidents.
Vulnerable groups related to land acquisition/loss of livelihood	Refer to RPF	This impact would be addressed in the RPF which is a standalone report.

		PHASE: CONSTRUCTION
TYPE OF IMPACT	IMPACT SOURCE	POTENTIAL IMPACT
<b>ENVIRONMENTAL</b>		
Water Quality	Seepage of fuel from powered machineries; Discharge of effluent from workers in the campsites, construction wastes; Eleyele dam spillway and stilling basin rehabilitation; Removing vegetation to exposed concrete surfaces;	Pollution of water as a result of improper disposal of excavated materials and construction wastes Oxygen depletion; Increased turbidity;

	Clearing of river channels and drainage structures.	Aggravation of eutrophication; Change in pH levels; Increased cases of disease, illnesses (especially waterborne diseases).
Soil quality	Site clearing, earth moving, and excavation activities.	Soil pollution as a result of improper disposal of excavated materials and construction wastes; Exposure of soil surfaces to rain and wind; High sediment yields from construction activities;
Air quality	On-site excavation and movement of earth materials, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind; Exhaust from diesel engines of earth moving equipment, as well as from open burning of solid waste on-site.	Pollution caused by the emission of fugitive dust.
Soil Erosion	Excavation, grading, compaction, filling and other civil works; Clearing of natural vegetation;	Exposure the surface soil to erosion will alter the soil properties including loss of valuable top soils; Presence of undercutting in roads; Increased flooding in other areas, which can lead to destruction of lands, crops and properties
Landscape degradation	Construction activities such as grading, dredging and filling of the roads etc.	Increased sedimentation and runoff; Increased local run off and changes in flow pattern
Eco-system	Vegetation clearing in Eleyele dam to expose concrete surfaces; Cleaning of drainage channels along flood plains.	Destruction of animal species breeding grounds and ecological niches; Ecosystem fragmentation
Flora and Fauna	Vegetation clearing in Eleyele dam to expose concrete surfaces; Cleaning of drainage channels along flood plains;	Destruction of animal species breeding grounds and ecological niches; Ecosystem fragmentation
Solid Waste	Construction rubbles, debris and spoils; Excavated materials.	Pollution of nearby surface water and soil as a result of improper disposal of excavated materials and construction wastes;
Noise and Vibration	Disturbance to the local communities from noise and vibration of civil works.	Damages of structures overtime as a result of the vibration caused by the heavy machineries
<b>SOCIAL</b>		
Risk of social conflict	Civil work activities.	Disruption of social and economic lives; Diverse interest and fora of change; Frustrations due to a non-employment of the resident labor and local labor at work
Vulnerable groups related to land acquisition/loss of livelihood	Refer to RPF	This impact would be addressed in the RPF which is a standalone report.
Disruption of activities	Civil work activities; Damages to other infrastructure; Governance. (Corrupt practices).	Increased congestion resulting in temporary disturbance and interruption of commercial and social activities;

		Short-term disruption of certain public services; A collapse of the laws, rules and norms within construction sites; Increased anti-social behaviour
Vices	Low living standards of members of the host community which will increase likelihood of social vices such as prostitution, robbery, etc.	Crime rate and dispute amongst members of the communities; Increased crime rates; Risk of vandalism when unsupervised
Traffic	Transportation of construction materials and equipment. Evacuation and clearance of debris, rubble and spoils	Complaints from members of the community; Increase in noise and air pollution; Increase in roadside hazards and accidents.
Aesthetics	Construction works.	Diminished aesthetic levels.
Public Health	Evacuation and clearance of debris, rubble and spoils	Increased exposure to health and safety risks for the site workers and local residents.
Water-Borne Diseases (e.g. Cholera, Dysentery, Amoebiasis sp., Salmonellosis sp. etc.)	Poor environmental sanitation habits exhibited by members of the contractor's workforce. Overload of existing sanitation facilities; Poor environmental sanitation habits by members of the contractor's workforce; Movement of solid waste during drainage cleaning.	Increased outbreak of water borne diseases amongst the workforce and the local population; Increased cases of disease vector carrying infections amongst workers and members of the host communities.
Safety at Construction Site	Accidents may occur during the construction phase as a result of increased vehicular movements.	Increase in total number of accidents.
Chance Finds of Cultural Resources	This policy triggers the OP 4.11 on physical Cultural Resources due to: Excavation/earth works and other engineering activities; Construction operations.	Loss of valuable archaeological and historical artefacts Complaints from members of the community; Risk of damaging cultural property such as monuments, structures, works of art, or sites.

		PHASE: OPERATION & MAINTENANCE
TYPE OF IMPACT	IMPACT SOURCE	POTENTIAL IMPACT
	<b>ENVIRONMENTAL</b>	
Topography	Construction activities including movement of goods and services.	Scarification of landscape; Increase in vehicular accidents.
Soil	Grading, dredging and filling of the roads etc.	Soil erosion may be caused by exposure of soil surfaces to rain and wind; Increased sedimentation and runoff.
Water Quality	Local runoff; Wastes (municipal solid wastes, water weed wastes, effluent, and hazardous wastes e.t.c).	Changes in pH levels; Turbidity; Change in water colour; Smell.

Air Quality	Increase in vehicular traffics.	Complaints from members of the community; Complaint from local residents on cases of respiratory problems; Increase in particulate matter and dust above the ambient air quality levels.
Eco-system	Clearing of vegetation around river and drainage channels as well as Eleyele dam site.	Ecosystem fragmentation.
Flora and Fauna	During mobilization of equipment, construction activities such as grading, dredging, filling, excavation etc.	Reduction in the number of species.
Solid Waste	Construction rubbles, debris and spoils; Excavated materials.	Pollution of nearby surface water and soil as a result of improper disposal of excavated materials and construction wastes.
<b>SOCIAL</b>		
Transportation & Traffic	Increase in traffic within the roads and access roads of the project.	increase in traffic in the areas around the sub-projects implementation.
Occupational Health & Safety	Exposure of workers to accidents, working in potential weather extremes, contact with natural hazards such as animals, insects, carnivorous and poisonous plants.	Injury of workers and the public during the operation and maintenance activities.

## **7.0 ENVIRONMENTAL AND SOCIAL GENERIC MITIGATION MEASURES**

The ESMF considered a number of generic mitigation and enhancement measures for implementation to ensure the IUFMP sub-projects are environmentally sustainable and socially acceptable. The mitigation measures will be useful and fundamental in the preparation of mitigation strategies which will be developed and implemented in the ESMPs prepared for sub-projects requiring ESIA's.

The ESMF institutionalizes the measures through assigning implementation responsibilities and formulation of contract clauses for incorporation into contract documents.

The potential impacts of the projects and their recommended mitigation measures are indicated in Table 20 below.

Table 20: Potential impacts and generic mitigation measures

Project Phase	Potential Impact source	Mitigation Measures	Roles and Responsibilities
Pre-construction phase	<p><b>Community Perception</b></p> <p>Members of the Community may have negative perception about the project if not properly managed.</p>	<ul style="list-style-type: none"> <li>Adequate and timely information will be provided to affected owners.</li> <li>Creating proper complaints procedure.</li> <li>Providing enlightenment forums to stakeholders from the preparatory stage and on potential environmental and social concerns from civil works</li> <li>Development of communications and stakeholder engagement strategy.</li> <li>Carry out wide range consultations to increase project awareness, improve accountability, transparency responsiveness, and promote community participation, increase cooperation of community and other public and private sector partners.</li> <li>Existing social structures (e.g mosques, churches, community development committees, youth and women groups) should be used for continuous awareness building and sensitization at every stage.</li> </ul>	<p>PIU, MDAs(Oyo state Ministry of Information, Oyo state Ministry of Women Affairs, Community Development, Social Welfare and Poverty alleviation) CBOs</p> <p>PIU –Environmental Specialist, Social development specialist, Community Development, Specialist, Communication specialist</p>
	<p><b>Land take/land acquisition/involuntary resettlement</b></p> <p>Land acquisition from members of the communities</p>	<ul style="list-style-type: none"> <li>This would be addressed in the RPF which is a standalone report.</li> </ul>	Refer to RPF report

Project Phase	Potential Impact source	Mitigation Measures	Roles and Responsibilities
<p>Construction phase</p> <p>Physical Impact</p>	<p><b>Soil Impact</b></p> <p>Excavation, grading, compaction, filling and other civil works.</p>	<ul style="list-style-type: none"> <li>Erosion control measures such as water bars, gabions, straw bales, and re-vegetation will be implemented during and after construction phases.</li> <li>Re-vegetation efforts will be implemented to ensure long-term</li> </ul>	Environmental Specialist PIU, MDAs (Oyo state Ministry of Works, Oyo state Ministry of Environment and Habitat.

		recovery of the area and to prevent significant soil erosion problems.	
	<p><b>Solid Waste</b> Generation and disposal of excavated solid from construction sites, vegetative waste from Eleyele dam and during the clearing of clogged drainages</p>	<ul style="list-style-type: none"> <li>Measures will be taken to ensure that solid waste is handled in an adequate manner.</li> <li>Minimize windblown materials from the waste disposal site</li> <li>Cover dumped waste as quickly as possible</li> </ul>	Environmental Specialist PIU, MDAs(Ministry of Environment and Habitat, Oyo state Ministry of Works, Oyo state Solid waste management authority)
	<p><b>Geomorphology &amp; Hydrology</b> Civil works, , heavy rain splashes, increased local run off</p>	<ul style="list-style-type: none"> <li>Good use of engineering best practice must be maintained during construction.</li> <li>Ensure wastewater from cleaning of equipment and other civil works is not disposed of in water bodies instead it should be collected and treated.</li> </ul>	Environmental Specialist PIU, MDAs(Oyo state Ministry of Environment and Habitat,)
	<p><b>Topography</b> Excavation and other machinery activities on the land surfaces</p>	<ul style="list-style-type: none"> <li>The construction works such as road grading, filling of large holes and formidable concrete sides for culverts and drainages should be carried out.</li> <li>Old drainage systems should be maintained if available and new ones should be constructed</li> <li>Site specific safety plans should be developed and properly implemented by construction companies executing sub-projects.</li> <li>for small dams, generic dam safety measures designed by qualified engineers should be prepared in accordance with the requirements of OP 4.37.</li> <li>Effective public consultation through active involvement of all affected stakeholders.</li> </ul>	<p>PIU -Environmental Specialist, Project Engineer, Oyo state Ministry of Works</p> <p>PIU Environmental Specialist, Project Oyo state Ministry of Works</p> <p>PIU Environmental Specialist</p>
	<p><b>Channelization of flood waters</b> Cleaning/clearing of clogged drainages</p>	<ul style="list-style-type: none"> <li>Good flood plain management practices</li> </ul>	Environmental Specialist, PIU, Solid waste management specialist-PIU, (MDAs)-Oyo state Ministry of Environment and Habitat, Oyo state Ministry of water resources

	<p><b>Air Quality</b></p> <p>Due to mobilization of equipment, construction activities such as earthworks, grading, filling, excavation, Vehicle emissions, Road dust. Improved quality of service from urban infrastructure such as drains, lawns, etc.</p>	<ul style="list-style-type: none"> <li>• Dust suppression method should be in place to minimize airborne particulate matter that may result from the construction activities. Routine watering of the construction sites and access roads will keep the dust level down.</li> <li>• Provide breathing protection masks for employees and other task-specific Personal Protective Equipment (PPE).</li> <li>• Reduce travel distances by placing constructions campsites close to work areas.</li> <li>• Ensure that vehicles and other equipment are regularly inspected and schedule maintenance if need be. Also ensure that vehicles and machineries comply with international standards for exhaust emission.</li> <li>• Maintenance of engines and exhaust gas checks to minimize exhaust emissions</li> </ul>	<p>Environmental Specialist, PIU, (MDAs)-Oyo state Ministry of Environment and Habitat, Oyo State NESREA</p> <p>Environmental Specialist, PIU, (MDAs)-Oyo state Ministry of Environment and Habitat, Oyo State NESREA,</p>
	<p><b>Increased sedimentation and runoff</b></p> <p>This impact is site-specific and will be of concern to project sites close to water streams. Sediments can significantly impact surface waters and wetlands with silts and pollutants such as heavy metals, hydrocarbons and toxic substances. Runoff from rainfall can further lead to erosion of the road. Drainage channels from the roads to nearby watercourses are receptors of soils eroded from the road surfaces. These eroded sediments can adversely affect the aquatic ecosystem and can even increase the risk of flooding and eutrophication.</p>	<ul style="list-style-type: none"> <li>• Regular inspection of the project sites will be needed.</li> <li>• Construction like dykes, sediments basins should be considered in order to divert the flow of sediments.</li> <li>• Define flood plain boundaries and pollutants of concern, and conduct resource inventory and information analysis.</li> <li>• Identify sensitive areas in order to protect surface water and prevent non-point source pollution.</li> </ul>	<p>Environmental Specialist, PIU, (MDAs)-Oyo state Ministry of Environment and Habitat, Oyo state Ministry of Works , Oyo State NESREA</p>
	<p><b>Water Quality</b></p>	<ul style="list-style-type: none"> <li>• Mobile toilet facilities, which will be provided for the workforce be</li> </ul>	<p>Environmental Specialist, PIU, (MDAs)-Oyo state Ministry of Environment and Habitat,</p>

	<p>The water quality will be impacted by wastewater discharges from construction activities and behavioural practices of workers associated with project activities. This could lead to increase in turbidity and siltation affecting use by man, land mammals and aquatic organisms.</p>	<p>maintained, emptied daily and disposed of at approved sites.</p> <ul style="list-style-type: none"> <li>• Sewage can be composted in compost bin (mixtures of sewage, straws and hays), which can be feed to soils as source of manure for the community. Thus recycling of sewage waste.</li> <li>• The Contractor should ensure that proper storage facilities are provided at worksites. They should be leak proof and fitted round with bunds to prevent leakage into the water streams.</li> <li>• Development and implementation of proper Waste Management Plans (WMPs) by the Contractor (s).</li> </ul>	<p>Oyo State NESREA,</p>
<p><b>Construction Phase</b></p> <p><b><u>Biological Impact</u></b></p>	<p><b><i>Impact on flora and fauna</i></b></p> <p>Clearing of vegetation. Biodiversity will be affected as a result of the civil activities from the construction phase. Vegetation/vegetative covers will be destroyed in the course of implementing civil works and establishment of construction campsites. Exposure of the plant surfaces to dust particularly during the transportation of materials will destroy them (impairment of photosynthesis). Most faunas, which may have created niches for themselves, will be disturbed especially borrowing mammals, reptiles, amphibians and insects. Weed invasion/proliferation of opportunist species (weeds &amp; pests).</p>	<ul style="list-style-type: none"> <li>• Identify any Site of Special Scientific Interest.</li> <li>• Co-operate with relevant MDAs such as the Department of Livestock, conservation parks, Zoos and Zoological department of the University of Ibadan for housing of possible animals that may be relocated as a result of the construction.</li> <li>• Ensure that affected flora species are transferred and raised in available nurseries.</li> </ul>	<p>Environmental Specialist, PIU</p>
	<p><b><i>Impact on Wildlife</i></b></p> <p>During Land clearing, Civil works,</p>	<ul style="list-style-type: none"> <li>• Ensure that the necessary safeguards policies such the OP 4.04 on Natural Habitats and relevant legislatives are used in addressing the issue of wildlife.</li> <li>• Liaise with Zoos Management Authorities in the affected States and</li> </ul>	<p>Environmental Specialist, PIU.</p>

<p><b>Construction Phase</b> <b>Socio-economic Impact</b></p>		<p>Universities to provide temporary habitats for accommodating animal species until new habitats are provided.</p>	
	<p><b>Transportation &amp; Traffic impact:</b> Existing travel patterns will be heavily impacted during the construction phase of the project in the states.</p>	<ul style="list-style-type: none"> <li>• A good traffic management plan should be developed which will specify; safety rules on speed limits while driving, trainings to enable drivers to be responsive to local conditions, procedures for dealing with accidents involving injury to local people and livestock and restriction of heavy vehicle movements to specific access roads.</li> <li>• Carefully site stock piling areas, work depots and work sites in good locations, which will alleviate possible traffic congestions.</li> <li>• Information on road closure should be made publicly on local radio stations and television. Signage advising on closures and detours should be strategically placed along the roadsides.</li> <li>• Ensuring that all road signs are put in place and detours made possible to divert traffic.</li> <li>• Ensure alternative footpaths are provided for local residents.</li> <li>• Relevant State Government Agencies such as the Oyo State Federal Road Safety Commission will be engaged by the contractor all through the construction period to ensure that safety is maintained throughout the construction phase.</li> </ul>	<p>Environmental Specialist, Social development specialist, Communication specialist -PIU, (MDAs)-Oyo state Ministry of Works, Oyo State Road Traffic Management Authority, (OYRTMA)</p>
	<p><b>Accident</b> Accidents are bound to occur during the construction phase as a result of movement of materials, equipment, pedestrians and livestock.</p>	<ul style="list-style-type: none"> <li>• Ensure that workers are provided with health and safety equipment such as High visibility vest, helmets, earplugs, safety glasses, and safety boots and, stress on the need to use them always.</li> <li>• Ensure that adequate and proper signs</li> </ul>	<p>Social development specialist Communication specialist-PIU, MDAs-(Oyo state Ministry of Works, Oyo state Ministry of Labour State Emergency Management Agency</p>

		<p>barriers and lane markers are put up within the project location sites</p> <ul style="list-style-type: none"> <li>• Applying Standard Operating Procedure (SOP) during the project activities to all workers.</li> <li>• Managing the working hours based on the laws</li> <li>• Implement generic dam safety measures for small dams.</li> <li>• Ensure the management of construction debris and handling of hazardous materials;</li> <li>• Ensure the use of reflectors at night as well as signposts, placement of caution tapers and guard rails at construction sites that involve drainages, trenches and canals</li> </ul>	
	<p><b>Employment</b></p> <p>Employment will be on the increase as work force i.e local artisans and labourers migrants will be utilized Though construction works are not large-scale, this impact will have an indirect influence in the increase in crime rate, traffic, and hike in rents, prostitution and spread of diseases.</p>	<ul style="list-style-type: none"> <li>• Ensure that individuals from project affected communities especially local and unskilled labour are employed as labourers and artisans. This should be communicated to the contractor.</li> <li>• Public consultation will be implemented to address any situation of wrong notion created by members of the communities.</li> <li>• The campsite for workers should be located remotely away for the community.</li> <li>• Contractors and Project managers should ensure that the workers are prohibited from patronising prostitutes and the use of alcohol and drugs within the site areas.</li> </ul>	<p>Community development specialist, Social development specialist, Communication specialist- PIU,</p> <p>(MDAs)-Oyo state Ministry of labour, Oyo state Ministry of Works. Oyo state Ministry of Women Affairs, Community Development, Social Welfare and Poverty alleviation</p>
	<p><b>Archeological &amp; Cultural loss</b></p> <p><u>Impact Source:</u></p> <p>Excavation/earth works, deforestation activities and other engineering activities e.g water channelling</p>	<ul style="list-style-type: none"> <li>• The Social Development Specialist needs to ensure that thorough discussions are carried out during the Focus Group meeting addressing issues on Archaeology and cultural.</li> <li>• The World Bank Operational Policies relevant to this situation such as OP 4.11 Physical and Cultural Resources will be</li> </ul>	<p>Environmental specialist, Social Development Specialist,-PIU,</p> <p>(MDAs)-Oyo state Ministry of Finance</p>

		applied to enable the Social Officer administer the right tool to avoid cases of conflicts in the communities.	
	<p><b>Social stress &amp; disruption</b></p> <p><u>Impact Source:</u></p> <ul style="list-style-type: none"> <li>• Civil work activities.</li> <li>• Human</li> <li>•Governance. (Corrupt practices)</li> </ul>	<ul style="list-style-type: none"> <li>• Root causes should be identified and addressed.</li> <li>• Address governance and mobilize communities.</li> <li>• Engage the private sector, and possibly introduce a market-based solution to take advantage of good Nigerian entrepreneurship and creativity;</li> <li>• Community members should be enlightened about GRM procedures while the social development specialist need to keep a database of complaints and grievances as well as put in place a structure to ensure prompt resolution of such (Refer to RPF).</li> </ul>	Social Development Specialist, Community development specialist, Communication specialist,-PIU,
	<p><b>Aesthetics</b></p> <p><u>Impact Source:</u> Construction works</p>	<ul style="list-style-type: none"> <li>• Proper use best engineering practice;</li> <li>• Employ an aesthetics expert to the contractor team.</li> </ul>	Environmental Specialist PIU
	<p><b>Project Affected Persons (PAPs)</b> related to land acquisition/loss of livelihood which include: Affected individuals, Affected Households and Vulnerable households including internally displaced persons, the elderly and women</p> <p><u>Impact Source:</u> Civil work activities</p>	<ul style="list-style-type: none"> <li>• This would be addressed in the RPF which is a standalone report</li> </ul>	Refer to RPF
<p><b>Construction Phase</b></p> <p><b><u>Public Health</u></b></p>	<p><b>Health problems (HIV/STDs)</b></p> <p><u>Impact Sources.</u></p> <ul style="list-style-type: none"> <li>• Improper housing and sanitary.</li> <li>• During civil works</li> </ul>	<ul style="list-style-type: none"> <li>• Effort will be made to enlighten the employees on HIV/AIDS and STD awareness programme in each of the project areas.</li> <li>• Imported workers if used should have proper housing and sanitary.</li> <li>• Other activities will include treating other sexually transmitted diseases,</li> </ul>	Environmental and Social Specialist PIU, (MDAs)-Oyo state Ministry of Health,

	<p><b>Water-Borne Diseases</b> (e.g. Cholera, Dysentery, Amoebiasis, Salmonellosis etc.)</p> <p><u>Impact Source</u></p> <ul style="list-style-type: none"> <li>• Poor environmental sanitation habits exhibited by members of the contractor’s workforce.</li> <li>• Overload of existing sanitation facilities.</li> </ul>	<p>distributing condoms, and providing counseling, screening, and support services for employees.</p> <ul style="list-style-type: none"> <li>• Medical examinations should be performed on new employee and repeated regularly throughout the term of employment.</li> <li>• Each contractor should have operating procedures that control unsafe behaviours amongst personnel especially considering the fact that there will huge influxes of workers and the likely spread of STD’s due to possible sexual interactions between workers and members of the project affected communities.</li> <li>• Liaise with appropriate health focused NGOs to promote HIV/STDs awareness, HIV Voluntary Confidential Counselling and Testing as well as put in place appropriate referral linkage for Most At Risk Populations. If needed, PLWHAs could be referred to the nearest HIV treatment programme center(s) where they can access free treatment and support.</li> <li>• Provision of proper human waste disposal facilities for the construction workers.</li> <li>• Good sanitation including proper waste disposal at its operation and residential accommodations.</li> <li>• Participate in environmental sanitation initiatives in communities where its workers are domiciled.</li> <li>• Avoid any deterioration in public health and environmental sanitation as a result of the project.</li> <li>• Participate on improvement of community sanitation and public health</li> </ul>	<p>Environmental Specialist PIU</p>
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		<p>through the community development programs.</p> <ul style="list-style-type: none"> <li>• Involvement of NGOs and civil societies in waste management and healthcare activities</li> <li>• Maintenance of good drainage at construction areas to avoid creation of stagnant water bodies.</li> <li>• Proper reservoir operation, engage in disease surveillance and insecticide sprays to prevent the proliferation of the disease vector; conduct routine medical check-ups and development of medical facilities.</li> <li>• Government programs to improve existing medical and health services in the local communities should be supported as much as possible by the Project. This includes Mosquito control programs such as the distribution of insecticide treated nets to affected community members.</li> <li>• Provision of good sanitation including proper waste disposal at its operation and residential accommodations.</li> <li>• Participate in environmental sanitation initiatives in communities where its workers are domiciled.</li> </ul>	
	<p><b>Occupational Health &amp; Safety</b>  <b>a.PPEs</b>  <b>b.Emergency Response &amp; First Aids</b></p>	<ul style="list-style-type: none"> <li>• The contractor will ensure that Personal Protective Equipment (PPE) are made available to all workers.</li> <li>• The Contractor should ensure that necessary measures to avoid and minimize the negative health and safety impacts such as trainings for employees be established.</li> <li>• Contractors should develop Occupational Health and Safety Systems (OHSMs), which will include policies, plans, procedures, processes and programs.</li> </ul>	<p>PIU, (MDAs)-Oyo state Ministry of Works, Oyo State Emergency Management Authority, Oyo state Solid waste management authority.</p>

		<ul style="list-style-type: none"> <li>• Contractors should possess operating practices for the following:             <ul style="list-style-type: none"> <li>▪ Accident investigation and control</li> <li>▪ Hazards investigation and analysis</li> <li>▪ Hazard communication programme</li> <li>▪ Work place violence</li> <li>▪ Work stress risk assessment/ work stress management plans</li> <li>▪ Ergonomics</li> <li>▪ Heavy equipment safety</li> <li>▪ Fire and fuel safety</li> </ul> </li> <li>• Implement generic dam safety measures</li> <li>• Ensure that workers use protective gears during all working activities.</li> <li>• Proper disposal of construction spoil and any hazardous waste will be stored in areas clearly designated and labeled.</li> <li>• It will be very appropriate if a good health care unit is made available in the campsites.</li> <li>• First Aid Services should be provided at the campsites to provide immediate attention to accident victims before referring them to nearby clinics if need arises.</li> </ul>	
<p><b>Operation/ Maintenance Phase</b></p>	<p><b>Topography</b></p> <p>Impact Source:</p> <ul style="list-style-type: none"> <li>• Construction activities including movement of goods and services.</li> <li>• Flood catchment rehabilitation activities</li> </ul>	<ul style="list-style-type: none"> <li>• Embarking on tree planting exercises, which can serve as a wind barrier and help stabilise the soils.</li> <li>• Training activities targeted at local farmers to improve awareness</li> <li>• The affected population identified will participate in the planning and/or decision making process for the alternative livelihood options and the process and agreement will be in line with relevant operational policies.</li> <li>• Good engineering practices to be included in contract documents and contractor's performance will be</li> </ul>	<p>Environmental Specialist PIU, (MDAs)- Oyo state Ministry of Physical Planning and Urban Development</p>

		monitored and reported.	
	<p><b>Land use</b></p> <p><u>Impact Source:</u></p> <ul style="list-style-type: none"> <li>• Civil works.</li> <li>• Livestock including overgrazing.</li> </ul>	<ul style="list-style-type: none"> <li>• Encouragement of early and on-going consultation within the local community.</li> <li>• Providing complimentary livelihood (promoting alternative means of income (which is sustainable and adaptable for each community).</li> <li>• Improve roles of NGOs and Civil Society.</li> <li>• If land acquisition and/or land donation is involved, resettlement policy framework will be applied</li> <li>• Good engineering practices to be included in contract documents and contractor's performance will be monitored and reported.</li> </ul>	Environmental Specialist and Social Development Specialist, Urban Planner-PIU, (MDAs)-Oyo state Ministry of Physical Planning and Urban Development,
	<p><b>Air Quality</b></p> <p>After rehabilitation works, the roads are bound to be busy and this will negatively affect the members of the community</p> <p><u>Impact Source:</u> Increase in the number of vehicles that ply the route.</p>	<ul style="list-style-type: none"> <li>• Ensure that the air quality levels are constantly monitored which can be obtained from relevant local air pollution control agencies/ metrology units in the states.</li> <li>• Surround roadsides with vegetation as the trees will serve as windbreaks and keep dust from spreading long distances.</li> </ul>	Environmental Specialist PIU, (MDAs)-Oyo State NESREA
	<p><b>Noise and Vibration</b></p> <p><u>Impact Source:</u></p> <ul style="list-style-type: none"> <li>• Increase in number of vehicles plying the road</li> </ul>	<ul style="list-style-type: none"> <li>• The traffic management plan should be used to address movement of vehicles during the early hours of the morning when members of the community are still asleep.</li> <li>• Keeping proper records of complaints in the complaints register.</li> </ul>	Environmental Specialist PIU, (MDAs)-Oyo state NESREA
	<p><b>Water Quality</b></p> <p><u>Impact Source:</u></p> <p>Roadway runoff, wastes (municipal solid wastes, effluent, hazardous wastes e.t.c)</p>	<ul style="list-style-type: none"> <li>• Development of proper Waste Management plans by the Contractor (s).</li> <li>• Roadway runoff will not be placed directly into watercourses but allowed to flow over grassed or pervious pavements in order to permit the settling out of fine materials.</li> <li>• Divert the flow of surface water around the site to prevent contamination from</li> </ul>	Environmental Specialist PIU, (MDAs)-Oyo state Ministry of Environment and Habitat

		<p>storm water (by pollutants, soil or any other material from the site).</p> <ul style="list-style-type: none"> <li>It is also important to develop a site drainage plan to reduce storm water flow and sediment load before storm water is discharged from the site.</li> </ul>	
	<p><b>Traffic and Transportation</b> <u>Impact Source:</u></p> <ul style="list-style-type: none"> <li>Increase in traffic within the roads</li> <li>Increase in economic growth.</li> <li>Increase in migration</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that all road signs are completed with speed limits zones and traffic signs in place.</li> <li>Provide pedestrian pathways within the settlements of the communities.</li> <li>Measure suggested for the construction phase should be carried forward to the operational stage.</li> </ul>	PIU, Oyo state NESREA
	<p><b>Employment, Working Opportunities</b> <u>Impact Source:</u></p> <ul style="list-style-type: none"> <li>Demobilisation of the workforce.</li> <li>Improved accessibility</li> <li>Improved economic growth</li> </ul> <p><u>Impact Indicator:</u></p> <ul style="list-style-type: none"> <li>Presence of new small business enterprises</li> <li>Improving economics of families</li> </ul>	<ul style="list-style-type: none"> <li>Conducting a persuasive approach of community involvement, and proactively providing guidance to help maintain the road and bridges</li> <li>Co-operating with the relevant departments to help in building economic centres such as market places.</li> <li>Requesting the state and local governments to build feeder roads to connect the settlement areas with the road.</li> </ul>	Social Development Specialist PIU, (MDAs)- Oyo state Ministry of Women Affairs, Community Development, Social Welfare and Poverty alleviation
	<p><b>Occupational Health &amp; Safety</b> <b>a. PPEs</b> <b>b..Emergency Response &amp; First Aids</b> <u>Impact Source:</u> Exposure of workers to accidents, working in potential weather extremes, contact with natural hazards such as animals, insects, and poisonous plants.</p>	<ul style="list-style-type: none"> <li>Development of inspection and maintenance programmes.</li> <li>Clearly mark road signs and hazards symbols within the location to minimise road accidents.</li> </ul>	Environmental Specialist PIU, Oyo state NESREA, Oyo State Emergency Management,

## **8.0 ANALYSIS OF ALTERNATIVES**

### **8.1 Introduction**

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 –

### **8.2 No Action Alternative or Civil works**

The “No Action” alternative assumes that there will be no alteration to the existing areas. This would imply that the Eleyele dam site, downstream catchment areas and other targeted flood risk sites would be left in their present states with a real potential for worsening. Specifically, if the flood prone sites are left unimproved, more houses and farmlands will suffer from the recurrent flooding situation, which occurs quite frequently in Ibadan. Damage and loss rates may increase as unimproved flood prone sites will serve as unsuspecting death traps.

Negative environmental effects of this option will include deterioration of structural assets for dam safety including the damaged spillway and stilling basins of the Eleyele dam. Further deterioration of the spillway as well as drainages, culverts and bridges will lead to increased storm water runoff, lower stream catchment degradation, reduction of road space, vegetation, fauna and land resource due to flooding of roads, bridges and clogged channels and probably pollution of water bodies in the water catchment areas. A no-action alternative is certainly not recommended.

### **8.3 Use of Civil Works**

The rehabilitation and construction of new drains, bridges, culverts and roads, building safety improvements and maintenance through increased capacity of existing priority drains, Eleyele dam spillway and stilling basin rehabilitation and safety measures as well as installation of flood early warning systems is needed to correct the structural, geotechnical and hydraulic defects along the flood plain and Ona River, so as to improve Eleyele dam safety, flood control, upper catchment activities, improve roads, culverts and bridges and make Ibadan city safe.

Such flood control procedures will require the intervention of physical (civil) techniques. It is envisaged that a combination of civil engineering as well structural, geotechnical and hydraulic techniques will be most suitable to meet the expected rehabilitation goals for flood risk sites to be addressed by the IUFMP. Socially there will be disruption of economic activities. These impacts will be minor and of short duration and are manageable.

It is also anticipated that drainage infrastructure investments such as the repairs and restoration of bridges and culverts on critical secondary and tertiary sub-catchment areas across the city, cleaning of river channels, restoring or establishing natural flood retention ponds will reduce the risk of floods. Furthermore with the implementation of the damaged spillway and stilling basin to improve dam safety (incl. removing vegetation to expose concrete surface at Eleyele dam, making access, and installation of safety monitoring equipment in main dam body, such as piezometers, seepage gauges, settlement gage,

water level gages; etc. in a bid to improve flood risk sites, safety of people in the city and flood risk identification and preparedness will be enhanced to reduce disaster effects. There will also be negative environmental and social impacts from the alternative. These include air, water and noise pollution, and destruction of vegetation while socially there will be disruption of economic activities. These impacts will be minor and of short duration and are manageable.

From the above, the advantages of the civil works alternative make it a better option than the “No-Action” option.

The two actions will be assessed using the following criteria indicated in Table 21 below.

Table 21: Evaluation of the ' No Action' alternative and use of civil works

Criteria	No Action	Civil Work
Overall Protection of Human Health and the Environment	The field visits revealed some problems members of the various communities have experienced due to the flood impacts. Damage and loss effects are enormous and sources of livelihood have been lost, and transportation cost has increased tremendously. Taking a "no action" alternative will not benefit members of the study areas or their environment.	Intervention would lead to strengthening Eleyele dam safety, reduction in eroded soil and increased storm water runoff, reduction in the turbidity and silting of nearby rivers and channels as well as restoration of livelihood
Compliance with Applicable or Relevant Appropriate Requirements (ARARs)	Does not require ARARs	The PIU will ensure that standards and permit requirement are meet.
Long-term Effectiveness and Permanence	No action alternative does not meet the long-term effectiveness and permanence criteria	Civil works will provide long-term effectiveness for flood management.
Short-term Effectiveness	No action alternative will not add any input under this criteria	The civil work will be completed in a long-term period. However the benefits when completed outweighs a “no action” alternative

From the table above, it can be established that even though the civil work is more extensive, it is a better approach to use for flood management. The no action alternative will further lead to problems which will affect the livelihood, health and environment of the people.

## 9.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The Environmental and Social Management Plan (ESMPs) is a detailed plan and schedule of measures necessary to minimize, mitigate, etc. any potential negative environmental and social impacts identified under the IUFMP.

This ESMP consists of a set of generic mitigation, monitoring and institutional measures to be taken during the implementation and operation of the proposed project to eliminate negative environmental and social impacts, offset them or reduce them to acceptable levels.

Table 22 below describes a generic ESMP for IUFMP. The ESMP also includes the actions needed to implement these measures, including the following features:

- Mitigation measures based on the potential environmental and social impacts describing with technical details each mitigation measure;
- The ESMP also includes monitoring objectives that specifies the type of monitoring activities that will be linked to the mitigation measures. Specifically, the monitoring section of the ESMP provides:
  - A specific description, and technical details, of monitoring measures that includes the parameters to be measured, frequency of measurements and definition of thresholds that will signal the need for corrective actions;
  - Monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and to furnish information on the progress and results of mitigation.
- The ESMP provides a generic description of institutional arrangements i.e. who is responsible for carrying out the mitigating and monitoring measures (for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training);
- Additionally, the ESMP includes an estimate of the costs of the measures and activities recommended; and
- The ESMP is required all through the implementation stage of the project or sub-project.

Table 22: Generic Environmental and Social Management Plan (ESMP)

Proposed Activity- Flood Risk Mitigation Measures/ Rehabilitation of the damaged spillway and stilling basin to improve Eleyele Dam Safety						
Phase	Impact	Mitigation	Responsibility	Frequency	Costs USD	Performance Indicator
<b>Pre-construction phase</b>	<b>Environmental Impacts</b>	<ul style="list-style-type: none"> <li>▪ Assessment of all possible environmental impacts and threats as a basis for defining environmental sustainability,</li> <li>▪ Establish measures and procedures for enforcing environmental sound management</li> <li>▪ Setting up monitoring mechanisms and schedule to ensure adherence to measures proffered.</li> <li>▪ Conduct ESIA. Baseline elemental Studies (water, air, soil quality).</li> <li>▪ Standard Operating Procedures (SOP)</li> </ul>	Environmental Specialist PIU		30,000	Have studies been carried out and plans prepared?
	<i>Land degradation &amp; Subsidence;</i>		Environmental Specialist PIU			Have environmental monitoring mechanisms been established?
	<i>Hydro geological regime and natural outlets;</i>		Environmental Specialist PIU			Have environmental, social, health and broader impacts been identified and mitigation measures designed.
	<i>Geomorphology &amp; Hydrology;</i>		Environmental Specialist PIU			Does the planning framework follow best practice approaches?
	<i>Topography Land use etc.;</i>		M&E Specialist, PIU			Are the environmental and social screening checklist utilized?
	<i>Air Quality</i>		Environmental specialist- PIU			
<i>Noise and Vibration</i>	Environmental specialist- PIU					
<i>Water Quality</i>	Environmental specialist- PIU					



	<i>Injury Malnutrition</i>	(HAP)/Health Management Plan (HMP) as part of the ESIA				
<b>Construction phase</b>	<p><b>Physical Impacts</b></p> <p><i>Land degradation &amp; Subsidence;</i></p> <p><i>Hydro geological regime and natural outlets;</i></p> <p><i>Increased local runoff in flow pattern;</i></p> <p><i>Alterations of the urban land surface and water pathways;</i></p> <p><i>Increased impervious surfaces;</i></p> <p><i>Geomorphology &amp; Hydrology;</i></p> <p><i>Topography and Land use e</i></p> <p><i>Air Quality</i></p> <p><i>Noise and Vibration</i></p> <p><i>Water Quality</i></p> <p><i>Solid waste</i></p>	<ul style="list-style-type: none"> <li>▪ Integration of community driven interventions (legal, scientific and social) for achieving community participation and acceptance of project objectives amongst project affected persons;</li> <li>▪ Good practice in the utilization of physical engineering techniques for flood prone sites and consideration of downstream areas in the design of protective structures including dam safety measures. Impacts Identification and ESMP implementation.</li> <li>▪ Standard Operating Procedures (SOP)</li> <li>▪ Environmental management of construction/rehabilitation works;</li> <li>▪ Adopt proper waste Management strategy and recycling options;</li> <li>▪ Well developed dam safety plans;</li> <li>▪ Institute a Noise Hazard</li> </ul>	<p>Environmental Specialist, Communication specialist Community Development Specialist,-PIU</p> <p>Environmental Specialist PIU Contractor Project Engineer</p> <p>Environmental Specialist PIU Contractor</p> <p>Environmental Specialist PIU Contractor</p> <p>Environmental Specialist PIU/Waste Management Specialist- PIU</p> <p>Environmental Specialist PIU/Contractor</p>		<p>100,000</p> <p>10,000</p>	<p>Is there community driven approach in-use/how are community reactions</p> <p>Are the environmental and social screening checklist utilized?</p> <p>Have standard operating procedures for best environmental practices been established? Are engineering designs considerations and options Are there Material Safety Data Sheets (MSDS)</p> <p>Is a waste management plan developed?</p>

		<p>Communication Program (HAZCOM) for workers and project affected communities,</p> <ul style="list-style-type: none"> <li>▪ Establishment of safe-work procedures for operations and activities</li> <li>▪ Disaster/Emergency planning framework.</li> </ul>	<p>Environmental Specialist PIU/ Contractor</p> <p>Environmental Specialist PIU/ Contractor/</p> <p>Disaster Risk Management Specialist, PIU</p>		<p>10,000</p> <p>5,000</p> <p>5,000</p>	<p>Does the contractor have a HAZCOM program?</p> <p>Does the contractor have a safe-works procedure?</p> <p>Is there an emergency planning framework?</p> <p>Are training requirements updated and schedule developed?</p>
	<p><b>Biological Impact</b></p> <ul style="list-style-type: none"> <li>• Flora and Fauna</li> <li>• Wildlife</li> </ul>	<ul style="list-style-type: none"> <li>▪ Routine (baseline-checks) biodiversity studies/Baseline ecological assessment</li> </ul>	<p>Environmental Specialist PIU/ Contractor</p>		<p>5,000</p>	<p>ESIA Reports, Feasibility Study Reports</p>
	<p><b>Socio-economic Impacts</b></p> <p><i>Transportation &amp; Traffic impact</i></p> <p><i>Accidents</i></p> <p><i>Migration</i></p> <p><i>Community Perception-Employment</i></p> <p><i>Social stress &amp; utility disruption</i></p> <p><i>Risk of social conflict</i></p> <p><i>Vices</i></p> <p><i>Limited understanding of WB safeguards</i></p>	<ul style="list-style-type: none"> <li>▪ Institute traffic management plan. Reduce road congestion in project areas and access routes.</li> <li>▪ Application of local workforce as priority;</li> <li>▪ Monitoring vandalism</li> <li>▪ Trainings to enable community motorists to be responsive to changes as per civil works.</li> <li>▪ Mechanism for the</li> </ul>	<p>Environmental Specialist / Social Development Specialist PIU</p> <p>Social Development specialist PIU, Contractor</p> <p>M&amp;E Specialist, PIU</p> <p>Social Development Specialist, PIU</p> <p>Environmental Specialist, Social Development</p>		<p>10,000</p> <p>2,000</p> <p>10,000</p> <p>10,000</p>	<p>Has a traffic management plan been made?</p> <p>Are government related agencies (Federal Road Safety Corps and Department of Road Transport Services) parts of implementation of the traffic management plan?</p>

	<p><i>Archaeological &amp; Chance finds</i></p> <p><i>Project Affected Persons (PAPs) which include: Affected individuals, Affected Households and Vulnerable households including internally displaced persons, the elderly and women</i></p>	<p>preservation of cultural heritage and a continuous consultation strategy</p> <ul style="list-style-type: none"> <li>This would be addressed in the RPF which is a standalone report</li> </ul>	Specialist- PIU			
	<p><b>Public Health Impacts</b></p> <ul style="list-style-type: none"> <li>HIV/AIDS and STDs</li> <li>Pathogenic disease and disease outbreak</li> <li>Water-Borne Diseases (e.g. Cholera, Dysentery, Amoebiasis, Salmonellosis etc.)</li> <li>Malaria</li> <li>Occupational Health &amp; Safety</li> <li>Psychosocial disorder</li> <li>Social well-being</li> </ul>	<ul style="list-style-type: none"> <li>Conduct trainings on Occupational diseases and awareness campaigns on Sexually Transmitted Infections and other infectious Diseases.</li> <li>Conduct health screening</li> <li>Conduct Occupational Health Risk Assessment for contractors, personnel and project affected communities (broader effects/health impacts of project activities on communities is a very important issue)</li> </ul>	<p>Environmental Specialist PIU</p> <p>Environmental Specialist PIU</p> <p>Environmental Specialist PIU</p>		<p>10,000</p> <p>10,000</p>	<p>Have appropriate capacity in HIA And Community Health Mangement needs been built ?</p> <p>Have subsequent health screenings been conducted in project affected communities?</p> <p>Has an Occupational Health Risk Assessment Been Conducted?</p>
<p><b>Operation and maintenance phase</b></p>	<p><b>Physical Impact</b></p> <p><i>Land Degradation &amp; Agriculture;</i></p> <p><i>Air Quality;</i></p> <p><i>Noise and Vibration;</i></p>	<ul style="list-style-type: none"> <li>Monitoring and Evaluation/Verification processes.</li> <li>Implementation of ESMP</li> </ul>	<p>Environmental Specialist PIU, M&amp;E Specialist, PIU</p> <p>Environmental Specialist/Social Development Specialist- PIU</p>		<p>15,000</p> <p>TBD</p>	<p>Are environmental and social monitoring mechanisms being implemented?</p> <p>ESMP document</p>

	<p><i>Water Quality;</i></p> <p><i>Morbidity and mortalities;</i></p> <p><i>Disasters</i></p>	<ul style="list-style-type: none"> <li>▪ Catchment and flood plain management</li> <li>▪ Disaster and Emergency planning framework.</li> </ul>	<p>Environmental Specialist PIU</p> <p>Disaster Risk Mangement Specialist, PIU</p>		5,000	<p>Is upstream, reservoir and floodplain management implemented?</p> <p>Is disaster and emergency planning proactive? Has training on disaster management been conducted?</p>
	<p><b>Social Impact</b></p> <p><i>Traffic and Transportation</i></p> <p><i>Limited understanding of WB safeguards</i></p>	<ul style="list-style-type: none"> <li>▪ Monitoring and Evaluation/Verification processes.</li> <li>▪ Conduct training on safeguards implementation and monitoring</li> <li>▪ Implementation of ESMP</li> <li>▪ Disaster and Emergency planning framework.</li> </ul>	<p>M&amp;E Specialist/ Social Development Specialist, - Communication specialist PIU</p> <p>Environmental Specialist/ Social Development Specialist PIU</p> <p>Disaster Risk Mangement Specialist, PIU/Contractor</p>		<p>15,000</p> <p>TBD</p> <p>5,000</p>	<p>Is the traffic management plan being implemented? Who is responsible and why? ESMP document</p> <p>Is off-site mangement and environmental protection followed? who is responsible and why?</p> <p>Is the ESMP being implemented?</p> <p>Is compliance status (specific regulations that apply) effective?</p> <p>Success in mitigation measures.</p> <p>Is adequate in-flow forecasting for disaster prevention in place?</p>
<b>TOTAL</b>					<b>287,000.000</b>	

## **9.1 Monitoring Plan**

This section sets out requirements for the monitoring of the environmental and social impacts of the IUFMP sub-project activities. Monitoring of environmental and social indicators will be mainstreamed into the overall monitoring and evaluation system for the project.

Monitoring and evaluation is primarily required to ensure proper and timely implementation of environmental and social mitigation measures identified in the planning stage, based on the ESMF.

Monitoring at regular intervals during implementation and for a specified period in the post implementation stages is necessary to identify and implement any change / improvement needed in the execution of the sub-project activities or in the mitigation measures.

A list of indicators for monitoring in the implementation and post implementation stages is given in the Table 23 on the next page.

Monitoring will be used to measure the success rate of the project; it will also be used to determine whether the established mitigation measures have resulted in dealing with the negative environmental and social impacts associated with the project. It will be used to establish whether further monitoring is to be extended in some areas.

Table 23 below describes the Monitoring and Evaluation framework for the ESMP.

Table 23: Monitoring and Evaluation Framework

Project Phase	Proposed activity	Monitoring indicators	Implementation schedule	Responsibility	Frequency	Cost (USD)
Pre-construction Phase	Flood Risk Mitigation Measures	<p>Have environmental accountability trainings been conducted?</p> <p>Have environmental and social studies been carried out and plans prepared?</p> <p>Have environmental and social monitoring mechanisms been established?</p> <p>Is there effective feedback from project affected persons?</p> <p>Have environmental, social, health and broader impacts been identified and mitigation measures designed?</p>	Before commencement of civil works	<p>Environmental Specialist PIU</p> <p>Social Development Specialist PIU</p> <p>M&amp;E Specialist, PIU</p> <p>Communication Specialist, PIU</p>		12,000
	Eleyele Dam safety (Spillway and Stilling basin rehabilitation)	<p>Have environmental accountability trainings been conducted?</p> <p>Have SESA/ESIAs/ESMPs been carried out and prepared?</p> <p>Is there effective feedback from project affected persons?</p>	Before commencement of civil works	<p>Environmental Specialist PIU</p> <p>Social Development Specialist PIU</p> <p>M&amp;E Specialist, PIU</p> <p>Communication Specialist, PIU</p>		TBD
Construction Phase	Flood Risk Mitigation Measures	<p>Have Standard Operating Procedures for best environmental practices been established?</p> <p>Does the contractor have a safe-works procedure?</p> <p>Is there an emergency planning framework?</p>	During implementation of civil works	<p>Environmental Specialist PIU</p> <p>Social Development Specialist PIU</p> <p>M&amp;E Specialist, PIU</p> <p>Community Development Specialist, PIU</p> <p>Disaster Risk Management Specialist,</p>		8,350

				PIU Contractor Communication Specialist, PIU		
	Eleyele Dam safety (Spillway and Stilling basin rehabilitation)	Have Standard Operating Procedures for best environmental practices been established?  Does the contractor have a safe-works procedure?  Is there an emergency planning framework?	During implementation of civil works	Environmental Specialist PIU Social Development Specialist PIU M&E Specialist, PIU Community Development Specialist, PIU Disaster Risk Management Specialist, PIU Contractor		TBD
Operations and maintenance Phase	Flood Risk Mitigation Measures	Are environmental and social monitoring mechanisms being implemented? Are the recommendations in the ESMP implemented? Success in mitigation measures. Is disaster management in-place. Complaints from communities	During operations and maintenance to project closure	Environmental Specialist PIU Social Development Specialist PIU M&E Specialist, PIU Contractor Communication Specialist, PIU		8,350
	Eleyele Dam safety (Spillway and Stilling basin rehabilitation)	Are environmental and social monitoring mechanisms being implemented? Are the recommendations in the ESMP implemented?	During operations and maintenance to project closure	Environmental Specialist PIU Social Development Specialist PIU M&E Specialist, PIU Contractor Communication Specialist, PIU		TBD
<b>Total</b>						<b>28,700.00</b>

## 9.2 Training and Capacity Strengthening Plan

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

- Limited knowledge on Disaster Risk Reduction;
- Lack of enforcement of development control regulations;
- Limited knowledge on ESIA's and Environmental and Social Audits during construction of drainages and culverts;
- Limited knowledge on Strategic Environmental and Social Safeguards Assessment;
- Limited monitoring of water quality, river flow and lack of systemic hydrologic data collection;
- Limited technical capacity on solid waste management; and
- Limited capacity at LGA level on waste collection.

For effective implementation of the ESMF, there will be need for technical capacity in the human resource base of implementing institutions as well as logistical facilitation. Implementers need to identify and understand the environmental and social issues.

Appropriate understanding of the mechanisms for implementing the ESMF will need to be provided to the various stakeholders implementing IUFMP.

To enhance the respective roles and collaboration of the relevant stakeholders, the following broad areas (not limited to) for capacity building have been identified as deserving of attention for effective implementation of the ESMF:

- Project screening techniques, screening tools and the applicable legislations and procedures;
- Project Management;
- Urban Flood Risk Management;
- Urban drainage management;
- Environmental and Social Impact Assessment (ESIA);
- Strategic Environmental and Social Assessment (SESA)
- Occupational Health and Safety;
- Environmental and Social Management Planning (ESMP);
- Monitoring and Environmental Audit;
- Annual Environmental Report preparation and other reporting requirements;
- Public participation techniques Public Hearing Procedure; and
- Public awareness creation / educational techniques (on environmental, social and health issues).

Specific areas for effective training and institutional capacity needs are given in Table 24 below.

Table 24: Training programs (Environmental and Social Accountability)

Programme/Description	Participants	Form of Training	Duration/Location	When	Training to be conducted by who	Training Organizing Agency	Training Costs USD
WB Safeguards Awareness Training of Environmental Safeguards Policies triggered	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Workshop	½ Working day	During project preparatory stage	World Bank	World Bank	Not inclusive
World Bank Social Accountability System	PIU, 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.	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Workshop	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Ministry of Environment and Habitat	
Environmental Considerations in sub-project activities: Environmental components affected during construction and operation stages; Environmental management and Best practice; Stakeholder participation	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Workshop	1 Working day	During project preparatory stage	Relevant Consultant	PIU, Environmental specialist, Ministry of Environment and Habitat	
Project Screening and Scoping		Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Environmental specialist, Ministry of Environment and Habitat	
Review of EIA and its integration into designs EIA methodology; Environmental provisions Implementation arrangements		Lecture and Field visit	½ Working day			PIU, Environmental specialist,	
Preparation of ESIA, EA and		Training of	½ Working day	During project	Relevant Consultant	PIU, Environmental	

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EMP Term of Reference/Implementation		Trainers		preparatory stage		specialist, Ministry of Environment and Habitat	
Preparation and administration of questionnaires and stakeholders consultation/FGD	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Environmental specialist, Ministry of Environment and Habitat	
Project Management (scope, implementation, time, budget, costs, resource, quality, procurement, monitoring and evaluation)	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Project Management Consultant	PIU, Environmental specialist, Ministry of Environment and Habitat	
Environmental and Social Audits	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Environmental specialist, Ministry of Environment and Habitat	
Strategic Environmental and Social Assessment (SESA)	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Environmental specialist, Ministry of Environment and Habitat	
Logistic and planning	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Environmental specialist, Ministry of Environment and Habitat	
Total							11,700

Training program: Urban Flood risk management program

Programme/Description	Participants	Form of Training	Duration/Location	When	Training to be conducted by who	Training Conducting Agency	Training Costs USD
Land use development, Dam safety	PIU, Project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Ministry of Water resources, Ministry of Environment and Habitat	
Disaster risk and climate change adaptation	PIU, Project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Oyo State Emergency	

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					Relevant Consultant	Management Agency, Ministry of Environment and Habitat	
Urban flood risk information portal	PIU, Project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Oyo State Emergency Management Agency	
Flood early warning system, preparedness and response system	PIU, Project affiliated MDAs	Training of Trainers	½ Working day	During project preparatory stage	Relevant Consultant	PIU, Oyo State Emergency Management Agency	
Total							7,000

Training program (Health Impact Assessment) - HIA

Programme/Description	Participants	Form of Training	When	Training to be conducted by who	Training Conducting Agency	Training Costs USD
Overview of HIA	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	<b>5,500</b>
Screening—How to Decide Whether to Conduct an HIA	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	
Environmental Health Areas	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	
Scoping—How Comprehensive Should the HIA Be	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	
Baseline Data—What, When, and How Much?	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	
Risk Assessment—Assessing and Ranking Impacts	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	
Health Action Plan	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	

Programme/Description	Participants	Form of Training	When	Training to be conducted by who	Training Conducting Agency	Training Costs USD
Monitoring and Verification	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	
Resourcing	PIU, Ministry of Environment and Habitat, project affiliated MDAs	Training of Trainers	During project preparatory stage	Relevant Consultant	PIU, Oyo State Ministry of Health	

Training Programs [Occupational Health and Safety Management Plan (OHSMP)]

Programme/Description	Participants	Form of Training	When	Training to be conducted by who	Training Conducting Agency	Training Costs USD
Occupational Health and Safety(OHS) Leadership Management	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors, Project affected Community representatives	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	<b>5,500</b>
Safety performance assessment	PIU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	
Hazard Analysis and Control	PIU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	
Hazard Communication Program	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	
Effective Accident Investigation	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors	Training of Trainers	During project initiation stage (Before commencement of	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	

Programme/Description	Participants	Form of Training	When	Training to be conducted by who	Training Conducting Agency	Training Costs USD
			civil works)			
Conducting Health and Safety Audits	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	
Job Hazard Analysis	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	
Occupational Health Risk Assessment	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	
Work Stress Risk Assessment	PIU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	
Electrical safety	PIU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Fire services	
Fire Safety	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors	Training of Trainers	During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Fire services	
Fall protection Plan	PIU, Ministry of Environment and Habitat, project affiliated MDAs,	Training of Trainers	During project initiation stage (Before	Relevant Consultant	PIU, Oyo State Ministry of Environment and Habitat	

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<b>Programme/Description</b>	<b>Participants</b>	<b>Form of Training</b>	<b>When</b>	<b>Training to be conducted by who</b>	<b>Training Conducting Agency</b>	<b>Training Costs USD</b>
	Contractors		commencement of civil works)			
Fleet Safety Management	PIU, Ministry of Environment and Habitat, project affiliated MDAs Contractors		During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, Oyo State Ministry Works and Transport	
Disaster Management and Emergency Planning	PIU, Ministry of Environment and Habitat, project affiliated MDAs, Contractors		During project initiation stage (Before commencement of civil works)	Relevant Consultant	PIU, OYSEMA	
<b>GRAND TOTAL</b>						<b>28,700</b>

### **9.3 Chance Find Procedures**

In the event of chance finds of items of cultural significance, all forms of excavation in and around the site will be stopped. Subsequently, experienced archaeologists and anthropologist would be recruited to carry out an investigation and proposed plans for the preservation of such cultural artefacts.

During the project site induction meeting, all contractors will be made aware of the presence of an on-site archaeologist who will monitor earthmoving and excavation activities.

The following procedure is to be executed in the event that archaeological material is discovered. Annex 14 describes the procedure in detail:

- All construction activity in the vicinity of the find/feature/site will cease immediately;
- Delineate the discovered find/ feature/ site will be delineated;
- Record the find location, and all remains are to be left in place;
- Secure the area to prevent any damage or loss of removable objects;
- The on-site archaeologist will assess, record and photograph the find/feature/ site;
- The on-site archaeologist will undertake the inspection process in accordance with all project health and safety protocols under direction of the Health and Safety Officer; and
- In consultation with the statutory authorities the on-site and Project Archaeologist will determine the appropriate course of action to take.

### **9.4 Description of subsequent safeguard instruments (ESIAs/ESMPs/SESA)**

The ESIA/ESMP process is required before the implementation of sub-projects for which the screening process has determined that an ESIA/ESMP is necessary.

#### **Environmental and Social Impact Assessment (ESIAs)**

The ESIA will identify and evaluate potential environmental and social impacts that IUFMP sub-projects activities may pose especially with activities at Eleyele dam. The preparation of the ESIA will be done in consultation with stakeholders, including PAPs. Public consultations are critical in preparing proposals for sub-project activities likely to have impacts on the environment and populations within the project site. The public consultations should identify key issues and determine how concerns of all stakeholders will be addressed in the ESIA.

#### **Environmental and Social Management Plans (ESMPs)**

The IUFMP and all sub-projects will include the preparation of ESMPs to address and achieve health, safety, and environmental regulatory compliance objectives, institutional responsibilities (e.g., World Bank), and other related commitments. An ESMP is an important element of the IUFMP overall Environmental and Social Management strategy to ensure environmental, social, and health performance of the entire program and sub-projects.

The ESMPs will identify and evaluate potential environmental and social impacts that IUFMP sub-projects activities may pose downstream i. e rehabilitation of flood management infrastructure.

#### **Strategic Environmental and Social Assessment (SESA)**

A Strategic Environmental and Social Assessment (SESA) will be undertaken to give priority to assessing cumulative impacts stemming from the proposed project activities. In addition, a SESA will be prepared early during project implementation in order to inform local, state and national authorities about the

meso scale environmental and social implications of the proposed operation with a medium to long term horizon. The participatory approach with concerned stakeholder and in particular with locally affected people through extensive information, awareness and participation will further increase the likelihood of sustainable outcomes.

Annex 5 summarizes the ESIA process following scoping, Annex 6, outlines the Federal Guidelines for the EIA process and Annex 7 and 8 shows a generic terms of reference in carrying out the ESIA /ESMP study respectively.

## **10.0 STAKEHOLDER PUBLIC CONSULTATION**

### **10.1 Public Consultation**

Public consultation for the IUFMP entails the process of informing stakeholders on the need to carry out potential various IUFMP sub-projects in (a) their environment, (b) the scope and the (c) need for the community to own and safeguard the project as beneficiaries and stakeholders.

Public consultation would be an on-going activity taking place throughout the entire project process. Public participation and consultation would take place through meetings, radio programs, requests for written proposals/comments, filling in of questionnaires, explanations of project to the locals, making public documents available at the state and local levels. At the local level, suitable locations will include the residents at the flood risk areas. These measures would take into account the low literacy levels prevalent in these rural communities by allowing enough time for responses and feedback. Annex 13 describes the steps of public consultation in the IUFMP project cycle.

### **10.2 Stakeholder Focused Group Discussion and Interpretation**

Stakeholders present in all interactions comprised of Permanent Secretaries, IUFMP PIU, Directors, HODs of ministries of environment, other line ministries (MDAs), Community Based Organizations (CBOs), Non-Governmental Organizations (NGOs), Representatives/Leadership of at flood risk communities, and Heads of community households.

Information in this section is completely based on responses from (i) stakeholders, (ii) documented reports in state holdings and (iii) physical site observations.

### **10.3 Consultations in the study area**

The ESMF consultant visited Ibadan between 10 and 18 October, 2013. Informal interactive sessions with the various stakeholders in MDAs were carried out. The session provided insight to the state legislations and laws on the environment and urban planning, flood plains management, state government methods for engaging local communities and achieving participation in implementation of projects.

Other needs of importance for information gathering included;

- List of priority flood risk sites along Ona River;
- List of dams and water catchment areas in Ibadan;
- Solid waste management;
- Peripheral vegetation description; etc

Present at the interactive stakeholder consultation sessions were:

#### **Project Implementation Unit**

- PIU team members
- PIU safeguards unit

#### **State Government MDAs**

- Oyo State Ministry of Environment and Habitat

- Director, Environmental sanitation and sewerage;
- HOD Pollution;
- HOD Engineering
- Oyo State Ministry of Works
- Oyo State Ministry of Water Resources
- Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty alleviation
- Oyo State Ministry of Local Government and Chieftaincy matters
- Oyo State Ministry of Health
- Oyo State Ministry of Physical Planning and Urban Development
- Oyo State Ministry of Information
- Oyo State Emergency Management Agency
- Oyo State Water Cooperation
- Oyo State Solid Waste Mangement Authority

### **Federal Government MDAs**

- Ministry of Environment
- NESREA Oyo state
- Ogun/ Osun River Basin Development Authority

### **CDA (Community Development Associations)**

- Site Engineers
- NGOs/CSOs and Associations

*Environment:* Nigerian Environmental Study/Action Team (NEST), Centre for Sustainable Development (CESDEV), Green Innovation;

*Community Development:* Ojobusa CDA, Gada CDA, Akako CDA, Agara, CDA, Okeayo CDA; Moradeyo CDA, Areokuta CDA, Atolu CDA, Araromi CDA, Ogbere Elere CDA, Irewole Oke Ogbere CDA.

*Gender:* National Council of Women Societies;

*Solid Waste:* Man 'O' War, War Against Indiscipline and Corruption, Private refuse contractors, market women;

*SEMA:* Red Cross, Centre for disaster risk and crisis reduction

### **Institutional Communities**

- NIHORT
- University of Ibadan

The General Public (people leaving in flood prone areas, the catchment areas, buffer zone areas in Eleyele etc). Questions was asked to obtain their views on the project such as the history, the efforts of the state/community to check flooding, knowledge of the potential environmental and social impacts of proposed sub-project activities, institutional capacity to implement the recommendations in the ESMF, presence or absence of community conflict, community associations and cultural heritage that might be impinged upon by the project.

The stakeholder consultations overview for the MDA s/CDAs/NGOs visited is summarized in Annex 17. Annex 18 outlines the knowledge on the IUFMP and sub-project activities from stakeholders and Annex 19 gives details of stakeholder contact.

## 11.0 ESMF IMPLEMENTATION AND MANAGEMENT

### 11.1 Introduction

The implementation of the ESMF depends on the commitment of the PIU, relevant MDAs, and the capacity to apply or use the framework effectively, and the appropriate and functional institutional arrangements, among others. This section addresses the key ESMF areas relevant to its successful implementation:

- Implementing the ESMF;
- Institutional arrangements;
- Capacity building (See sub-section 9.2 );
- Monitoring and Evaluation;
- Indicative cost of implementing the ESMF
- Disclosure of safeguard instruments.

### 11.2 Implementing the ESMF

The environmental and social specialist attached to the PIU will be responsible for the implementation of the RPF in close collaboration with the Oyo State Ministry of Environment and Habitat. The environmental and social plan covers ESIA/ESMPs and the pre-project/project planning process. It is a process that identifies and assesses the potential environmental and social concerns and implications that may arise with the implementation of a project, in order to influence the design and other engineering feasibility options and decisions, for informed and sustainable project development.

Figure 8 describes an organogram for the ESMF implementation. Key stages of the ESIA/ESMPs include proposal screening, Scoping, ESIA and mitigation measures, while the pre-project/planning process involves project concept, identification, design and appraisal (See Annex 5 and 6).

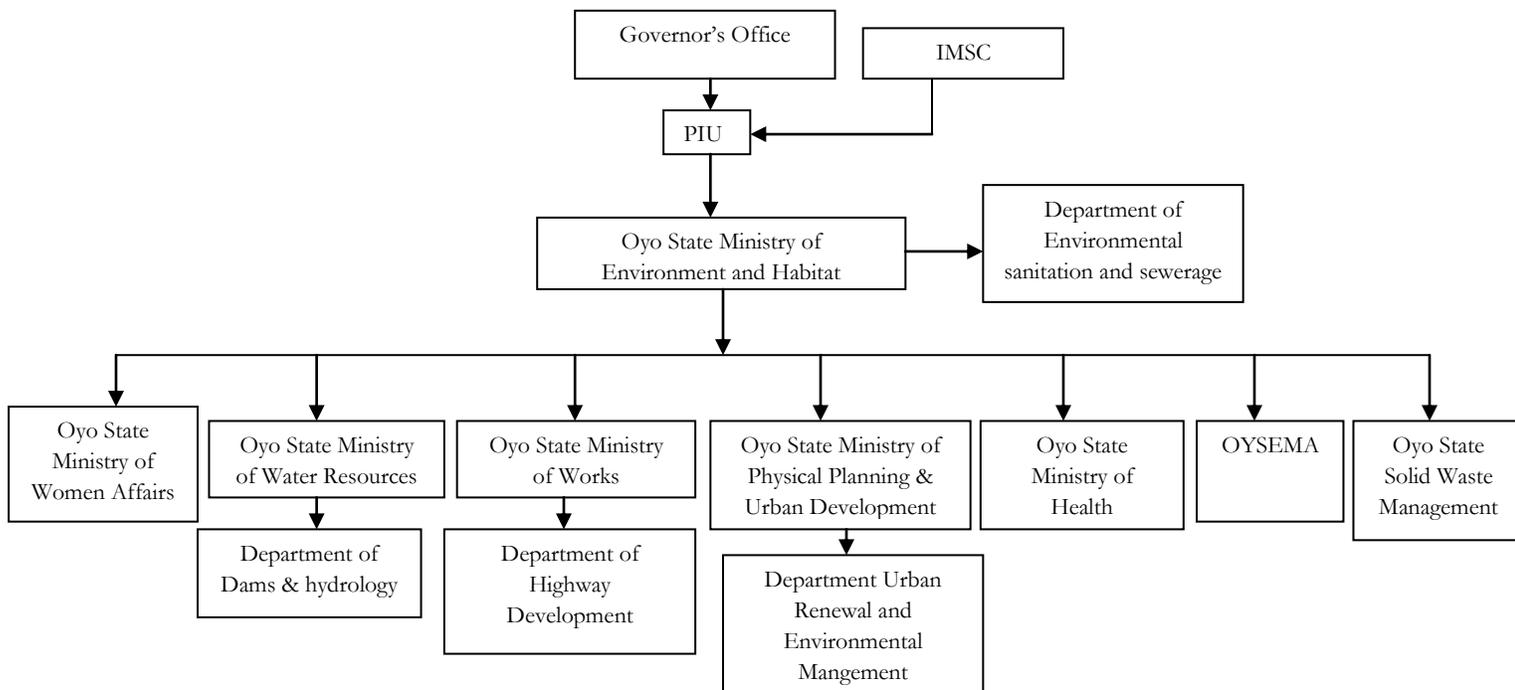


Figure 8: ESMF Implementation Arrangement

### 11.3 Institutional Arrangements

The IUFMP will be implemented by the PIU and monitored by the Inter-Ministerial Steering Committee (IMSC) made up of relevant stakeholders from relevant institutions with the PIU managing every day affairs of the entire project. The PIU has the responsibility to:

- Co-ordinate the IUFMP programs and actions;
- Plan, coordinate, manage and develop the various sub-project activities;
- Prepare plans for IUFMP management and development.

The PIU will liaise with the various levels of the state Government and other identified stakeholders, namely relevant state MDAs, Local Government Council Offices, NGOs/CSOs, and professional groups. The roles and responsibilities of these levels of institutions have already been defined in chapter 5.

### 11.4 Monitoring of ESMF Implementation

This framework is suggesting that Oyo State Ministry of Environment and Habitat, be structured into the whole M&E component of the project. This would take the form of giving these agencies the mandate to carry out independent monitoring of the implementation of the ESMF at periodic intervals of quarterly or half yearly (as circumstances dictate) during the project life. Their report would then be sent to the PIU, of the FMEnv and will become part of the official documents of the project.

In addition to the project reports required, the environmental specialist and social development specialist will prepare a quarterly audit on ESMF implementation. In addition, each sub-project requiring an ESIA /ESMP study will also be required to produce an annual audit report for delivery to the PIU.

### 11.5 Evaluation of Results

The evaluation of results of the environmental and social mitigation can be carried out by comparing baseline data collected in the planning phase with targets and post project situations.

### 11.6 Estimated Budget for Implementing the ESMF

To implement the environmental and social management measures as part of the ESMF, necessary budgetary provisions have been made for the individual sub-projects. 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.

Tentative budget for each of the project includes the environmental management costs other than the good engineering practices and cost of environmental monitoring. All administrative costs for implementing the ESMF shall be budgeted for as part of the PIU's costing.

Table 25 below shows an indicative budget breakdown and responsibility of the cost for implementing due diligence in the project. The total cost for implementing the ESMF is estimated at **Three Hundred and Ninety Four Thousand Six Hundred and Twenty Five US Dollars only (\$394,625)**.

Table 25: Summary of indicative budget breakdown and responsibility of the cost for implementing the ESMF instruments

Item	Responsibility	Cost Breakdown	Cost Estimate in Nigerian Naira (N)	Cost Estimate in Us Dollars (US\$)
Mitigation	PIU, Ministry of Environment and Habitat		45,920,000	287,000
Management	PIU , Ministry of Environment and Habitat	5% of Mitigation Cost	2,296,000	14,350
Capacity Building	PIU, Ministry of Environment and Habitat / Relevant MDAs	10% of Mitigation Cost	4,592,000	28,700
Monitoring	PIU, Ministry of Environment and Habitat	10% of Mitigation Cost	4,592,000	28,700
Sub- Total			57,400,000	358,750
Contingency		10% of Sub- Total	5,740,000	35,875
<b>Total</b>			<b>63,140,000</b>	<b>394,625</b>

## 11.7 Disclosures of safeguard instruments

The ESMF has been prepared in consultation with the PIU, relevant state MDAs, CBOs/NGOs and some community groups. Copies of this ESMF, like other safeguard instruments (such as ESIAs/ESMPs/ SESA) that would be prepared for IUFMP and its sub-projects will be made available to the public by the PIU.

The PIU will disclose the ESMF as required by the Nigeria EIA public notice and review procedures as well as the World Bank Disclosure Policy at the World Bank Infoshop. Copies of other safeguards instruments (such as ESIAs/ESMPs/SESA) should be disclosed in like manner. Table 26 below outlines documents to be disclosed.

Table 26: Typical documents to be disclosed

Topic	Documents to be disclosed	Frequency	Media
Public Consultation	Minutes of Formal Public Consultation Meetings	Within two weeks of Meeting	Oyo State website. Oyo State Ministry of Environment and Habitat Project Implementation Unit (PIU) Local government Secretariat
Environment Management	ESMF, Environment and Social Assessment (ESIAs); Report & Environment and Social Management Plans (ESMPs); Strategic Environmental and Social Assessment (SESA).	Prior to awarding works and to remain on website	Oyo State Ministry of Environment and Habitat Oyo State Ministry of Physical and Urban Planning, Oyo State Ministry of Works and Transport, Oyo State Ministry of Water Resources, Oyo State Ministry of Health, Oyo State Emergency Mangement Agency, Oyo State Waste Management Authority Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation Project Implementation Unit (PIU) Local government Secretariat World Bank Infoshop. Oyo State website.

## **Annex 1: Terms of Reference**

### **NIGERIA IBADAN URBAN FLOOD MANAGEMENT PROJECT (IUFMP) ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)**

#### **Introduction**

The Federal Government of Nigeria has initiated the preparation of the Ibadan urban flood management project (IUFMP) and will be supported with financing from the World Bank to the tune of \$200 million. The proposed project development objective *is to improve flood resilience in the city of Ibadan*.

The project objective will be achieved through a combination of non-structural and structural measures by:

- (i) strengthening risk identification, planning and preparedness; and
- (ii) undertaking flood risk mitigation and urban drainage improvements in priority and targeted project sites.

#### **Project Components**

The project entails three components, namely:

##### **Component 1: Flood Risk Identification Planning and Preparedness**

- Sub-Component-1.1: Design of Flood Risk Management Investment;
- Sub-Component-1.2: Development of Oyo State Long Term Flood Resilient Urban Development Strategy;
- Sub-Component-1.3: Establishment of an Integrated Flood Early Warning and Response System;
- Sub-Component-1.4: Community Resilience Development; and
- Sub-Component-1.5: Contingency Component

##### **Component 2: Flood Risk Mitigation Measures**

- Sub-Component 2.1: Priority infrastructure improvement;
- Sub-Component 2.2: Long term Integrated Flood Risk Mitigation; and
- Sub-Component 2.3: Community Resilience Development.

##### **Component 3: Project Implementation Support**

- Sub-component 3.1: Project Administrations; and
- Sub-component 3.2: Project Implementation Support

The project is classified as Environmental Category A mainly as a result of the need to rehabilitate the damaged spillway and stilling basin at Eleyele dam. Other than the dam, other works involve river channelization and infrastructural work that may involve various degrees of resettlement and have a range of social and environmental impacts. The project triggers five safeguards policies: OP 4.01 (Environmental Assessment), OP. 4.11 Physical Cultural Resources, and OP 4.12 (Involuntary Resettlement), OP/BP 4.37 (Safety of Dams).

At this instance, the appropriate instruments to use here is the Environmental and Social Management Framework (ESMF) and a Resettlement Policy Framework (RPF) given the fact that the exact nature of the

works or their location is not currently known. Detailed Environmental and Social Impact Assessments (ESIAs), Environmental Management Plans (EMPs) and/or Resettlement Action Plans (RAPs), as needed, will be carried out by the Government of Oyo State for all project activities that trigger them. All relevant documents will be disclosed in-country and at the Bank's Info shop before specific works could start.

### **Objectives of the assignment**

This consultancy is for the preparation of an Environmental and Social Management plan. The objective of the Environmental and Social Management Framework (ESMF) is to assess the potential environmental and social impact of the IUFMP with an emphasis on activities related to the constructions of channels, drains, bridges and rehabilitation of the Eleyele dam. The framework will provide guidelines for assessing the environmental, socio-economic, and health impacts of the project, as well as recommending appropriate mitigation measures and monitoring plans.

Part of the process of developing a realistic Environmental and Social Management framework for the project requires consultation with key stakeholders- including key government agencies, affected groups, local communities and non- governmental organizations.

The ESMF should include:

- A description of Proposed Project and Analysis of Alternatives;
- A comprehensive assessment of the potential environmental and social impact of the IUFMP
  - Eg- Changes to existing land uses (legal and illegal), Pressure on water points and resulting risk of pollution, Health and safety of workers (accidents, etc), Disease transmission (HIV/AIDs, STDs) to communities along route from construction workers;
- Baseline Data
  - Eg- socio-economic profile of areas/communities, key cultural sites etc
- Recommendations of practical and cost-effective actions and processes to mitigate any potential negative environmental and/or social impacts that could arise during project - implementation;
- Identification of the capacity building needs for the IUFMP and recommendations of actions to strengthen the line Ministries to ensure sustained environmental and social compliance; and
- An environmental and social assessment screening checklist for screening the potential impacts of site specific interventions which would provide guidance for the preparation of site specific safeguards instruments.

The ESMF should identify any regulations and guidelines, which apply in the context and the compatibility between national, state laws and policies, and World Bank policies. The assessment should examine the following:

- World Bank safeguard policies OP 4.01 (Environmental Assessment),
- National laws and/or regulations on environmental reviews and impact assessments in the various sectors of the project;
- Oyo state regulations; and
- Environmental assessment regulations of any other financing organizations involved in the project.

- ESMFs prepared for other recent World Bank projects in Nigeria and other comparable contexts e.g Nigeria Erosion and Watershed Project (NEWMAP); Lagos Metropolitan Urban Development and Governance Project (LMDGP)

## Scope of Services

During the assessment, the consultant will collaborate and work closely with:

- IUFMP PIU Project Coordinator, Ministry of Environment and Habitat (MEH) and Ministry of Works and Transport (MWT);
- Oyo State Solid Waste Management Authority Waste Management Plan Consultant;
- Ministry of Health- particularly the Public Health Unit; and
- Environmental Protection Agency (EPA) of the State.

The work shall be carried out according to the following tasks.

- (1) Present an overview of Nigeria's environmental policies, legislation, regulatory and administrative frameworks in conjunction with the World Bank's safeguard policies. Where gaps exist between these policies, make recommendations to bridge the gaps in the context of the proposed project.
- (2) Develop a stakeholders' consultation process that ensures that all key stakeholders, including potentially affected persons, to ensure that they are aware of the objectives and potential environmental and social impacts of the proposed project, and that their views are incorporated into the projects' design as appropriate.
- (3) Develop a comprehensive baseline for the project, including a review of the biophysical and socio-economic characteristics of the environment to be covered by the project, highlighting the major constraints that need to be taken into account in the course of the project implementation-
  - (a) Physical environment: geology; topography; soils; climate and meteorology; ambient air quality; surface and ground water hydrology
  - (b) Biological environment: flora; fauna; rare or endangered species; sensitive habitats, including parks or preserves, significant natural sites, etc
  - (b) Socio-economic environment: land use, land tenure and land titling and human settlements.
  - (c) Public Health condition of each project specific area- water and sanitation conditions, communicable and non- communicable disease profile, access to health services
- (4) Assess the potential environmental and social impacts (positive and negative) of the different project components, including, constructions of channels , drains, bridges and rehabilitation of the Eleyele dam and recommend appropriate mitigation measures;
- (5) Develop a proposed Environmental and Social management plan for the project as a whole (understanding that site specific activities may require site specific plans). The ESMF should recommend feasible and cost-effective measures to prevent or reduce significant impacts to acceptable levels, estimate the impacts and costs of those measures. Institutional responsibility for mitigation and monitoring should be clearly specified and articulated.
- (6) Assess the current institutional ability at the community, local and state levels to Implement the recommendations of the ESMF and make appropriate capacity strengthening recommendations;
- (7) In light of the available information, develop an environmental and social screening process, including monitoring indicators for future rehabilitation and construction activities referred to above , capturing the below mentioned steps:
  - (i) Screening of physical infrastructure investments;
  - (ii) Assigning the appropriate environmental categories;
  - (iii) Outline steps for carrying out environmental work, i.e. preparation of:

- a) Environmental and social checklist;
- b) Draft terms of reference to facilitate preparation of separate Environmental and Social Impact Assessment (ESIAs) during project implementation;
- (iv) To develop an outline review and approval process for the screening results and as necessary for separate ESIA reports;
- (v) Procedures for public consultations and disclosure of project safeguard instruments prior and during project implementation;
- (vi) To develop an outline appropriate mitigation measures as well as a monitoring framework with key indicators for envisioned activities; describe relevant institutions in charge of monitoring and their capacity strengthening measures;

### **Expertise Required**

The service of a consultant or group of consultants is needed for the preparation of the ESMF. Experience in Environmental, social and public health impacts of urban development projects is required. The consultant/s should have experience of at least 5 years; experience in the preparation of ESMF and/or other EAs instruments recognized by the World Bank. Strong country knowledge of Bank safeguard policies will be an asset.

### **Reporting requirements**

The Consultant will liaise with the state Ministries of Environment, Health, and Water resources and rural development involved with water shed management, municipal waste management, during the course of the project in the State and report to the Project coordinator IUFMP who is the designated representative of the Borrower responsible for the management of the contract and to whom all products will be delivered. The following reports shall be submitted through PIU (IUFMP) for the review and approval of the FME and the World Bank at the time and in a manner stipulated below:

- Inception report in six (6) hard copies and one (1) electronic copy within **2 weeks** from commencement date.
- Draft Final report in eight (8) hard copies and one (1) electronic copy (CD) within **6 weeks** from commencement date. The Client allows for two weeks to review the draft and compile the comments;
- Final report in ten (10) hard copies and one (1) electronic copy (CD) with comments incorporated within **8 weeks** from commencement date.

### **Report Contents**

The consultant will prepare an ESMF that will be used by project implementers at the planning stage of the planned project activities. The ESMF will include the following:

- Cover page
- Table of contents
- List of acronyms
- Executive summary
- Introduction
- Project description
- Objectives of ESMF
- Methodology used to prepared the ESMF
- Results of the public consultation process
- Overview of Nigeria's environmental policies, procedures, legislation, regulatory and administrative frameworks
- Overview of World Bank's safeguards policies

- Description of the current biophysical and socio-economic environment
- Description of the potential environmental and social impacts of the proposed project
- Outline of the environmental and social screening process:
  - o Steps required
  - o Annexes:
    - Environmental and Social Screening form
    - Environmental and Social checklist (sample)
    - Draft terms of reference for separate sub-projects – ESIA reports
    - Summary of the World Bank’s safeguard policies and how they will apply to future project activities
- Recommendations
- List of individuals/

### **Payment Schedule**

- Signing of Contract and start of assignment 40%
- Submission of Draft final Report 40%
- Submission of Final acceptable Report 20%.

### **Duration of task**

It is expected that the effort level for this consultancy services shall be for a period of 8 weeks tentatively from 15<sup>th</sup> August, to 10<sup>th</sup> Oct, 2013 within which the Consultant shall accomplish all the tasks including submission of final report to the Client.

## **Annex 2: Summary of World Bank Environmental and Social Safeguard Policies.**

- **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 IUFMP.
- **Natural Habitats (OP 4.04).** The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. If the environmental assessment indicates that a project would significantly convert or degrade natural habitats, the project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss (e.g. strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area. The Bank accepts other forms of mitigation measures only when they are technically justified. Should the sub-project-specific ESMPs indicate that natural habitats might be affected negatively by the proposed sub-project activities with suitable mitigation measures, such sub-projects will be funded under the IUFMP.
- **Pest Management (OP 4.09).** The policy supports safe, effective, and environmentally sound pest management. It promotes the use of biological and environmental control methods. An assessment is made of the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. This policy does not apply to the IUFMP.
- **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 negative impacts on the livelihoods of the displaced persons. This policy does apply to the IUFMP sub-projects.
- **Indigenous Peoples (OP 4.10).** This directive provides guidance to ensure that indigenous peoples benefit from development projects, and to avoid or mitigate negative effects of Bank-financed development projects on indigenous peoples. Measures to address issues pertaining to indigenous peoples must be based on the informed participation of the indigenous people themselves. Sub-projects that would have negative impacts on indigenous people will not be funded under IUFMP.
- **Forests (OP 4.36).** This policy applies to the following types of Bank-financed investment projects: (a) projects that have or may have impacts on the health and quality of forests; (b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and (c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned. The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures. Sub-projects that are likely to have negative impacts on forests will not be funded under IUFMP.
- **Physical Cultural Resources (OP 4.11).** The term "cultural property" includes sites having archaeological (prehistoric), paleontological, historical, religious, and unique natural values. The Bank's general policy regarding cultural property is to assist in their preservation, and to seek to avoid their elimination. Specifically, the Bank (i) normally declines to finance projects that will significantly damage non-replicable cultural property, and will assist only those projects that are sited or designed

so as to prevent such damage; and (ii) will assist in the protection and enhancement of cultural properties encountered in Bank-financed projects, rather than leaving that protection to chance. The management of cultural property of a country is the responsibility of the government. The government's attention should be drawn specifically to what is known about the cultural property aspects of the proposed project site and appropriate agencies, NGOs, or university departments should be consulted; if there are any questions concerning cultural property in the area, a brief reconnaissance survey should be undertaken in the field by a specialist. The IUFMP will fund sub-projects that will have negative impacts on cultural property.

- ***Safety of Dams (OP 4.37)***. For the life of any dam, the owner is responsible for ensuring that appropriate measures are taken and sufficient resources provided for the safety to the dam, irrespective of its funding sources or construction status. The Bank distinguishes between small and large dams. Small dams are normally less than 15 m in height; this category includes, for example, farm ponds, local silt retention dams, and low embankment tanks. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. This policy does apply to IUFMP since the policy is triggered under the project.
- ***Projects on International Waterways (OP 7.50)***. The Bank recognizes that the cooperation and good will of riparians is essential for the efficient utilization and protection of international waterways and attaches great importance to riparian's making appropriate agreements or arrangement for the entire waterway or any part thereof. Projects that trigger this policy include hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial, and similar projects that involve the use or potential pollution of international waterways. This policy will not apply to IUFMP.
- ***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 neighboring countries. Any dispute over an area in which a proposed project is located requires formal procedures at the earliest possible stage. The Bank attempts to acquire assurance that it may proceed with a project in a disputed area if the governments concerned agree that, pending the settlement of the dispute, the project proposed can go forward without prejudice to the claims of the country having a dispute. This policy is not triggered by sub-projects activities therefore will not be funded by the IUFMP.

### Annex 3: List of Documents Reviewed

Author	Document Name	Date
Hospitalia Consultaire	Nigeria Erosion Watershed Management Project (NEWMAP)-ESMF	July 2008
EnvironQuest	Lagos Metropolitan Development Project - ESIA Final report	May 2005
EnvironQuest	Lagos Metropolitan Development Governance Project (LMDGP)-Solid waste Mangement Component and ESIA	August 2009
Mbaye Mbengue Faye	Senegal Storm Water and Climate Change Adaptation Project. Cadre De Gestion Environnementale et Sociale (CGES)	December 2011
The World Health Organization's submission to the World Commission on Dams (WCD)	Human Health and Dams	January 1999
International Financial Corporation	Environmental, Health and Safety Guidelines	April 2007
World Bank (Public Disclosed)	Report on the 26th of August 2011 flood in Ibadan	
World Bank	Safeguards Operational Policies	2001
World Bank	Resettlement and Rehabilitation Guide Book	2000
Babatunde S. Agbola, Owolabi Ajayi ,Olalekan J. Taiwo3,, and Bolanle W. Wahab	The August 2011 Flood in Ibadan, Nigeria: Anthropogenic Causes and Consequences	2012
Ajayi O., Agbola S. B, Olokesusi B. F., Wahab B., Taiwo O. J., Gbadegesin M., Taiwo D. O., Kolawole O., Muili A., Adeola M. A., Olutade O. G., Shiji F. and Abiola N. A.	Flood Management in an Urban Setting: A Case Study of Ibadan Metropolis	2012

#### **Annex 4: Screening Report for Standard Format and Screening Checklist**

1. GENERAL DESCRIPTION
  - 1.1. Overview of Ibadan city /Local Governments
  - 1.2. List of relevant existing MDAs
2. PROJECT-SPECIFIC SCREENING:
  - 2.1. Existing alignment
  - 2.2. Proposed Works
  - 2.3. Estimated Cost
  - 2.4. Summary of Environment and Social Issues
    - 2.4.1.Land Resources
    - 2.4.2.Hydrology and Water Resources
    - 2.4.3.Air and Noise
    - 2.4.4.Biological Resources
    - 2.4.5.Socio-Economic and Cultural
      - 2.4.5.1. Population
      - 2.4.5.2. Employment and Other Benefits
      - 2.4.5.3. Other site-specific issues
  - 2.5. Environment Screening Category
  - 2.6. Applicable Safeguard Policies
3. STATE/LOCAL GOVERNMENT ESMP ACTION PLAN
4. ATTACHMENTS
  - 4.1. Construction Maps/ Drawings
  - 4.2. Photos
  - 4.3. Location and Administrative Maps
  - 4.4 Environment and Social Checklist

## Annex 5: Summary of the ESIA Process Following Scoping

Stages	Steps/main tasks within each stage
<p><b>Stage 1: Conducting an ESIA study</b></p> <p><b>Key components:</b> Based on a clearer definition of the project to be implemented, consolidate and collect all the data/information that will be needed to carry out the assessment. Then proceed to the assessment per se (compare project alternatives and assess impacts). Report the results of the assessment.</p>	<p>Further detail and define the proposed project.</p> <p>Develop baseline environmental and social information</p> <p>Review policy, legal/regulatory and institutional framework</p> <p>Examine project alternatives and revise project design</p> <p>Analyze and evaluate impacts</p> <p>Prepare an environmental and social assessment report</p>
<p><b>Stage 2: Preparing an Environmental and Social Management Plan (ESMP)</b></p> <p><b>Key components:</b> Based on relevant findings of the assessment and the results of consultations with the project stakeholders, define measures that will be needed to, <i>inter alia</i>: mitigate the expected impacts of the project, monitor impacts and mitigation options/measures, build capacities, and communicate results of the environmental and social management plan.</p>	<p>Define environmental and social impact mitigation actions/measures</p> <p>Detail environmental and social monitoring to be conducted during project implementation</p> <p>Develop a plan to assess and build capacity to implement the environmental and social management plan and other project environmental and social components</p> <p>Develop a plan to communicate progress with implementation and effectiveness of the environmental and social management plan</p>
<p><b>Stage 3: Appraising the environmental and social assessment</b></p> <p><b>Key components:</b> Appraise the environmental and social assessment to ensure that it provides sufficient quality information to allow for decision making.</p>	<p>Assess the quality and completeness of the assessment, as well as the institutional capacities for implementing it.</p> <p>Ensure cost of, and financing arrangements for environmental and social management plan implementation, are adequate.</p>

## **Annex 6: Federal Guidelines for EIA Process**

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.

### **EIA ACT No.86 of 1992**

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.

### **Mediation**

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 sub-project;
- 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 7: Terms of Reference for the ESIA**

Environmental and Social Impact Assessment (ESIA) for the Ibadan Urban Floods Management Project (IUFMP)

### **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 IUFMP sub-projects
- 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 in-corporated 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

*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 Oyo State Ministry of Environment and Habitat, 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.

## **4.0 Tasks**

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. This will include alternative methods for flood control and the rationale for the preferred choice;
- 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**

The consultant team will address the full range of issues as it pertains to the proposed project. 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 which include pH, TSS or turbidity, conductivity, TDS, ammonia and sulphates and 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 IUFMP 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 base 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 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 IUFMP. 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 sub-projects, 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 sub-projects.

- **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.
- **Description of the existing Social and Environmental Baseline** – should describe information collected on the past, present and future context for the IUFMP 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, 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.

Stakeholders in the ESIA process may include, but are not limited to the following groups:

- The project client and / or developer.
- Teams of specialists (possibly including independent consultants).
- External reviewers.
- Relevant local public authorities, government departments and government agencies;
- Financial institutions;
- Local residents and communities;
- NGOs and community interest groups/project affected persons.

**8.0** The Technical team for the ESIA will be procured by the PIU.

## 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

This will be discussed with the PIU.

### 11. ESIA Submission

This will be discussed with the PIU.

## **Annex 8: Draft ESMP Terms of Reference**

### ***Introduction and context***

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

### ***Objectives of study***

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

### ***Tasks***

The consultant should realize the following:

- 1 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 a 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 by the project activities. Recommendations from this public consultation will be include 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 Description of environmental and social impacts and mitigation measures for project activities
- 8 Institutional Assessment and framework for Environmental Management.
- 9 Environmental and Social Management Plan (ESMP) for the project
  - o including the proposed mitigation measures;
  - o Institutional Responsibilities for Implementation;
  - o Monitoring indicators;
  - o Institutional responsibilities for monitoring and implementation of mitigation;
  - o Summarized table for ESMP including costs

- ESMP Training requirements
- 10 Public Consultation
- 11 Conclusion and Recommendations
- 12 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, Oyo State Ministry of Environment and Habitat (Pollution Control Unit) and the PIU. The report will include all the comments from all.

***Supervision of study***

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

### Annex 9: Generic Environmental and Social Screening Checklist

No	Item	Details				
<b>INTRODUCTION</b>						
1	Name of the State					
2	City					
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	Other (specify)		
11	Source of Funding					
12	Total Cost of the Project					
13	Anticipated Date of Completion					
<b>DESCRIPTION OF THE ENVIRONMENT</b>						
<b>PHYSICAL</b>						
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	
<b>ECOLOGICAL</b>						
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( %), lagoon( %), estuary( %), coastal				

		scrub( %), mangrove( %), salt marsh( %), home-gardens( %), 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( %), lagoon( %), estuary( %), coastal scrub( %), mangrove( %), salt marsh( %), home-gardens( %), 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( %), lagoon( %), estuary( %), coastal scrub( %), mangrove( %), salt marsh( %), home-gardens( %), Other ( %) (List)				
34	Are there any environmentally and culturally sensitive areas within 250m?	Protected Areas	Migratory pathways of animals	Archeological sites	Wetlands	Mangroves strands
35	Are there any plants of conservation importance within 250m (endemic and threatened species)? If yes, encouraged to provide a list					
36	Are there any animals of conservation importance within 250m (endemic and threatened species)? If yes, encouraged to provide a list					
<b>ENVIRONMENTAL SENSITIVITY</b>						
37	Does the project wholly or partly fall within any of the following areas?					
	<b>Area</b>	<b>Yes</b>	<b>No</b>	<b>Unaware</b>		
	100m from the boundaries of or within any area					
	100m from the boundaries of or within any area					
	Coastal zone					
	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					
	<i>Within a distance of one mile of the boundary of a <u>National Reserve</u></i>					
<b>ENVIRONMENTAL IMPACT AND MITIGATION / ENHANCEMENT DURING CONSTRUCTION PERIOD</b>						
	<b>IMPACT</b>					<b>MITIGATION/ ENHANCEMENT</b>
		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 behaviour					
45	Interference with normal movement of animals					
46	Irreversible/irreparable environmental change					
<b>ENVIRONMENTAL IMPACT AND MITIGATION / ENHANCEMENT DURING OPERATION PERIOD</b>						
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	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	
<b>CONTACT DETAILS OF OFFICIALS AND RECOMMENDATIONS</b>					
51	Name of the officer completed the form (From the Developer)				
52	Designation and contact Information				
53	List of team members				
55	Overall observation and recommendation				
55	Signature and date				
56	Name and Contact Information of the officer who checked this form (Environmental Officer)				
57	Remarks				
58	Signature and Date				

## Annex 10: 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 PIU or stakeholders at various levels may use the checklist below to identify the corresponding mitigation measures to successfully manage these impacts.

	Land Degradation	Water	Bio-diversity, Natural Habitats and Wetlands	People
Planning	<p>Flood control:</p> <ul style="list-style-type: none"> <li>(i) Rehabilitate anti-flooding infrastructure such as, micro-basins, micro dams, hill side terracing, soil bunds etc.</li> <li>(iii) Construct new anti-flooding infrastructure.</li> <li>(iv) Introduce crop rotation management, use of fertilizers, tree planting and soil drainage</li> <li>(v) Control bush burning and fires.</li> <li>vi) Protection of roadsides by planting of vegetation.</li> <li>vii) Protection of outlet of drainage canals and culverts to avoid clogging of river drains.</li> <li>viii) Prepare an effective and sustainable maintenance plan.</li> </ul>	<ul style="list-style-type: none"> <li>i) Promote potable water and sanitation sub-projects.</li> <li>ii) Promote environmental health measures and public health education.</li> <li>iii) Improve management of household and solid waste, including infrastructure for collection and treatment of liquid waste and waste water.</li> <li>iv) Review, update and enforce pollution control legislation.</li> <li>v) Strengthen enforcement capacity.</li> <li>vi) Develop and implement rural water supply and sanitation policy.</li> <li>vii) Locate sub-projects at far/safe distances from water points and sources.</li> <li>viii) Increase public awareness.</li> </ul>	<ul style="list-style-type: none"> <li>i) Consideration of alternative locations/siting of sub-projects.</li> <li>ii) Reduce biomass use through provision of alternative energy sources and construction materials (cooking stoves, photovoltaics).</li> <li>iii) Strengthen natural resource management capacities</li> <li>iv) Develop alternatives to slash and burning clearing, decrease overgrazing.</li> <li>v) Promote agro forestry.</li> <li>vi) Wetlands management and small irrigation development.</li> <li>vii) Protect sensitive ecosystems such as forests and wetlands, prevent further encroachment in protected areas.</li> <li>viii) Enforce existing laws.</li> <li>ix) Locate sub-projects appropriately.</li> <li>x) Training of communities of sustainable uses of resources.</li> <li>xi) Identify certain species of trees and animals that must be protected.</li> <li>xii) Exclude ecosystems that provided and important habitat for protected species.</li> <li>xiii) Establish buffer zones around protected parks and wetlands</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>ii) Provide social services in areas of <ul style="list-style-type: none"> <li>Primary education</li> <li>Primary health care</li> <li>Water supply</li> <li>Micro-finance</li> <li>Feeder roads</li> <li>Soil conservation and natural resources management.</li> <li>Basic and required training at State and local community levels.</li> </ul> </li> <li>Ensure that these services are equitably distributed throughout the districts and that access is open to all ethnic groups irrespective of status.</li> <li>iii) Ensure that vulnerable groups in sub-project areas are included in project activities and benefit from decision-making and implementation.</li> <li>iv) Provide employment opportunities during contracting of Civil works e.t.c</li> </ul>

	Land Degradation	Water	Bio-diversity, Natural Habitats and Wetlands	People
Construction	<ul style="list-style-type: none"> <li>• Construction in dry season. Protection of soil surfaces during construction.</li> <li>• Adequate protection from livestock entry by fencing the site perimeters.</li> <li>• Employ all unskilled labour from local community and semi-skilled labour first from local community when available there in.</li> <li>• Source goods and services from local districts first, when available.</li> <li>• Control and daily cleaning at construction sites.</li> <li>• Provision of adequate waste disposal services including proper disposal of chemicals and other hazardous materials.</li> <li>• Dust control by water, appropriate design and siting, restrict construction to certain times.</li> <li>• Appropriate and suitable storage of building materials on site.</li> <li>• Siting of Latrines at safe distances from wells and other water points and using closed systems for sewage drainage.</li> <li>• Restrict construction to certain hours</li> <li>• Minimize loss of natural vegetation during construction; alternative sites; various special measures for sensitive species</li> <li>• Restoration of vegetation; cleanup of construction sites.</li> <li>• Safety designs (signage)</li> <li>• Ensure availability of clean potable water for use in latrines, canteens and for drinking.</li> <li>• Use of appropriate building materials. No asbestos etc</li> </ul>			
Day to Day Operations	<ul style="list-style-type: none"> <li>• Use facilities/infrastructure as designed and as intended.</li> <li>• Employ trained staff to man and secure facilities.</li> <li>• Log and report any damages done and repairs needed.</li> <li>• Perform periodic monitoring of all aspects as contained in the sub-project Environmental and Social Monitoring Plan.</li> </ul>			
Maintenance	<ul style="list-style-type: none"> <li>• Prepare and adopt suitable maintenance plan.</li> <li>• Maintain appropriate budget necessary to implement maintenance plan.</li> <li>• 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.</li> <li>• Have suitably trained staff to carry out maintenance and access to materials/goods/equipment.</li> </ul>			

## Annex11: Additional Screening Questions to Determine the Need and Possible Extent of Further Environmental and Social Review and Management

ADDITIONAL SCREENING QUESTIONS TO DETERMINE THE NEED AND POSSIBLE EXTENT OF FURTHER ENVIRONMENTAL AND SOCIAL REVIEW AND MANAGEMENT		Answer (Yes/No/ Not Applicable)
1.	Biodiversity and Natural Resources	
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 or plantation development without an independent forest certification system for sustainable forest management (e.g. PEFC, the Forest Stewardship Council certification systems, or processes established or accepted by the relevant National Environmental Authority)?	
1.5	Does the project involve the production and harvesting of fish populations or other aquatic species without an accepted system of independent certification to ensure sustainability (e.g. the Marine Stewardship Council certification system, or certifications, standards, or processes established or accepted by the relevant National Environmental Authority)?	
1.6	Does the project involve significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction.</i>	
1.7	Does the project pose a risk of degrading soils?	
2.	Pollution	Answer (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, regional, and transboundary 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 proposed project involve the manufacture, trade, release, and/or use of chemicals and hazardous materials subject to international action bans or phase-outs? <i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Convention on Persistent Organic Pollutants, or the Montreal Protocol.</i>	
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.	Climate Change	
3.1	Will the proposed project result in significant <sup>6</sup> greenhouse gas emissions? <i>Annex E provides additional guidance for answering this question.</i>	
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)? <i>For example, a project that would involve indirectly removing mangroves from coastal zones or</i>	

ADDITIONAL SCREENING QUESTIONS TO DETERMINE THE NEED AND POSSIBLE EXTENT OF FURTHER ENVIRONMENTAL AND SOCIAL REVIEW AND MANAGEMENT	
	<i>encouraging land use plans that would suggest building houses on floodplains could increase the surrounding population's vulnerability to climate change, specifically flooding.</i>
4.	Social Equity and Equality
	Answer (Yes/No/ Not Applicable)
4.1	Would the proposed project have environmental and social impacts that could affect vulnerable groups?
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
	Answer (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? <i>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.</i>
5.3	Would the proposed project lead to significant population density increase which could affect the environmental and social sustainability of the project? <i>For example, a project aiming at financing tourism infrastructure in a specific area (e.g. coastal zone, 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).</i>
6.	Culture
	Answer (Yes/No/ Not 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? <i>For example, through the construction of a road, powerline, or dam that divides a community.</i>
7.	Health and Safety
	Answer (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? <i>For example, development projects located within a floodplain or landslide prone area.</i>
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?
8.	Socio-Economics
	Answer

ADDITIONAL SCREENING QUESTIONS TO DETERMINE THE NEED AND POSSIBLE EXTENT OF FURTHER ENVIRONMENTAL AND SOCIAL REVIEW AND MANAGEMENT		
	(Yes/No/Not Applicable)	
8.1	<p>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? <i>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?</i></p>	
8.2	<p>Is the proposed project likely to significantly affect land tenure arrangements and/or traditional cultural ownership patterns?</p>	
8.3	<p>Is the proposed project likely to negatively affect the income levels or employment opportunities of vulnerable groups?</p>	
9.	<p>Cumulative and/or Secondary Impacts</p>	<p>Answer (Yes/No/Not Applicable)</p>
9.1	<p>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? <i>For example, future plans for urban growth, industrial development, transportation infrastructure, etc.</i></p>	
9.2	<p>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? <i>For example, a new road through forested land will generate direct environmental and social impacts through the cutting of forest and earthworks associated with construction and potential relocation of inhabitants. These are direct impacts. In addition, however, the new road would likely also bring new commercial and domestic development (houses, shops, businesses). In turn, these will generate indirect impacts. (Sometimes these are termed “secondary” or “consequential” impacts). Or if there are similar developments planned in the same forested area then cumulative impacts need to be considered.</i></p>	

**Annex 12: Is the proposed project likely to increase environmental and/or social vulnerability to climate change now or in the future?**

	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 ( <i>e.g. low-lying coastal areas</i> ), or the longer-term habitability of which is in question ( <i>e.g. areas at risk of extreme desertification or extreme disaster risk</i> )		
o Other economic/livelihood development based on climate-sensitive resources ( <i>e.g. exploitation of rangelands, forests, fisheries, rivers, lakes; natural resource-based tourism; etc</i> )		
o Activities in areas with existing conflicts over natural resources		
o Pricing of basic commodities (e.g. water)		
o Privatization of, or formalisation of rights over, natural resources		
o Resettlement (e.g. facilitated or incentivised voluntary resettlement)		
ii 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:		
o Pastoralists		
o Hunter-gatherers		
o Forest dwellers		
o Subsistence farmers or fisher folk		
o Indigenous peoples (or other peoples) living outside of the mainstream economy		
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? ( <i>e.g. require persistence of current rainfall regimes, surface runoff, extremes frequency/severity, natural resource abundance, ecological conditions, etc</i> ).		

### Annex 13: Public Participation in Project Cycle

Project Cycle	ESIA Component	Public Participation Activity
<b>Pre-Feasibility</b>	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.
<b>Feasibility</b>	Environmental and Social Impact Assessment (ESIA)	The public reviews and comments on draft ESIA study report. The public provides input to design and survey.
<b>Detailed Survey and Design</b>	Integration of Environmental Mitigation Measures	Detailed design made available to the public.
<b>Construction and Operation</b>	Environmental and Social Monitoring	The public provides input to post-evaluation of impacts and mitigation measures.

## **Annex 14: 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.

### **Chance Find 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 15: Construction Contracts Environmental Management Conditions**

### **General**

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental and Social Management Plan (ESMP) or Environmental and Social Management Plan (ESMP) for the works he is responsible for. The Contractor shall inform himself about such an ESMP, and prepare his work strategy and plan to fully take into account relevant provisions of that ESMP. If the Contractor fails to implement the approved ESMP after written instruction by the Project Engineer (PE) to fulfill 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 negative environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an ESMP. 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 roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity of 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 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 archeological 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 fulfillment 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, and 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 negative 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 Supervising Engineer 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. Oyo State environmental authorities which include the environmental specialist in the PIU 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 banded 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 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 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 these general conditions, and any applicable ESMP, 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 environmental specialist and solid waste specialist of the PIU 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. Revegetate 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 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 roads/detours shall be done in consultation with the local community especially in important or sensitive environments. Access roads shall not traverse wetland areas.
40. Upon the completion of civil works, all access roads shall be ripped and rehabilitated.

41. Access 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 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 Health, Safety and Environment Management Plan (HSE-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 HSE 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 HSE aspects of the project, and as a basis for monitoring of the Contractor's HSE 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 ESMP;
- a description of specific mitigation measures that will be implemented in order to minimize negative 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.

### ***HSE Reporting***

57. The Contractor shall prepare bi-weekly progress reports to the SE on compliance with these general conditions, the project ESMP if any, and his own EHS-MP. An example format for a Contractor HSE report is given below. It is expected that the Contractor's reports will include information on:

- HSE management actions/measures taken, including approvals sought from local or national authorities;
- Problems encountered in relation to HSE 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 HSE aspects; and
- Observations, concerns raised and/or decisions taken with regard to HSE management during site meetings.

58. It is advisable that reporting of significant HSE incidents be done "as soon as practicable". Such incident reporting shall therefore be done individually. Also, it is advisable that the Contractor keeps 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 appendices to the bi-weekly reports. Example formats for an incident notification and detailed report are given below. Details of HSE 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 ESMP, and his own EHS-MP, and are able to fulfill 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:

- HSE 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 the art as generally required under this Contract. The item “Compliance with Environmental Management Conditions” in the Bill of Quantities covers these costs. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable HSE impact.

**Annex 16: Example Format: HSE Report**

**Contract:**

**Period of reporting:**

**HSE management actions/measures:**

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

**HSE incidents:**

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

**HSE compliance:**

Report on compliance with Contract HSE conditions, including any cases of non-compliance.

**Changes:**

Report on any changes of assumptions, conditions, measures, designs and actual works in relation to HSE aspects.

**Concerns and observations:**

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

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

Contractor's Representative

**Example Format: HSE 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's Representative

## Annex 17: Summary outcome of stakeholder consultation meetings

The ESMF consultant visited Ibadan between 10 and 18 October, 2013. Interactive sessions with the various stakeholders in MDAs were carried out. The session provided insight to the state legislations and laws on the environment and urban planning, flood plains management, state government methods for engaging local communities and achieving participation in implementation of projects.

Stakeholder perception of IUFMP: Stakeholders were glad to be carried along at every stage of preparation, optimistic that the project will succeed and remain sustainable.

General responses from the consultant include:

- The ESMF is an environmental and social due diligence instrument where all recommendations will be taken into cognisance
- The Bank is committed to supervision and provision of technical support and guidance for the overall success of the project

Below are the details of the stakeholder consultation.

### Ministry of Physical Planning and Urban Development

Items	Description
Name of Stakeholder (MDA):	<b>Oyo State Ministry of Physical Planning and Urban Development</b>
Date:	10/10/2013
Venue:	Oyo State Ministry of Physical Planning and Urban Development
Language of Communication:	<b>English</b> /Yoruba
Opening Remarks:	Tpl. Akinwale O.A (Chief Urban Planner, PIU) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	<p><u>History:</u>                      Policy is under review;                      The 33 LGAs has a unit of physical planning;                      Responsible for building regulations;                      Responsible for disasters related to blight and decay in buildings.</p> <p><u>Interventions:</u>                      Immediate cause of flood was identified with task forces in zonal planning offices;                      Landscape design/plan for major streams and river courses to prevent encroachment along the water shed;                      Setback standards are under review with a committee set up;                      Demolition exercise was carried out in some part of Ibadan around flood prone areas;                      Slum upgrading.</p>

Queries and Concerns	Ibadan city has no master plan
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**Ministry of Environment and Habitat**

Items	Description
Name of Stakeholder (MDA):	<b>Oyo State Ministry of Environment and Habitat</b>
Date:	10/10/2013
Venue:	Oyo State Ministry of Environment and Habitat
Language of Communication:	<b>English</b> /Yoruba
Opening Remarks:	Mrs. Adesina F.E (Environment specialist, PIU) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	Proper system should be developed to maintain regulated release of water from the dam which can minimize flooding of areas located on the downstream;  Catchment area management plan may be developed to stop the degradation of the catchment area and simultaneously to develop the catchment area.
Queries and Concerns	Most of the catchment of Eleyele dam is forested area, hence comes under jurisdiction of the Forestry Department. Interdepartmental co-ordination is necessary to built up with the forest department for catchment treatment. The work force available with that department, in the form of Forest Protection Committee, may be used in catchment management;

**Ministry of Works and Transport**

Items	Description
Name of Stakeholder (MDA):	<b>Oyo State Ministry of Works and Transport</b>
Date:	11/10/2013
Venue:	Oyo State Ministry of Works and Transport
Language of Communication:	<b>English</b> /Yoruba
Opening Remarks:	Engr. Akanbi T.O (Project Engineer, PIU) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	<i>History:</i> The Fire Service agency is a unit in the ministry <i>Interventions:</i> Provision of roads and hydraulic structures across river crossings <i>Presence of Cultural Heritage:</i> There is no knowledge of any shrine, cemetery or sacred forest or historical monuments within the areas of intervention but this should be verified with

	community heads.
Queries and Concerns	The World Bank's response and funding of the project.

### Ministry of Water Resources

Items	Description
Name of Stakeholder (MDA):	<b>Oyo State Ministry of Water Resources</b>
Date:	11/10/2013
Venue:	Oyo State Ministry of Water Resources
Language of Communication:	<b>English/Yoruba</b>
Opening Remarks:	Tpl. Akinwale O.A (Chief Urban Planner, PIU) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	<b>History:</b> Dams are under the auspices of the ministry; <b>Interventions:</b> Government was able to clean the river channels around the state; Government is in the process of rehabilitating the intake valves in Eleyele dam; Mapping of structures along flood plains; Government put up jingles conveying warnings about flood risks; Government proposed establishing river gauges in some rivers; Ogun/Osun river along Ona has been made available.
Queries and Concerns	The holding capacity of Eleyele dam has greatly reduced caused by siltation; Intake structures and controls are not functioning; Wing walls/retaining walls in the spillway of Eleyele dam have cracks and not in order. Channel downstream in some areas which is 25m has been reduced to 5m; Living trees have fallen reducing the natural flow of water; The Eleyele dam should be desilted.

### Ministry of Lands Housing and Survey

Items	Description
Name of Stakeholder (MDA):	<b>Oyo State Ministry of Lands Housing and Survey</b>
Date:	11/10/2013
Venue:	Oyo State Ministry of Lands Housing and Survey
Language of Communication:	<b>English/Yoruba</b>
Opening Remarks:	Tpl. Akinwale O.A (Chief Urban Planner, PIU) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment;

Stakeholder Remarks:	<p><u>History:</u> Lands is a service Ministry; Catchment area around Eleyele dam is under the Department of forestry, Ministry of Agriculture as well as Water Cooperation.</p> <p><u>Interventions:</u> Government acquired 200m as set back to the dam but not adequately followed up by enforcement; Buildings and business owners had their structures marked for demolition. Government is willing to resettle displaced individuals on flood prone areas.</p> <p><u>Activities within the Project area:</u> Temporary Occupational Licences were given to persons living in flood plain zones but quit notices were served in 2011.</p>
Queries and Concerns	<p>Synergy with other line MDAs is low. Each Ministry or agency operate separately; Until solid waste is disposed properly and good drainages created the project will be wasting money; Proper education on solid waste collection and disposal,</p>

### Oyo State Emergency Management Agency

Items	Description
Name of Stakeholder (MDA):	<b>Oyo State Emergency Management Agency</b>
Date:	14/10/2013
Venue:	Oyo State Emergency Management Agency
Language of Communication:	<b>English</b> /Yoruba
Opening Remarks:	Mr. Ogunjimi O.D (Disaster Risk Management specialist, PIU) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	<p><u>Interventions:</u></p> <p><u>Structural efforts</u> Cleaning of drains; desilting of streams and channels; weekly environmental exercise.</p> <p><u>Non-structural efforts</u> Running of jingles on radio and TV; Sensitization and advocacy across the state; Strengthening local emergency management committees (LEMC) to mainstream DRM in development activities; Making available funds from local governments to LEMCs; Strengthening six nos Committee Emergency Response Team (CERT) which include Saki, Ibadan, Ogbomoso, Oyo etc; Vulnerability assessment;</p>

	Oyo State stakeholder platform on emergency management which include civil defence, police, army, Red Cross, faith based organisations, NGOs/CBOs to brainstorm on disaster preparedness.
Queries and Concerns	NIMET claimed to have informed about the floods; Town planning irregularities; Sub-standard projects by Government; Activities within the project should be prompt and political instability may deter continuity. Systemic problem in the coordination of flood responses; There is a need to make the Nigerian Army involved through their Disaster Reduction Unit (DRU); Responsibilities for MDAs should be synergized. Disaster preparedness training should be given to the villages at potential hazard zones including dam peripheral villages and d/s villages;

#### At Eleyele dam

Items	Description
Name of Stakeholder (MDA):	<b>At Eleyele Dam site Ibadan</b>
Date:	14/10/2013
Venue:	<b>Eleyele dam Ibadan</b>
Language of Communication:	<b>English/Yoruba</b>
Opening Remarks:	Engineer Ayanwale, Director Ministry of Water Resources (Dam and Hydrology) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment; There was a general introduction of participants.
Stakeholder Remarks:	<u>History:</u> The dam was created 71 years ago. <u>Interventions:</u> Activities within the Project area: <u>Community Commitment:</u> Engr. Magregore spends about 400,000-500,000 to desilt and clean drains around the living areas of Eleyele dam; They don't allow residents to dump refuse indiscriminately; <u>Demands:</u> Appeal to the Government to dredge the dam and protect the dam walls and channels using concrete;
Queries and Concerns	Alhaji Alaka: What effort has the Government taken? The Government has not done anything. Buildings and property were swept off without Governments intervention. Tunji Ahmed: Service contractors who operate

	<p>around Eleyele to collect solid waste take off after a few months;</p> <p>It is important to ensure that solid waste is collected and a policy for upper class citizens taking care of the waste of low class citizens.</p> <p>It is better to collect/dispose waste at the household level rather than the middle of the main roads.</p> <p>Policies should be people driven, technocrats should be given hearing.</p> <p>Waste collection equipment should be sustained</p> <p>Engineer Ayanwale: Dam has never be rehabilitated;</p> <p>There should be routine maintenance and a limit to design years;</p> <p>Engr. S.O Akanmu: The treatment plant is not functioning (service water pumps, alum and lime dozing pumps)</p>
<p>Responses to the concerns</p>	<p>Proper system should be developed to maintain regulated release of water from the dam which can minimise flooding of areas located on the downstream;</p> <p>As it seemed during the public meeting at local level in downstream of the dam that no disaster perception is prevailing in the area. Conscious efforts may be made to draw a disaster preparedness programme and penetrate the same within the local people;</p> <p>Structural Strengthening like cement grouting, Cleaning of sluices, Repair of old gates, Extension of guidewalls etc. are very much required. This is an old dam so proper rehabilitation measures need to be taken;</p> <p>The Bank is committed to supervision and provision of technical support and guidance for the overall success of the project;</p> <p>The ESMF is a safeguard instrument were all recommendations will be taken into account.</p>
<p>Recommendations and Remarks</p>	<p>Extension of the guidewall and increase in the height of the sill is required to minimize the flooding effect in the immediate downstream and to protect the scouring of the stilling basin subsequently. The dam embankment needs to be strengthened and regular inspection of the same is most necessary;</p> <p>As the favorable water quality of the reservoir provides great opportunity for fishery development, it should be more promoted. The model of public participation in fisheries development has potential for employment generation and can be replicated with further enhancement measures integrating suitable environmental and social management framework;</p>

Items	Description
Name of Stakeholder (MDA):	Oyo State Ministry of Health
Date:	17/10/2013
Venue:	Oyo State Ministry of Health
Language of Communication:	<b>English</b> /Yoruba
Opening Remarks:	The ESMF consultant introduced the project, its aims and proposed intervention measures to be established and elaborated on the aims of the assessment; There was a general introduction of participants.
Stakeholder Remarks:	<u>History:</u> The dam was created 71 years ago. <u>Interventions:</u> Community sensitization; Treatment of IDPs; Disease surveillance.
Queries and Concerns	Debris in Eleyele dam is high and can retain little water; Hopes channelization downstream will be wide enough to accommodate volume of water passage; Buffer zone around Eleyele Dam should be maintained by planting trees for excess water to be absorbed; Laws should be enforced to regulate people and activities encroaching on flood plains; Oyo State has a high rate of Cholera and Gastroenteritis due to improper solid waste management.

#### Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation

Items	Description
Name of Stakeholder (MDA):	Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation
Date:	17/10/2013
Venue:	Oyo State Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation
Language of Communication:	<b>English</b> /Yoruba
Opening Remarks:	Mr. Ayodele A.M introduced the project, its aims and proposed intervention measures The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	<u>History:</u> Ministry was established by a policy letter. <u>Interventions:</u> Government has removed structures along the flood plains; Social workers alongside SEMA intervened with relief materials after the flood; Follow up in monitoring evacuation of people from the flood plains is ongoing;

	<p>Some bridges are being rehabilitated/reconstructed; Donors like Dangote have been very helpful.                  Presence of Cultural Heritage:                  Activities within the Project area:                  Community Commitment:  <u>Demands:</u>                  The investment fund will be very important for sustainability.</p>
Queries and Concerns	<p>Sensitization was carried out but was not targeted towards flooding;                  Residents on the flood plain have to be evacuated through collaboration between Government and community leaders.                  Blocked drainages due to improper solid waste disposal;                  There should be a participatory approach involving stakeholders for project sustainability;</p>

### Federal Ministry of Environment

Items	Description
Name of Stakeholder (MDA):	<b>Federal Ministry of Environment, Oyo State</b>
Date:	17/10/2013
Venue:	Federal Ministry of Environment, Oyo State
Language of Communication:	<b>English</b> /Yoruba
Opening Remarks:	<p>Mr. Diya ( DRM specialist, PIU) introduced the project, its aims and proposed intervention measures to be established and elaborated on the aims of the assessment;                  The ESMF consultant elaborated on the aims of the assessment;</p>
Stakeholder Remarks:	<p>NEWMAP is highly interrelated with the flood project;                  A good desk review of the NEWMAP and synergy with the flood management project will be required;                  Forests offer a lot of control to floods.                  Watershed improvement through plantation establishment;                  Government should be aware of green issues and not only on brown issues;                  The Ibadan Sustainable Project document should be reviewed;                  Oyo State has no problem with compliance or enforcement related to people occupying flood prone areas.  <u>Interventions:</u>                  The Ministry through a project purchased mechanical harvesters to clear the water hyacinth in Eleyele dam.</p>
Queries and Concerns	<p>Expressed surprise over new construction and clearing of forests by Government in flood prone areas i.e (downhill premier hotel opposite Ogunpa retention pond).</p>

	Called for Government to replant with trees the fragile ecosystem.
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**National Environmental Standards and Regulations Enforcement Agency (NESREA)-**

Items	Description
Name of Stakeholder (MDA):	<b>NESREA, Oyo State</b>
Date:	17/10/2013
Venue:	<b>NESREA, Oyo State</b>
Language of Communication:	<b>English/Yoruba</b>
Opening Remarks:	Mr. Diya ( DRM specialist, PIU) introduced the project, its aims and proposed intervention measures to be established and elaborated on the aims of the assessment; The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	There is no limit to enforcing standards There is presently a dialogue committee set up with the state ministry of environment and habitat
Queries and Concerns	All stakeholders should have a common understanding about the issues of the environment; Inadequate collection and disposal of solid waste as well as structures erected on flood prone areas constituted the major causes of flood effects. NESREA has started an enlightenment program on waste management. Attitudinal change and strong political will is key to the success

**Waste Management Authority**

Items	Description
Name of Stakeholder (MDA):	<b>Oyo State Waste Management Authority</b>
Date:	17/10/2013
Venue:	<b>Oyo State Waste Management Authority</b>
Language of Communication:	<b>English/Yoruba</b>
Opening Remarks:	Mr. Taiwo ( waste management specialist, PIU) introduced the project, its aims and proposed intervention measures to be established and elaborated on the aims of the assessment; The ESMF consultant elaborated on the aims of the assessment;
Stakeholder Remarks:	Every Thursday and on the last Saturday of the month, the Government made it mandatory between 8-10 am to collect and dispose of solid waste at no cost. A record of solid waste collected for each month is compiled. Yes-O Cadets are supervised by Environmental Health Officer who assist with waste disposal monitoring; There has been trainings and enlightenment through the mass media as well as meetings with market

	women on solid waste management.
Queries and Concerns	The private sector lack capacity in terms of equipment

### General Stakeholder Consultation

Items	Description
Name of Stakeholder (MDA):	<b>General Stakeholders Consultation,</b>
Date:	18/10/2013
Venue:	PentoRise, Awolowo New Bodija Ibadan.
Language of Communication:	<b>English/Yoruba</b>
Opening Remarks:	Mr. Onuoha gave a welcome address and opening remarks; Mr. Diya (DRM Specialist, PIU) introduced the project, its aims and proposed intervention measures to be established; The ESMF consultant elaborated on the aims of the assessment;.
Stakeholder Remarks:	<p><u>Interventions:</u></p> <p><i>Comrade Segun- Center for Constitutional :</i> Some rivers were channelized after the 2011 floods; standard drainages were constructed; road constructions follow best practice designs.</p> <p><i>Director of Lands; Ministry of Lands Housing and Survey:</i> Shanty buildings/developments have been demolished thereby allowing free flow of storm water and reducing risk tendencies; Demolition exercise around WAEC in Ijokodo were carried out also; Before any road construction the standard is to reinforce drainage structures.</p> <p><i>Mr. Olanrewaju- Ministry of Lands Housing and Survey-</i> Demoliton of houses were carried out along flood lains; Most structures along the roads were improved; there have been massive efforts on solid waste Mangement.</p> <p><i>Mrs. Adesina (Environmental specialist, PIU)-</i> Emergency sanitation exercise especially in the Iwo road axis has improved; The restoration bridge in Bodija is laudable; There was dredging of rivers along Ona.</p> <p><i>Engr. Oluseye (Eleyele Resident):</i> Engr Mc Gregor spends about 300,000-500,000 thousand Naira annually to claen drainages near a bridge located IN Eleyele and also help to evacuate waste.</p> <p><i>Mr. Balogun-</i> Training of youths on Environmental issues is on-going.</p> <p><i>Surveyor Omotosho, AD Office of the surveyor general-</i> Government has been keen and has made efforts ; Eleyele dam has been visited and mapping has been done; GIS</p>

	<p>students were engaged to carry out mapping of all streams in Ibadan; Government is willing.</p> <p><i>Alh. I.G Yussuf, Child Dev of Concerned Foundation – UNICEF</i> came to the attention of the children</p>
<p>Queries and Concerns</p>	<p><i>Engr. Oluseye (Eleyele Resident):</i> Effective channelization from Eleyele dam to the bride should be carried out within the project activities.</p> <p><i>Mr. Ariola Lateef (Social Welfare Dept, Ministry of Women Affairs, community dev, social welfare and poverty alleviation)-</i> Land tenure system/law has not given directives to land owners to the setbacks from the roads; There is no law to compel land owner for space for markets, garage</p> <p><i>Mr. Oyebamiji, CLPRI-</i> Political instability deterred the rehabilitation of the 3 rivers- Ona, Ogbere and Ogunpa; Enforceable law is a problem; No intervention has been carried out after demolition of houses and moving of individual from the flood plains; there is no enforcement of law on people Constructing is on-going on flood plains; There should be an arrangement to put solid waste into use such as the waste to wealth initiative; Environmental clubs in secondary schools should be trained.</p> <p><i>Dr. Adeyeye (Code Africa)-</i> Level of environmental awareness ,attitude and life pattern of the people is not encouraging; A survey of people after the 2011 floods in terms of environmental change reduced from 53% in March to 47% in August 2013.</p> <p><i>Mr. Balogun-</i> Environmental education needs to be taken into cognizance to educate the masses/youth on environmental issues.</p> <p><i>Owoeye Abiodun, Gada Community –</i> The dredging of Ona River should be carried out as well as the rehabilitation of all bridges.</p> <p><i>Alh. I.G Yussuf, Child Dev of Concerned Foundation –</i> Nothings was done in terms of the needs of the children; SEMA has been written but no support.</p> <p><i>Mr. Segun Adepoju; Coordinator, Centre for constitutional governance and human rights:</i> Landlords and community associations should assist in their own way to construct mini connected drainages; There should be better waste management strategies; There is injustice in displaced areas especially in Oremeji area; The problem of effective implementation should not be affected by lack of political will; mistakes during projects made in the past should guide policy implementation and interpretation.</p> <p><i>Director of Lands; Ministry of Lands Housing and Survey:</i> A careful consideration towards implementing activities in component 1 and 2 should be noted as these are entirely massive projects on its own.</p> <p><i>Bola Omidiji, Coordinator ANWIB-</i> The project should</p>

	<p>plan for prevention and not for solutions; Early warning systems is important.</p> <p><i>Samuel Okewoye, Executive Director, Community Alliance-</i> There should be a future plan or projection by the government; the Odo-ona elewe river and the bridge needs rehabilitation.</p> <p><i>Zonal Director, NEAREA-</i>Town planning enforcement should be taken seriously by Government; There should be adherence to buffer zone setbacks by citizens; There should be synergy between all MDAs</p> <p><i>Dr. Tayo Ogunsowo, Cardinal Initiatives for Development-</i> Vulnerable groups such as women and children should be extremely considered in all facets of disaster risk reduction; Reduce, Reuse and Recycle of solid waste should be taken into consideration.</p>
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## Annex 18: Stakeholders at the State and Organizational Levels- MDAs, CBOs and NGOs Responses

Knowledge on the IUFMP and sub-project activities				
	Rating			
	1	2	3	
	Very good	Satisfactory	low	
Project understanding and perception	✓			
	Cumulative Average Rating			
		1	2	3
Land use/land degradation		High	Moderate	low
	Awareness level on flood issues and causes of floods	✓		
Water Pollution	Occurrence of eutrophication in community utility water bodies			✓
Anthropogenic activities e.g solid waste management Labour Issues and socio-economics	General perception that human activities have led to flood vulnerability in Ibadan	✓		
	Level of solid wastes and other earth work activities in the area	✓		
	Perception on the IUFMP potential to create jobs for indigenous people			✓
	Possibility of influx of work migrants	✓		
	Perception that the IUFMP will successfully manage floods risk issues	✓		
Public Health/Infectious diseases	Perception that IUFMP civil activities may affect communities (infrastructure and businesses) negatively		✓	
	Possibility in gaining co-operation and participation from communities for the implementation of IUFMP activities	✓		
	Perception that influx of sub-projects workforce may increase spread of STIs	✓		
Oyo State Flood Investment Fund (OYSTIF)	Perception about the provision of an investment finance, capacity building and technical assistance activities that are consistent with the Oyo State urban flood management program.		✓	
		✓		
				✓
Environmental and Social Concerns	Knowledge of environmental and social concerns that will be involved with sub-project civil works.		✓	

### Annex 19: List of Stakeholders and Persons Consulted

S/No	Name	Designation	Organization	Phone	Email
<b>PROJECT IMPLEMENTATION UNIT (PIU)- 10/10/2013</b>					
1	Oyelowo W.O	Project Auditor	PIU	08030441344	Sunbo.oyelowo@yahoo.com
2	Adesina F.E	Environment Specialist	PIU	08062322057	funmilayoevelyn@yahoo.co.nz
3	Babanumi A.O	Communication Specialist	PIU	07033875959	Adebunmi.babanumi@yahoo.com
4	Dada A.A	Social Development Specialist	PIU	08035025222	Dadaayanbola4@yahoo.com
5	Ayodele A.M	Community Development Specialist	PIU	08023516761	ayogoke@yahoo.com
6	Ogunjimi O.D	Disaster Risk Mgt Specialist	PIU	08066664411	ogunjimidiya@gmail.com
7	Engr. Akanbi T.O	Project Engineer	PIU	08039152280	
8	Tpl. Akinwale O.A	Chief Urban Planner	PIU	08023470945	
9	Salami H.T	Office Administrator	PIU	08034075330	
10	Ayorinde A.A	Project Coordinator	PIU	07030263100	Dayo1ayorinde@yahoo.com
11	Taiwo O.M	Waste Management Specialist	PIU	08057199150	Tolaode57@yahoo.com
12	Akinde N.P	M&E specialist	PIU	08032200185	akindengozi@gmail.com
13	Fadipe C.F	Financial Management Specialist	PIU		
14	Olawale O.M	Procurement Specialist	PIU		
<b>Ministry of Planning and Urban Development 10/10/2013</b>					
1	Tpl. Taiwo S.B	Director Devt Planning	MPP&UD	08033740557	Sbtaiwo2005@yahoo.com
2	Tpl. J.O Oladele	Director Urban Renewal & Environmental Mgt	MPP&UD	08033228953	Jamola08@ymail.com
<b>Ministry of Environment and Habitat 10/10/2013</b>					
1	Engr. E.O Oyediran	Deputy Director	Ministry of Env & Habitat Oyo	08056507815	engoyepeuliar@yahoo.com
2	Engr. Akande Lukman	Civil Engineer	Ministry of Env & Habitat Oyo	08067081299	Nyiakande34@yahoo.com
3	Mrs. Areo B.O	PEHO	Ministry of Env & Habitat Oyo	08062250230	Pamilerinareo2013@gmail.com
4	Oloyede S.M	Scientific Officer	Ministry of Env & Habitat Oyo	08071274361	Yede2004@yahoo.com
5	Popoola K.K	Chief Env. Health Officer	Ministry of Env & Habitat Oyo	08032408409	Kunlepopo2012@gmail.com
6	Adedokun E.A	Principal Lab Tech		08038062387	dokunyemi@yahoo.com
<b>Ministry of Works 11/10/2013</b>					
1	Engr. A.B Atewologun	Deputy Director Highways (Planning)	Ministry of Works & Transport	08033772570	loguntunde@yahoo.com
2	Engr. E.A Akinpade	Deputy Director Highways (Operations)	Ministry of Works & Transport	08060733884	Akinpade_abi@yahoo.com
3	Engr. O.K Aremu	Senior Civil Engineer (Road)	Ministry of Works & Transport	08030640218	segunpapeso@yahoo.com
4	Engr. R.O. Alli	Deputy Director Highways	Ministry of Works & Transport	08023256070	Olayinka.all@yahoo.com
<b>Ministry of Water Resources 11/10/2013</b>					
1	Engr. M.A Ayanwale	Director, Dam & Hydrology	Ministry of Water Resources	08034783977	Amaak.konsult@yahoo.com

<b>Ministry of Lands Housing and Survey 11/10/2013</b>					
2	Audu H.A	Director of Lands	Ministry of Lands Housing and Survey	08023059269	hakimaudu@yahoo.com
3	Owolabi O.	Director of Planning & Research	Ministry of Lands Housing and Survey	08033663424	bolawolewolabi@yahoo.com
4	A.E Olarenwaju	Director Admin and SS (Standing in for Ag PS)	Ministry of Lands Housing and Survey	08027327172	aeolarenwaju@yahoo.com
<b>OYO State Emergency Management Authority 14/10/2013</b>					
1	Ayoade Adetayo M.	Head (R&R)	OYOSEMA	08023518295	eakanbierin@yahoo.com
<b>Eleyele Reservoir Catchment Area 14/10/2013</b>					
1	Engr. S.O Akanmu	Scheme Manager	Water Cooperation	08053024459	akanmuso@gmail.com
2	Mrs. M.F Oladeji	Ag. District Chemist	Water Cooperation	07059180599	Maryoladeji0@gmail.com
3	Dr. Abbas Gbolahan	Epidemiologist	Min. of Health	08033280687	gbolaabbas@yahoo.com
4	Babanumi A.O	Communication Specialist	PIU	07033875959	Adebunmi.babanumi@yahoo.com
5	Giwa Khalid H.	Principal Works Superintendent	Water Cooperation	07031965657	giwakhali@yahoo.com
6	S. Oladejo	SWS (M)	Water Cooperation	08059347803	
7	Osunlana I.O	SWS (M)	Water Cooperation	08106381874	
8	Marcus Williams	CEO	La Vie MOT Global Mission	08038565552	Livingwordmission@yahoo.com
9	Aafa Abudu Kabir Moraoya	Immam	Mosque Gbopa	08024016787	Immam at gbopa ologun Ora-ana
10	Alfa Saburi	Alfa Imam	Mosque Eleyele	08065701611	Asfar road Eleyele
11	Ven (Engr) O.I Ogunrinde	Civil Engineer	St. Anthony Close	08033491006	Oluseye_ogunrinde@yahoo.com
12	Tunde Ahmed	President Waste Mgt	Refuse Contractor Association	08023022922	Tundeahmed12@yahoo.com
13	Adedokun E.A	Principal Lab Tech		08038062387	dokunyemi@yahoo.com
14	Olawale O.M	Procurement Specialist	PIU	08029689906	Ywale2002@hotmail.co.uk
15	Dada A.A	Social Development Specialist	PIU	08035025222	Dadaayanbola4@yahoo.com
16	Ayodele A.M	Community Development Sp.	PIU	08023516761	ayogoke@yahoo.com
17	Adesina F.E	Environment Specialist	PIU	08062322057	funmilayoevelyn@yahoo.co.nz
18	Ogunjimi O.D	Disaster Risk Mgt Specialist	PIU	08066664411	ogunjimidiya@gmail.com
19	Engr. Akanbi T.O	Project Engineer	PIU	08039152280	Engr. Akanbi T.O
20	Tpl. Akinwale O.A	Chief Urban Planner	PIU	08023470945	Tpl. Akinwale O.A
21	Taiwo O.M	Waste Management Specialist	PIU	08057199150	Tolaode57@yahoo.com
<b>Oyo State Waste Management Authority 17/10/2013</b>					
1	Engr. J.A Alabi	General Manager	OYOWMA	08030725830	Alabijoseph71@yahoo.com
<b>Ministry of Women Affairs, Community Development, Social Welfare and Poverty Alleviation- 17/10/2013</b>					
1	S.O Kolajo	DSW	Min. of Women Affairs	08053002087	kolajoniyi@yahoo.com
<b>Ministry of Health 17/10/2013</b>					

1	Dr. Abbas Gbolahan	Epidemiologist	Min. of Health	08033280687	gbolaabbas@yahoo.com
2	Mrs B.O Olawoyin	DSNO	Min. of Health	08034369664	Kamfas2001@yahoo.co.uk
<b>National Environmental Standards and Regulations Enforcement Agency (NESREA)- 17/10/2013</b>					
1	Nosa Aigbedion	PSO	NESREA	07063438777	dicknosa@yahoo.com
2	Peniel Jack	Principal Geologist	NESREA	08037046523	Peniel.jack@gmail.com
3	Stephen Gbor	Senior Geologist	NESREA	08036595832	Gbor2@yahoo.co.uk
4	Engr. O.O. Sode	Zonal Director (SW)	NESREA	08174634705	osode@nesrea.org
<b>Federal Ministry of Environment- 17/10/2013</b>					
1	Adetola A.D	Controller	Fed. Min of Environment Ibadan	08035392739	dorcasadun@yahoo.com
2	P.O Ajayi	Assistant Director	Fed. Min of Environment Ibadan	08024224288	poajayi@yahoo.com
3	O.S Adedoyin	Deputy Director	Fed. Min of Environment Abuja	08054854000	osadedoyin@yahoo.com
<b>General Stakeholder Consultation 18/10/2013</b>					
1	Chief A.O.S Okewonyi	Chairman	CDC Ibadan North West	08030441656	P.O Box 1934 Ibadan
2	Rev. S. Oladapo	Member	CDC Ibadan North West	07044535399	
3	Mrs Adedoyin Ajayi	President	Family Life Builders	08033564695	adedoyinajayi@yahoo.com
4	Miss Adedokun Hikmat	Member	Family Life Builders	07060405629	yemitayohikmat@yahoo.com
5	Miss Ikuelogbon Toyin	Member	Family Life Builders	08115785027	ikuelogbonoluwatoyin@yahoo.com
6	Amusat Kolawole	ED	CDRCR	07055540206	cdcmnigeria@yahoo.com
7	Bojuwole Joseph	HOU, DRR	Community care Initiative	08038297022	communitycare@yahoo.com
8	Pastor Z.B Adelaya	State convener	CJG	08052110205	Adelajabatunde235@yahoo.com
9	Dns E.O Obafemi	BWG	CJG	08058214978	
10	Fashika Oladayo	Member	CYPA	08037134355	Cypa2000@yahoo.com
11	Dr. Adeyeye Adewole	Executive Director	CODE Africa	08035025879	Executivedirector2codeafrica.org
12	Mr. A.E Olarenwaju	DAS standing in for AgPS	Min of Lands Housing & Survey	08027327172	aeolarenwaju@yahoo.com
13	Engr. Aremu O.K	Senior Civil Engineer	Min of Works & Transport	08030640218	segunpapuae@yahoo.com
14	Audu Hakim Ademola	Director of Lands	Min of Lands Housing & Survey	08023059269	hakimaudu@yahoo.com
15	Adeyemo Seye	Deputy Director Lands	Min of Lands Housing & Survey	08034867899	Gradu82003@yahoo.com
16	Ola Welder	Technician		0856144211	
17	Mrs Ogundipe	Resident	Community stakeholder	08033698972	
18	Oyelami Wasiu A	Program Officer	CEPADS	08131966494	Oyelamiwasiu@gmail.com
19	Dr. Tayo	Director	Cardinal	08033768127	temitayoogunsanwo@yahoo.com

	Ogunsanwo		Initiatives for Development		
20	Alh Raimi Gbolagude	CDC Chairman	Oluyole LC	08056363904	
21	Engr O.I Ogunrinde	Landlord Eleyele Waterworks Area	St Anthony close Eleyele	08033491006	Oluseye_oginrinde@yahoo.com
22	Com. Segun Adepoju	Coordinator	Centre for Constitutional	07069079524	segundpj@yahoo.co.uk
23	Tunji Aborisade	Project Officer	CRAID	08095639433	tuniaborisade@yahoo.com
24	Rev. Mother Omoniyi	Resident	Community stakeholder	08036691690	
25	Oyebamiji R.S	CEO	CLPRI	08023325037	rsoyebamiji@yahoo.com
26	Owoeye Ariola	Resident	Community stakeholder	08023291282	abbeyowoeye@nokiamail.com
27	Princess Mrs. V.O Adetona	President NCWS	NCWS	07039894429	ruralpeopledevelopment@gmail.com
28	Chief Kemi Adeleke	Vice President	NCWS	08056160340	
29	S.A Olapade	President	E.U.H W 96 Egbeda Action group	08035547068	evhwag@yahoo.com
30	Ariori Lateef O.	Chief Social Welfare Officer	Min. of Women Affairs Soc. Welfare Dept	080253036677	ariorilateef@yahoo.com
31	Alh. Sodiq Alaka	Eleyele	Community leader	08075072780	
32	Deacon Tayo Moses	Eleyele	Community leader	08036939118	Adetayo4moses@gmail.com
33	Mr. S.O Okewoye	Executive Director	Community Dev. Alliance	08057212433	Comdeval2003@yahoo.com
34	O.O.O Sode	Zonal Director	NESREA	08174634705	osode@nesrea.org
35	Jack, Peniel A.T	Principal Geologist	NESREA	08174634709	p.jack@neasrea.org
36	Balogun Ibrahim	Program Officer	Env Amelmath	022003955	communling@yahoo.co.uk
37	Alh. I.G Yussuf	ED	Child Dev of Concerned Foundation	08023424561	Childanddevelopment@yahoo.com
38	A.A Ayorinde	Project Coordinator	IUFMP	07030263100	Dayo1ayorinde@yahoo.com
39	Mrs. M.K Oyekogun	Mokola Chapter	Center for Community Health & Poverty Alleviation	0805650053	Adedejicomfort@yahoo.com
40	Mrs. R.O Abiode	IBSWLG	CDC	08033614544	
41	Mr. Taiwo O.M	Waste Mgt Sp.	PIU IUFMP	08057199150	
42	Surv. N.O Omotosho	A.D Geo & Spatial	Office of the Surveyor General	08032423170	omotoshotolusi@ymail.com
43	Surv. A.O Okunola	Ass. Dir. (Mapping)	Office of the Surveyor General	08033614295	Geoceanic@yahoo.com
44	Mrs. Ruth Ayinla	IB North LGA		08060669865	
45	Mr. Tajudeen Atere	NURTW	NURTW Secretary	08030669636	
46	P.O Ajayi	Assistant Director	Fed Min of Environment	08024224288	
47	Adefunke A.A	Assistant Chief Forest Supt.	Fed Min of Environment	08055606470	
48	Alozie Dominc	Ibadan	Building Association Youth	07037928656	

			Community Peace		
49	Alh Chief S.A Jimoh	IB North LGA	CDC Chairman	08037181944	
50	Adedokun E.A	Principal Lab Tech	Min. of Env & Habitat	08038062381	
51	Alh. Olatunji Ajani	Chartered Accountant	Anthony close	07038098466	
52	Mrs. C.B Omidiji	Coordinator	ANWIB	08023470269	omidijiocb@yahoo.com
53	Mrs. C.A Adedeji	President	ACOMBA/VHW	08034719972	chepango@yahoo.com
54	Mrs. Ayoyinka Babatola	President	WACAP	08028316569	

## Annex 20: Questionnaire

This questionnaire asks for information on your State/Local Government/community and its flood risks/hazard. Please fill out the questionnaire as completely as possible. The aim is to find out how the sub-project civil works and process activities will affect the environment and social aspects in the areas. Thank you for your input.

### IDENTIFICATION

Name and Signature of Interviewer: .....

Date and Time Interview Started: ..... Time Ended: .....

Name of respondent:

MDA:

Designation:

Email:

Phone number:

**Country:**

**State/City Name:**

### ***Flood Hazard Information: History:***

1. Please indicate the major floods that have impacted your state/city/community in past 3 years:

Other:

My state/city/community is not impacted by flooding.

2. List the priority flood prone areas in your city/community.

*For the event marked above, please answer the following set of questions:*

**Event #1** (most recent):

3. What is the source(s) of the water which caused the flooding in your state/city/community?

Other (please specify)

4. What areas of your city/community were impacted? (Please include description with street names)

5. What percentage of your city/community was impacted?

No developed area impacted

Less than 25% of developed area impacted

Less than 50% of developed area impacted

Less than 75% of developed area impacted

Over 75% of developed area impacted

6. How would you characterize the area impacted?

Predominant ownership type:

Public

Private

Predominant land use:

Residential

Non-profit

- |                                       |                                     |
|---------------------------------------|-------------------------------------|
| <input type="checkbox"/> Commercial   | <input type="checkbox"/> Government |
| <input type="checkbox"/> Industrial   | <input type="checkbox"/> Education  |
| <input type="checkbox"/> Agricultural | <input type="checkbox"/> Industrial |

7. Estimated number and type of structures with damage:

8. Average age of structures:

Predominant structural type:

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Concrete       | <input type="checkbox"/> Wood frame          | <input type="checkbox"/> Mixed structure type |
| <input type="checkbox"/> Brick or block | <input type="checkbox"/> Mobile or temporary | <input type="checkbox"/> Other                |

9. Were any critical facilities or historic structures affected?  Yes  No

10. What has been the impact of this flood event on infrastructure (roads, bridges, etc)?

11. What was the impact of this flood event on health & safety?

- Health & safety were not impacted
- Few injuries / no fatalities
- Many injuries/ no fatalities
- Fatalities occurred
- Other, please describe:

12. What has been the environmental impact of this flood event?

- Little or no environmental damage
- Resources damaged w/short-term recovery practical
- Resources damaged w/long-term recovery feasible
- Resources destroyed beyond recovery

13. Please list the potential environmental impact of project activities on your city/community:

14. Please list the potential social impact of project activities on your city/community:

15. Will the project activities cause, require, bring about or stimulate any of the following?

Resettlement of the local population  Yes  No

Compulsory acquisition of land  Yes  No

Displacement of or damage to existing industry or agriculture  Yes  No

Job losses among the local population  Yes  No

Child labour  Yes  No

Large-scale influx of workers  Yes  No

Damage to sites of cultural, historic or scientific interest  Yes  No

Impact on minority or vulnerable communities  Yes  No

16. Who is responsible for solid waste management?  Government  Private  Government and Private

17. Do you have a fire management agency?  Yes  No

18. How effective is fire service in the state?  Very effective  Fairly effective  Not effective

19. To what degree do fire incidences occur in the state?  Often  Rarely  Never

**Flood Hazard Information: Critical Facilities:**

To complete the vulnerability assessment required, it is necessary that we obtain a list of your city/community's critical structural facilities in flood prone areas that was affected by the floods. Critical facilities include bridges, culverts, dam spillway, drainages etc

20. What major historic infrastructure/ physical cultural resources is likely to be affected by the proposed reconstruction/rehabilitation works that will take place during the project?

21. What are the major kinds of businesses at risk or flood prone areas

**Capability Assessment: Land Use Planning and the Potential for Flood Mitigation:**

22. Does your Master Plan recognize and address potential impacts of flooding in your state/city/community?

Yes  No

If so, please describe how:

23. Are there any policies or goals in your Master Plan that articulate how your city/community plans to manage/minimize the impacts of flooding? If yes, please describe:

24. Do your Land Use/Zoning laws recognize and address existing and potential impacts of flooding?

Yes  No

If yes, please describe how:

25. Has your city/community enacted a Stream Corridor or other Buffer Zone in flood prone areas?

Yes  No

If yes, please describe and relate how the policy is designed to mitigate flooding impacts:

26. Does your city/community have other policies enacted in your state/city/community to help mitigate flooding impacts? (e.g. Woodland Conservation, Steep Slopes, Stormwater Management)

Yes  No

If yes, please list:

**Capability Assessment: Other Flood Mitigation Capabilities**

27. Does your community have any structural flood control measures currently in place?

Yes  No

If yes, please describe:

28. If you have flood control measures in place, from what agency(ies) are responsible for flood mitigation?

Please list:

None

**Institutional Assessment and Framework for Environmental Management**

29. What is the structure/organogram for environmental management in your state?

30. Please list the actors responsible for the implementation of the proposed mitigation measures.

31. What are their responsibilities?

32. What is the framework of co-operation between the ministries in charge of environmental management and CSOs/NGOs?

33. What are seen as gaps?

**Public awareness and Capacity building needs**

34. Describe the level of awareness about this project in your city/community?

35. Have you attended any environmental management awareness training or sensitization in the past?   
Yes  No

36. What form of training has been utilized and who has been the audience?

37. What is the training strategy and/plan of your city/community with regards to mitigating against environmental and social impacts of the project.

38. What are the environmental and social training needs required?

39. What challenges do you envisage to have concerning environmental management of your project operations?

**Additional Comments:**

**THANK YOU!**

