NIGERIA EROSION AND WATERSHED MANAGEMENT PROJECT (NEWMAP)

Environmental & Social Management Plan (ESMP)

FOR

Ipao 1&11, Ogbomu, Arinkin Bridge, Irele Health Centre in Ikole Local Government.

FINAL REPORT

APRIL 2021

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Acronyms and Abbreviations

ACHPR-	African Charter on Human and Peoples' Rights
ACRWC-	African Charter on the Rights and Welfare of the Child
AVP	Average Phosphorus
BD	Bulk Density of Soil
BOQ	Bill of Quantities
Ca	Calcium
CAT-	Convention against Torture
CBO-	Community Based Organization
CDA	Community Development Association
CEDAW-	Convention on the Elimination of All Forms of Discrimination against Women
CERC-	Contingency Emergency Response Component
C-ESMP	Contractors Environmental and Social Management Plan
CEC	Cation Exchange Capacity
CoC-	Code of Conduct
CAT	Convention Against Turture
CRA-	Child Right Act
CRC-	Convention on the Rights of the Child
CRPD-	Convention on the Rights of Persons with Disabilities
Cu	Copper
DO	Dissolved Oxygen
EA	Environmental Assessment
EKSME	Ekiti State Ministry of Environment
Ek-WAMA	Ekiti State Waste Management Authority
EKS	Ekiti State
E&S	Environmental and Social
ESIA	Environmental & Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESHS--	Environmental and Social Health and Safety
ESMF-	Environmental and Social Management Framework
ESMP-	Environmental and Social Management Plan
ESSU-	Environmental and Social Safeguard Unit
Fe	Iron
FGD-	Focus Group Discussion
FMEnv-	Federal Ministry of Environment
EKSME	Ekiti State Ministry of Environment
FMF-	Federal Ministry of Finance
FPMU-	Federal Project Management Unit
GBV-	Gender Based Violence
GHGs-	Green House Gases
GRC-	Grievance Redress Committee

GRM-	Grievance Redress Mechanism
GRS-	Grievance Redress Service
Gs	Specific Gravity of Soil
HSE-	Health Safety and Environment
ICCPR-	International Covenant on Civil and Political Rights
ICESCR-	International Covenant on Economic, Social and Cultural Rights
LGAs-	Local Government Areas
M&E	Machinery and Equipment
NDHS-	Nigeria Demographic and Health Survey
NEDC-	North East Development Commission
NESREA-	National Environmental Standards and Regulations Enforcement Agency
NEWMAP-	Nigeria erosion and Watershed Management Project
NGO-	Non-Governmental Organization
OHS-	Occupational Health and Safety
OC	Organic Carbon of Soil
PAD	Project Appraisal Document
PAP-	Project Affected Person
Pb	Lead
PC -	Project Coordinator
PMU-	Project Management Unit
PDO-	Project Development Objective
pH	Potential of Hydrogen (determines acidity or alkalinity)
PIU-	Project Implementation Unit
PIM	Project Implementation Manual
PPE-	Personal Protection Equipment
PPM	Parts Per Million
RAP-	Resettlement Action Plan
RPF-	Resettlement Policy Framework
TC	Textural Composition of Soil
TN	Total Nitrogen of Soil
SEA-	Sexual Exploitation and Abuse
SPC-	State Project Coordinator
SPIU-	State Project Implementation Unit
SPMU	State Project Management Unit
SPU-	State Project Unit
TA-	Technical Assistance
TC-	Technical Committee
TDS	Total Dissolved Solids
VAPP-	Violence against Persons Prohibition
VES-	Vehicle Exhaust Screening
VET-	Vehicle Emission Testing
WB-	World Bank

Executive Summary

ES1 Background

The Government of Nigeria is implementing the Nigeria Erosion and Watershed Management Project (NEWMAP), which is financed by the World Bank, Global Environment Facility, the Special Climate Change Fund, and the Government of Nigeria. NEWMAP finances activities implemented by States and activities implemented by the Federal Government. The project is currently working in Tier 1 States (Anambra, Abia, Cross River, Edo, Enugu, Ebonyi, and Imo, plus additional sixteen Tier 2 States (Akwa Ibom, Delta, Gombe, Kano, Kogi, Plateau, Sokoto, Borno, Kastina, Nasarawa, Niger, Oyo, Ondo). Later, Kaduna, Ogun and Ekiti State joined NEWMAP.

The lead agency at the Federal level is the Federal Ministry of Environment (FMEnv), Department of Erosion, Flood and Coastal Zone Management. State and Local Governments, Local Communities and Civil Society Organizations (CSOs) are or will be involved in the project, given that the project is a multi-sector operation involving MDAs concerned with water resources management, public works, agriculture, regional and town planning, earth and natural resources information, and disaster risk management. Ekiti State is proceeding to undertake a total number of six (6) interventions under this phase of the NEWMAP intervention work.

Description of the Proposed Intervention
The proposed intervention is the rehabilitation of the river channel running from Ipao 1&11, Ogbomu, Arinkin Bridge, Irele Health Centre corridor. The Ipao 1&11, Ogbomu, Arinkin Bridge, Irele Health Centre site is located at Ipao and Irele in Ikole Local Government. Ikole Ekiti is situated in the North Senatorial District of Ekiti State. At this site, there is incessant flooding associated with gully erosion along the channel. The gully has been formed over time from continual blockage of the canal with debris during periods of heavy rainfall, resulting in the subsequent overwhelming of the existing hydraulic structures and extensive erosion along the riverbank.

This proposed intervention project when completed will mitigate the gully formation by slowing down the process of downstream erosion and siltation and also eliminate the flooding problems. Also, it shall protect biodiversity important for livelihoods, and strengthen natural buffers against climate and erosion risk, while also creating employment opportunities for skilled and unskilled labour during the construction and operational phases. Notwithstanding these positive impacts, the project is envisaged to have limited negative environmental and social impacts due to nature of civil works and is classified as Environmental Category B as no unprecedented or cumulative adverse E&S risks and impacts are envisaged to result from the implementation of activities, which would be largely site specific in nature.

Proposed Scope of Works
The Proposed Scope of Works is as follows:
1. Irele Health Centre GABION BOX CANAL of dimensions 3000mm x 1000mm canal bed and 2x1000mm x 500mm x 20mm walls (both sides).
- Earthworks
- Gully channelization works, employing gabion mattresses and gabion boxes, with poly-felt non-woven geotextile.

2. Ogbomu Onipako (Gbonyon) Culvert MULTIPLE BOX CULVERT of 2x (5m span x 3m height) with 10m effective span.
- Demolition of failed structure

• Earthworks
• Reinforced concrete works
• Embankment protection using stone pitching • Restoration of approach road (both sides).

3. Arinkin Bridge RC T-GIRDER BRIDGE of 2x (16m span x 3m height), 32m total span
• Confirmatory geotechnical investigations
• Demolition of existing structures • River Diversion works
• Earthworks
• Reinforced concrete works
• Miscellaneous works (bridge bearings, parapets, railings, etc.).
• Bank protection works using gabion boxes.
• Restoration of approach road (both sides).

4. Ipao 1 and 2 Road Drain OPEN RECTANGULAR RC DRAINS
• Earthworks
• Reinforced concrete works, with cover slabs to provide vehicular and pedestrian access at junctions and entrance to properties
The project activities associated with the rehabilitation work in the different phases is presented in Table ES1.

Table ES1: Project activities by phases

Phase	Potential Impact source	Activities
Pre-construction Phase	**Land acquisition** Land acquisition from members of the communities before the construction phase	• Preconstruction phase activities include among others: • Taking of land occupied or used for residence or production • Siting of workers camp, if necessary • Removal of trees and vegetation • Assessment of existing project location, selection of beneficiary institutions, field studies and environmental screening; • Preparation of environmental and social screening reports; • Recruitment of labour force for work

Phase	Potential Impact source	Activities
	Excavation, grading, compaction, filling and other civil works	• Setting out and marking of site • Deployment of labour force for work • Mobilization of heavy-duty plant & equipment for the work • Excavation and compaction activities in and around project site • Removal & carting away of excavated sand & waste from project area • Conveyance of materials (cement, pipes, iron rods etc.) to and from work site • Earthworks and consequent disruption of natural run-off/flow channels from excavation works and consequent siltation • Movement of heavy equipment causes vibrations that can damage structures • Operating of heavy-duty equipment such as excavators and compactors (can cause release of harmful emissions) • Routine servicing of equipment (possible contamination of soil & water by leakage of oil and lubricants) • Excavation of trenches and drainages that may subsequently get filled with water and become breeding grounds for mosquitoes
Construction Phase	**Concrete Channelization works and gully treatment including** Increased sedimentation and runoff during the construction activities such as grading, dredging and filling of the roads etc.	• Mobilization of workforce • Conveyance of materials (sand, cement, pipes, iron rods etc.) to and from work site • Conveyance of personnel and contractor staff to and from work site • Operating of machinery in and around watershed (Seepage of fuel from powered machineries causing Contamination of water bodies) • Discharge of effluent from workers in the campsites will impact on the water quality. • Operation and use of workers camp by contractors and generation of sanitary & domestic waste • Blockage of road to carry out construction work causing traffic problems • Civil & earthworks (causing disruption or diversion of free water flow in water channels) • Use of heavy-duty plant and equipment (causing trampling on vegetation, loss/displacement of natural habitats) • Movement of staff to and from work site • Digging of ditches and trench excavation (causing ponding. This promotes breeding of insects, reptiles etc.) • Excavation of trenches and drainages (that may subsequently get filled with water and there is a risk of drowning) • Moving and deployment of equipment, tools and compounds containing microbes for bioremediation
	Concrete Channelization works and gully	• Generation of dust from movement of heavy-duty equipment causing impairment to the health of local

Phase	Potential Impact source	Activities
	treatment - such as grading, dredging and filling of roads, etc.	residents of the community, especially cases of respiratory infection and respiratory disease symptoms • Emissions from operating heavy duty engines causing respiratory challenges • Operating equipment and likely collision with structures (causing accidents/injuries) • Dust creation from moving equipment triggering presence of suspended particulates in water exceeding acceptable limits • Sediment build-up in stream channels from civil works, causing narrowing of water channel and reduced water flow capacity • Operating heavy duty equipment (can cause release of harmful emissions) • Routine servicing of equipment (possible contamination of soil & water by leakage of oil and lubricants) • Blockage of road to enable contractors carry out construction work causing traffic problems
Decommissioning Phase	**Removal of Plant, Equipment, materials -** waste from site, used during the construction phase	• Removal of construction equipment; • Disposal of construction spoil and waste in general; • Dismantling of temporary work camp of the contractor; and • Generation of waste and rubble from construction work

Rationale for the NEWMAP Intervention
NEWMAP triggers seven of the World Bank's Safeguard Policies. The safeguard policies triggered by the NEWMAP intervention are: Environmental Assessment OP 4.01; Natural Habitats OP 4.04; Cultural Property OP 11.03; Involuntary Resettlement OP 4.12 Safety of Dams OP 4.37; Pest Management Safeguard Policy OP 4.09; and Projects on International Waterways OP 7.50 Component. The identified sub-projects are classified as **category "B"** projects according to the World Bank categorization and a category II project under the FMEnv.

Rationale of this ESMP
An ESMP is required for **category "B"** site specific activities under the pre-construction, during construction and post construction phases to assess the environmental and social impacts, which trigger the World Bank's Safeguard Policies including Environmental Assessment OP 4.01 and Public Disclosure OP 17.60.

Objectives and Scope of the Consultancy Services
The objective of the consultancy services was to prepare an Environmental and Social Management Plan (ESMP) for this Ekiti State intervention site. This ESMP is site-specific and consists of a well-documented set of mitigation, monitoring, and institutional actions to be taken before and during implementation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. This ESMP also includes measures needed to implement these actions, addressing the adequacy of the monitoring and institutional arrangements for the watersheds in the intervention site.

The ESMP will be utilized by the contractor(s) to be commissioned by Ekiti NEWMAP for the sites in the preparation of the required Contractor's ESMP (C-ESMP). which will form the basis of the site-specific management plan prior to works commencing. The ESMP will be used by the contractor to address all occupational health and safety (OHS) issues and community health and safety issues associated with the proposed construction work.

ES2: Policy, Institutional & Administrative Framework

A number of national and international environmental guidelines are applicable to the operations of the NEWMAP. This ESMP is prepared in alignment with the relevant Federal & Ekiti State Government policies, laws, regulations, guidelines, and applicable World Bank Operational Policies. These Federal and State policy and regulatory instruments have been identified and are presented in Chapter Two of this ESMP.

ES3: Biophysical Environment

The project area of Ekiti State is mainly an upland zone rising over 250 metres above sea level, Ekiti has a rhythmically undulating surface. The landscape consists of ancient plains broken by steep-sided outcropping dome rocks. These rocks may occur singularly or in groups or ridges and the most notable of these are to be found in Efon-Alaaye, Ikere-Ekiti and Okemesi-Ekiti. The Climate of Ekiti State is largely influenced by two wind systems, the southwesterly (SW) monsoon winds and the northeasterly (NE) winds. November and is characterized by southwest wind. Ekiti State has no coastal boundary; hence it has no coastal relief. The drainage system over the areas of basement complex rocks is usually marked with the proliferation of many small river channels. The channels of these smaller streams are dry for many months, especially from November to May. Temperature is almost uniform throughout the year with little deviation from the mean annual of 27^{o}C. The mean annual total rainfall in the area is 1369mm with a low co-efficient of variation of about 10%. Rainfall is highly seasonal with marked wet and dry seasons and double maxima as a result of the "Little Dry Season" experienced in August.

Site visits and subsequent assessments revealed some environmental sensitivities such as siltation of the riverbed, flooding, waste in and around the river basin, erosion and gully formation and the social sensitivities observed within the project areas were the potential disruptions in nearby places of worship, schools and businesses.

Environmental Quality Assessment

Section 3.4 of this report presents the results of analysis of one-season environmental quality assessment from samples obtained from project site and thereafter tested to determine air, soil & water quality comprising 104 soil samples (52 Sub-soil and 52-top soil samples) and 98 water samples (50 groundwater & 48 surface water samples). Analysis of samples were undertaken at the laboratory of the Lagos State Environmental Protection Agency (LASEPA) as contained in Annex 5.

ES4 Socio-economic characteristics & Consultation with Stakeholders

Socio-economic characteristics

Analysis of the characteristics of respondents was carried out by undertaking a socio-economic survey of 100 persons in order to obtain the baseline information of the project area. A summary of the socio-economic survey that presents the socio-economic characteristics of respondents in the project area is summarized in Table 8, which shows that:

More than half of the persons interviewed are in the productive age band of between 18-50yrs (97.6%) and so the communities around the project area offers a labour pool from which contractors can source for workers for the sub-projects. The assessment of the occupation revealed that over half of the respondents are self-employed (64.6%), while an additional (29.3%) have one skill or the other. As such the sub-project will boost the local and national economy by creating opportunities for suppliers & vendors. 71.4% of families interviewed are between 4-6 persons in size. This implies that the sub-project will have significant impact on the persons in these family units. Also, respondents are well educated with over 90% having one form of education and therefore consultation strategy will take this into consideration when planning future engagements

Public Consultations & Concerns

Extensive consultations were conducted with relevant stakeholders with details presented in chapter 4. The Stakeholders Consultation meeting was carried out from September 16, 2020 in communities within the project area. Concerns centred mainly on time for commencing the civil works as the complaint of serious flooding events were undisputed in several communities around the river course. In addition, the community would want to be considered for employment as skilled and unskilled labour during the civil works. Concerns were noted and responses provided by consultant as shown in ES2. Consultation with the stakeholders will continue throughout the life cycle of the project.

Table ES2: Issues & Concerns raised & how they were addressed

Clarifications, Questions and concerns	**How they were addressed**
General stakeholders Consultations were held with the stakeholders and other community representatives and all expressed appreciation for the project and sought clarification on the following:	
Appeal to World Bank for fair interest charges on the loan being procured by the State Government to implement the project.	Appeal noted. However, participants were informed that the World Bank offers the fairest and most considerate interest charges and that was what informed the State Government's decision to approach the Bank for loan in the first place.
Hopes are very high on the project; people's hopes should not be dashed	The SPMU reinforced its commitment to the community that they would ensure timely delivery of the intervention work
Request if the level of the road can be filled up to the drainage level	The project has been designed to enable free flow of flood water during periods of high precipitation events.
Can the community leaders be involved in the project?	The project will give for communities' leaders to participate in the project by allowing them to form a community's side Committeee.
Compensation should be accurately evaluated and implemented with fairness, equity, transparency and accountability	Compensation valuation and implementation shall be carried out in a fair, equitable, transparent and accountable manner. The compensations shall be given directly to right individuals. However, participants were urged to furnish every team with the right information each time such is required
Is it only Erosion problems the project is concern about? Or will it cover other social amenities	This project is designed on Erosion and watershed control.
Is it just dredging that is being planned for the project or complete flood control?	The project has been planned to completely give a permanent solution to erosion and watershed in various community identified.
During the construction of Ogbomo and Arikin bridges will there be alternative routes to enable the conveyance of agricultural products?	The first step before rehabilitation work on the bridge will be to create alternative route that various communities affected can access to bring in their agricultural products into the communities.
Youths	
Suggest if the community youth will be employed by the contractors	The contractors will employ youth both the skilled and unskilled youth based on the opportunities available
Women Groups	
The women were concerned with how their children will be protected when the construction commences, and the parents are at work and children are left	b. There will be adequate sensitization of households around where the construction work will be carried out to ensure all families keep children away from work sites, and also the contractors will undergo induction to prevent inappropriate interactions with the members of

alone un-supervised around the contractors?	the various households in the communities. They were also informed about the grievance process that will be in place for community to make report of complaints related to the work.

The perception was very positive as feedback showed that many households and businesses were negatively impacted by the flooding that accompanies heavy rainfall events in the project area. As such, respondents request that the project be carried out speedily to ensure the associated concerns were resolved without delay. There was substantial awareness among the respondents on the understanding of the urgency and scope of this NEWMAP intervention.

ES 5: Analysis of Alternatives

The PDO of the NEWMAP is to reduce vulnerability to soil erosion in targeted sub-watersheds[1]. Consequently, Chapter 5 contemplates the different alternatives and options that were considered for the proposed project in line with the overall objectives of the project in Ekiti State. As such, the different alternatives and options that were considered for the proposed project were in line with the overall objectives of the project in Ekiti State. These alternatives include taking no action, using alternative engineering solutions and also the alternative alignment of river course as other methods of achieving the objectives of the sub-project. The 'No Project' Development, 'Delayed Project' Development and Immediate Project Development.

Potential Impact of the proposed project activities

The channelization construction and rehabilitation work will have environmental and social impacts, which may be negative or positive. Some of the potential positive and negative impacts are discussed in the subsequent sections.

Potential Positive Environmental Impacts

The potential positive environmental impacts are as shown in Table ES3.

Table ES3: Potential Positive Environmental Impacts

No.	Impact	Key receptor(s)	Evaluation
1	**Slow the expansion of a targeted set of existing aggressive gullies**	Community members to reduce the loss to property and infrastructure and helping cultivate community ownership	The proposed project when completed will deliver these benefits: *Reduce aggressive erosion forces of gully formation. *Reduction in siltation of rivers due to improved vegetation cover and decrease in slope instability *Minimization of flooding and control of riverbank overflow *Control and reduction of water body sedimentation rates due to erosion *Increase in the life span of roads *Reduced fear perception of loss of property, inhabitation and ancestral origins of the communities

The potential positive social impacts are as shown in Table ES4.

[1] The NEWMAP PAD. Section IIA Page 5. The GEF Global Environment Objective is subsumed in the PDO

Table ES4: Potentially Positive Social Impacts

No.	Impact	Key receptor(s)	Evaluation
1.	Improved Quality of life	Community members	*Provide better access to improved quality of life in the communities from reduction in flooding events
2.	Employment generation	Community members	*The proposed construction sub-project activities will create employment opportunities for skilled and unskilled labour during the construction and operational phases. Also, there are indirect employment opportunities such as food vendors, petty traders and suppliers of raw materials for construction. During the operational phase, job opportunities will be created for maintenance workers and suppliers, waste management companies, etc.
3.	Improvement in local and national economy	Neighboring communities, LGA and national economy	*The creation of direct and indirect job opportunities during the construction and operational phases of the project will boost the local and national economy *Increased opportunities for easy inter-state movement and business development.
4.	Stakeholders' engagement	State Government, LGAs	Improvement of public goodwill and satisfaction towards governance in Ekiti State.
5.	Improvement in management of resources	Neighboring communities, State Government, MDAs	Provision of a lead way to drive the State Government towards ensuring improved infrastructure
6.	Capacity building and strengthening of institutions	State Government, MDAs	Capacity building through: Strengthening of facility rehabilitation works and supervision systems of personnel involved in sub-project activities, including improvement in institutional responsibilities for construction and maintenance. Transfer of skills

Potential Negative Environmental Impacts

Implementation of this sub-project would exert some negative impacts on the social and physical environment within the communities, in which they are implemented. The potentially significant adverse impacts that would result from the project are expected to be site-specific, noncumulative, and relatively easy to mitigate to acceptable levels. These are presented in Table ES5.

Table ES5: Potential Adverse Environmental & Social Impacts

Description	Impact Source	Impacts
Environmental	Excavation, grading, compaction, filling and other civil works. air quality - Air quality deterioration Dust	Deterioration of local air quality due to the emission of dusts & release of Green House Gas emissions (drivers of global warming) from internal combustion engines of construction plant & equipment
	Increased sedimentation and runoff during the construction activities such as grading, dredging and filling of the roads etc.	Soil contamination Loss of vegetation, removal of trees and shrubs and habitat destruction

	soil quality	
	noise levels use of excavation, grading, compaction, filling and other equipment for civil works.	Noise and vibration disturbances from operation of heavy-duty vehicles/reports from communities
	Discharge of effluent from workers in the campsites will impact on the water quality water quality	Water contamination from oils & fuels Change in pH levels Eutrophication Increased cases of disease, illnesses (especially waterborne diseases)
	Construction activities such as grading, dredging, filling, excavation etc Destruction of flora and fauna	Reduction of the richness in the number of available living species. Reduction in the number of native wildlife.
	Construction activities such as grading, dredging, filling, excavation etc Occupational health and safety	Occupational accidents and injuries to workers and risk to community health and safety
		Exposure to and transmission of COVID-19
	Public Safety	Public safety, road accidents leading to injuries and fatalities
	Occupational Health & Safety a. PPEs b. Emergency Response & First Aids <u>Impact Source:</u> 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
	Waste	Generation of construction waste including spoils, debris and concrete
Social	Siting of workers camp. Land acquisition for camp	Unauthorized movements of construction workers, construction equipment, machinery and heavy-duty vehicles (during and after working hours) Conflict arising from land acquisition
	Labour influx	Threat to community culture, safety and security due to presence of workers increasing incidents of crime and or violence and threats to the safety of community members
	Child Labour	Child labour and school drop out

	GBV	Risk of GBV/SEA and VAC as a result of Labour Influx
	Public Health a. HIV/AIDS and STDs <u>Impact Sources</u> 1. Influx of non-local workforce. 2. Low living standards of members of the host community which will increases likelihood of social vices such as prostitution, robbery, etc. b. Water-Borne Diseases (e.g. Cholera, Dysentery, Amoebiasis, Salmonellosis etc.) <u>Impact Source</u> 1. Poor environmental sanitation habits exhibited by members of the contractor's workforce. 2.Overload of existing sanitation facilities. c. Malaria 1.During construction activity through creation of pools of stagnant water. 2.Poor environmental sanitation habits by members of the contractor's workforce. Movement of waste into the watershed	• Increased outbreaks of HIV/AIDS and other STDs. • Increase in cases of opportunistic infections within the work force, and members of the host communities. Increased outbreak of water borne diseases amongst the workforce and the local population. Increased cases of fevers amongst workers and members of the host communities.
	<u>Impact Sources</u> Influx of non-local workforce.	Increase in spread and transmission of COVID-19

Health, Safety & Environment (HSE)
The overall goal of the Environmental, Social, Health and Safety provisions for the civil works is to ensure that all environmental and social concerns attributable to project activities are effectively addressed by the contractor. In addition, Annex 15 provides guidelines to ensure that these requirements are effectively carried out in a manner that would guarantee implementation is in compliance with local laws and international conventions as well as Environmental and Social Policies.

Environmental & Social Mitigation Measures
Mitigation measures for the potential negative environmental impacts identified in Tables ES 5, which include mainly impacts on air quality, soil quality, noise levels, water quality and Occupational health and safety while social impacts include risks of labour influx, child labour, sexual exploitation and abuse, GBV, COVID-19 transmission and conflict are presented in Table 15.

Institutional Responsibilities
The roles and responsibilities of the FPMU, SPMU, World Bank, safeguard officers, communities, PAPs, Line Ministries and other important implementation partners are summarized in Table 15 of this ESMP.

Grievance Redress Mechanism (GRM)
NEWMAP has established a grievance mechanism[2] to receive and act on complains and grievances by beneficiaries or stakeholders against activities being conducted by the Project in the States. However, the likelihood of disputes to occur during the sub-project implementation will be greatly reduced because consultations have already been carried out with some of the affected persons. Nevertheless, in the event that grievances arise this redress mechanism has been prepared. A Grievance Redress Mechanism (GRM) is provided in section 6.4, which is anchored on the need to provide a forum locally to receive, hear and resolve disputes arising from construction activities and ESMP implementation in the best interest of all parties to forestall the lengthy process of litigation, which could affect the progress of project.

Gender Based Violence (GBV)
Overall, GBV risks in the project area might include Intimate Partner Violence (IPV), public harassment including verbal insults, physical abuse, rape, harmful widowhood practices and women and child trafficking. Targeted support to women under the program could likely exacerbate these risks. Development and implementation of specific GBV risk prevention and mitigation strategies tailored to local contexts will be critical. Guidelines for situation analysis of GBV and safe reporting guidelines in line with international best practices will be implemented. Further, all risks related to labour influx will have to be mitigated by participation of project beneficiaries/communities and involvement of project contractors and contractors' workers and consultant employees in identifying mitigation and implementing measures, including developing mitigation instruments such as 'Labour Influx Management Plan' (See Annex 12) or Camp Management Plan.

Training Programmes
A preliminary assessment indicates that the capacity of the SPMU for implementing this ESMP will require strengthening, especially in the area of implementation and monitoring, therefore requiring strengthening in order to close gaps in capacity. So, a training Workshop with corresponding costs included in Table 17 of this report will be organized to guide the implementation of the ESMP, and topical areas of discussion would include the Permit Schedule, World Bank's Safeguards Policy triggered and environmental management. The training on the ESMP implementations will include the Code of conduct for contractor and his/her labour force, public health and safety issues, occupational health, Grievance Redress Mechanism for the project, ESMP monitoring and reporting. The capacity building will also involve sensitization of workers on issues such as child sexual exploitation, labour influx, Gender Based Violence, COVID-19 prevention, HIV/AIDS and their mitigation measures.

ESMP Costing & Cost Analysis
The environmental and social management actions is estimated at Eleven Million, One Hundred and Forty Thousand Naira Only (**₦11,140,300.00**), and a Dollar equivalent of Twenty-Nine Thousand, Three Hundred and Seventeen Dollars Only ($**29,317.00**). This is as shown in Table ES6.

Table ES6: ESMP Budget

#	Item	Cost Estimate	
		Naira (₦)	**USD ($)**
1	Mitigation	5,225,000.00	13,270
2	Monitoring	1,205,000.00	3,171
3	Capacity Building (including training on Code-of-conduct)	1,200,000.00	3,158
4	GBV, STIs and HIV Mitigation	500,000.00	1,316

5	Grievance Redress Mechanism	500,000.00	1,316
6.	Consultations	500,000.00	1,316
7.	Disclosure	1,000,000.00	2,632
	Sub-Total	**10,130,000.00**	**26,658**
8.	Contingency (10% of sub Total)	1,010,300.00	2,665
	Grand Total	**11,140,300.00**	**29,317.00**

Public Disclosure of ESMP

Ekiti NEWMAP will publicly disclose this ESMP, in English, and Yoruba, the local language of the LGAs. As may be required, copies will be made available and distributed with a letter accompanied to local government authorities concerned. This could be done by the following means;

a. Disclosure by EA Department, Federal Ministry of Environment
b. Publishing it on the project's website;

In addition, Ekiti NEWMAP will ensure that the affected public is adequately sensitized through public meetings, notices, and handbills/information booklets. Once this ESMP is disclosed, the public has to be notified both through administrative structures and informal structures about the availability of the ESMP documents and also be requested to make their suggestions and comments.

The complete approved ESMP will be made available in easily accessible locations in or near the affected areas. Once disclosed in Nigeria, Ekiti NEWMAP will authorize the WB to disclose it on their external website.

CHAPTER ONE: INTRODUCTION

1.1 Background

The Government of Nigeria is implementing the Nigeria Erosion and Watershed Management Project (NEWMAP), which is financed by the World Bank, Global Environment Facility, the Special Climate Change Fund, and the Government of Nigeria. NEWMAP finances activities implemented by States and activities implemented by the Federal Government. The project is currently working in Tier 1 States (Anambra, Abia, Cross River, Edo, Enugu, Ebonyi, and Imo, plus additional sixteen Tier 2 States (Akwa Ibom, Delta, Gombe, Kano, Kogi, Plateau, Sokoto, Borno, Kastina, Nasarawa, Niger, Oyo, Ondo). Later, Kaduna, Ogun and Ekiti State joined NEWMAP.

The lead agency at the Federal level is the Federal Ministry of Environment (FMEnv), Department of Erosion, Flood and Coastal Zone Management. State and Local Governments, Local Communities and Civil Society Organizations (CSOs) are or will be involved in the project, given that the project is a multi-sector operation involving MDAs concerned with water resources management, public works, agriculture, regional and town planning, earth and natural resources information, and disaster risk management. Ekiti State is proceeding to undertake a total number of six (6) interventions under this phase of the NEWMAP intervention work.

1.2 Description of the Proposed Intervention

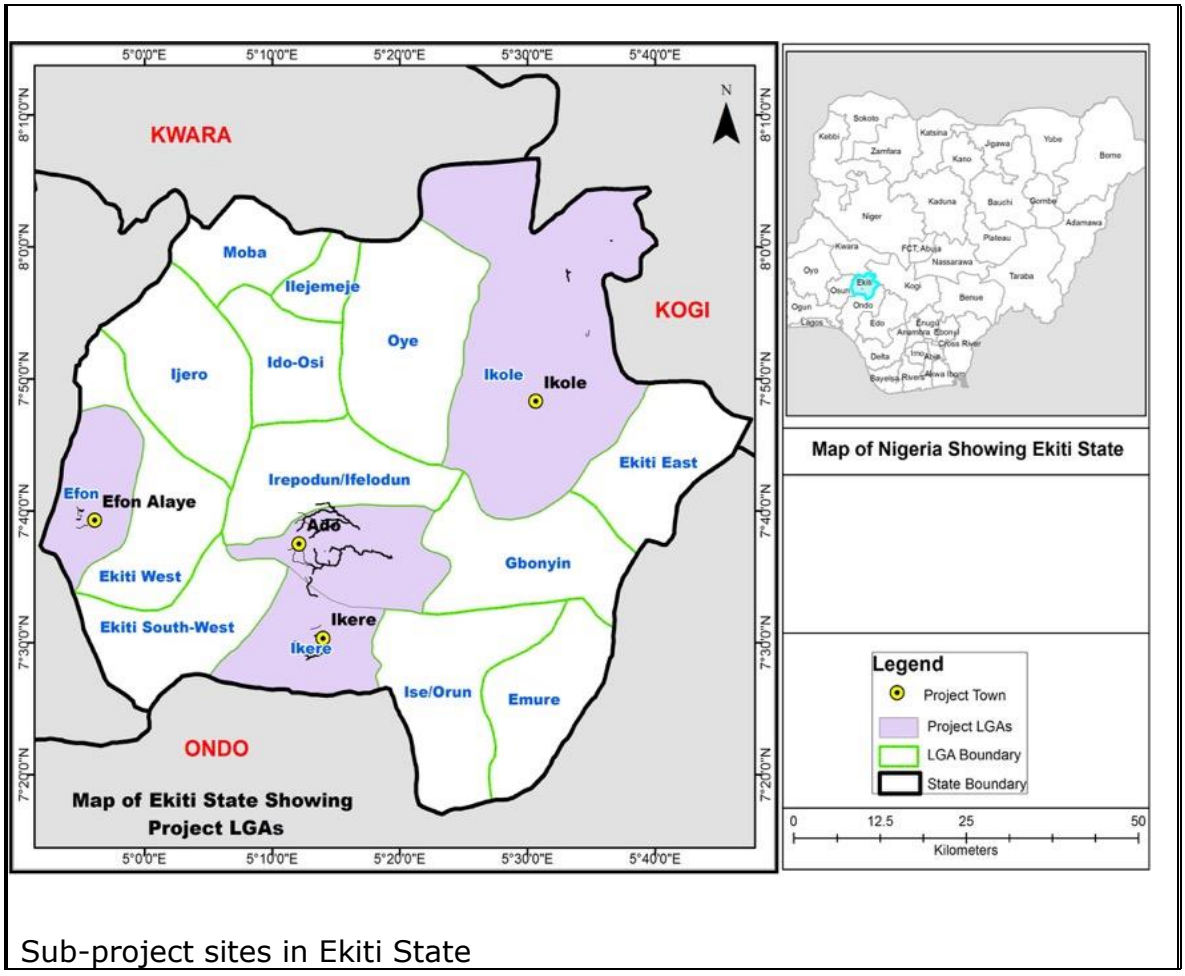
This proposed intervention is the rehabilitation of the river channel running from Ipao 1&11, Ogbomu, Arinkin Bridge, Irele Health Centre corridor. The Ipao 1&11, Ogbomu, Arinkin Bridge, Irele Health Centre site is located at Ipao and Irele in Ikole Local Government. Ikole Ekiti is situated in the North Senatorial District of Ekiti State. At this site, there is incessant flooding associated with gully erosion along the channel. The gully has been formed over time from continual blockage of the canal with debris during periods of heavy rainfall, resulting in the subsequent overwhelming of the existing hydraulic structures and extensive erosion along the riverbank.

This proposed intervention project when completed will mitigate the gully formation by slowing down the process of downstream erosion and siltation and also eliminate the flooding problems. Also, it shall protect biodiversity important for livelihoods, and strengthen natural buffers against climate and erosion risk, while also creating employment opportunities for skilled and unskilled labour during the construction and operational phases. Notwithstanding these positive impacts, the project is envisaged to have limited negative environmental and social impacts due to nature of civil works and is classified as Environmental Category B as no unprecedented or cumulative adverse E&S risks and impacts are envisaged to result from the implementation of activities, which would be largely site specific in nature. The location of the sub-project contained in this

ESMP is outlined in Table 1, while Figure 1 shows map of project location.

Table 1: Sub-project and Location

S/N	Sub-Projects	LGA	Community	GPS
1	Ipao 1&11, Ogbomu, Arinkin Bridge, Irele Health Centre: The site is located at Ipao and Irele in Ikole Local Government. Ikole Ekiti is situated in the North Senatorial District of Ekiti State	Ikole Ekiti	Ipao & Irele	Start 7°58'06.2"N 5°33'04.1"E End 7°53'14.4"N 5°34'45.7"E



Sub-project sites in Ekiti State

Figure 1: Map of Ekiti State showing project Location

1.2.1 Scope of Channel Rehabilitation Work[3]

The scope of rehabilitation works includes the following:

[3] Detailed Engineering Design of Priority Ecological Sites - Conceptual Design Report for Ekiti NEWMAP by Enviplan, August 2020

1. Irele Health Centre GABION BOX CANAL of dimensions 3000mm x 1000mm canal bed and 2x1000mm x 500mm x 20mm walls (both sides).
• Earthworks
• Gully channelization works, employing gabion mattresses and gabion boxes, with poly-felt non-woven geotextile.

2. Ogbomu Onipako (Gbonyon) Culvert MULTIPLE BOX CULVERT of 2x (5m span x 3m height) with 10m effective span. • Demolition of failed structure
• Earthworks
• Reinforced concrete works
• Embankment protection using stone pitching • Restoration of approach road (both sides).

3. Arinkin Bridge RC T-GIRDER BRIDGE of 2x (16m span x 3m height), 32m total span
• Confirmatory geotechnical investigations
• Demolition of existing structures • River Diversion works
• Earthworks
• Reinforced concrete works
• Miscellaneous works (bridge bearings, parapets, railings, etc.).
• Bank protection works using gabion boxes.
• Restoration of approach road (both sides).

4. Ipao 1 and 2 Road Drain OPEN RECTANGULAR RC DRAINS
• Earthworks
• Reinforced concrete works, with cover slabs to provide vehicular and pedestrian access at junctions and entrance to properties

The project activities by phases are summarized in the Table 2.

Table 2: Project activities by phases

Phase	Potential Impact source	Activities
Pre-construction Phase	**Land acquisition** Land acquisition from members of the communities before the construction phase	• Preconstruction phase activities include among others: • Taking of land occupied or used for residence or production • Siting of workers camp, if necessary • Removal of trees and vegetation • Assessment of existing project location, selection of beneficiary institutions, field studies and environmental screening; • Preparation of environmental and social screening reports; • Recruitment of labour force for work

Phase	Potential Impact source	Activities
	Excavation, grading, compaction, filling and other civil works	• Setting out and marking of site • Deployment of labour force for work • Mobilization of heavy-duty plant & equipment for the work • Excavation and compaction activities in and around project site • Removal & carting away of excavated sand & waste from project area • Conveyance of materials (cement, pipes, iron rods etc.) to and from work site • Earthworks and consequent disruption of natural run-off/flow channels from excavation works and consequent siltation • Movement of heavy equipment causes vibrations that can damage structures • Operating of heavy-duty equipment such as excavators and compactors (can cause release of harmful emissions) • Routine servicing of equipment (possible contamination of soil & water by leakage of oil and lubricants) • Excavation of trenches and drainages that may subsequently get filled with water and become breeding grounds for mosquitoes
Construction Phase	**Concrete Channelization works and gully treatment including** Increased sedimentation and runoff during the construction activities such as grading, dredging and filling of the roads etc.	• Mobilization of workforce • Conveyance of materials (sand, cement, pipes, iron rods etc.) to and from work site • Conveyance of personnel and contractor staff to and from work site • Operating of machinery in and around watershed (Seepage of fuel from powered machineries causing Contamination of water bodies) • Discharge of effluent from workers in the campsites will impact on the water quality. • Operation and use of workers camp by contractors and generation of sanitary & domestic waste • Blockage of road to carry out construction work causing traffic problems • Civil & earthworks (causing disruption or diversion of free water flow in water channels) • Use of heavy-duty plant and equipment (causing trampling on vegetation, loss/displacement of natural habitats) • Movement of staff to and from work site • Digging of ditches and trench excavation (causing ponding. This promotes breeding of insects, reptiles etc.) • Excavation of trenches and drainages (that may subsequently get filled with water and there is a risk of drowning) • Moving and deployment of equipment, tools and compounds containing microbes for bioremediation
	Concrete Channelization works and gully	• Generation of dust from movement of heavy-duty equipment causing impairment to the health of local

Phase	Potential Impact source	Activities
	treatment - such as grading, dredging and filling of roads, etc.	residents of the community, especially cases of respiratory infection and respiratory disease symptoms • Emissions from operating heavy duty engines causing respiratory challenges • Operating equipment and likely collision with structures (causing accidents/injuries) • Dust creation from moving equipment triggering presence of suspended particulates in water exceeding acceptable limits • Sediment build-up in stream channels from civil works, causing narrowing of water channel and reduced water flow capacity • Operating heavy duty equipment (can cause release of harmful emissions) • Routine servicing of equipment (possible contamination of soil & water by leakage of oil and lubricants) • Blockage of road to enable contractors carry out construction work causing traffic problems
Decommissioning Phase	**Removal of Plant, Equipment, materials -** waste from site, used during the construction phase	• Removal of construction equipment; • Disposal of construction spoil and waste in general; • Dismantling of temporary work camp of the contractor; and • Generation of waste and rubble from construction work

1.2.1.1 Design Specifications (Hydraulic parameters)

The project site is located across several natural drainage systems and in order to adequately re-design for rehabilitation, there is a need to adequately estimate the run-off discharges from their respective upper catchments and therefore requires engineering interventions that are based on the following parameters:

Meanings roughness coefficient (n): The channels roughness coefficient of 0.015 is recommended for concrete lined canal which can be efficient in old and deteriorated stage of the concrete structure and for renomatress lined bedding a value of 0.032 was recommended.

Velocity: The thresholds velocity for concrete lined canal is considered 5.0m/s and in renomatress lined canal depends on the interface velocity to be less than permissible velocity of Sandy silt, which is 2m/s.

Design slope: The design slope is used to assign the size slope of the channel. For a rectangular channel the size slope is 0, while that of triangular or trapezoidal channel is assigned based on the designer's conception of resolution. This is as shown in Figure 2.

Invert elevation: This is the elevation of the invert of the channel at the inlet part which is not influential on the design result.

Slope: This is the slope along the bed of the channel. It is expressed in percentage so that the flow velocity will be regulated with the limit.

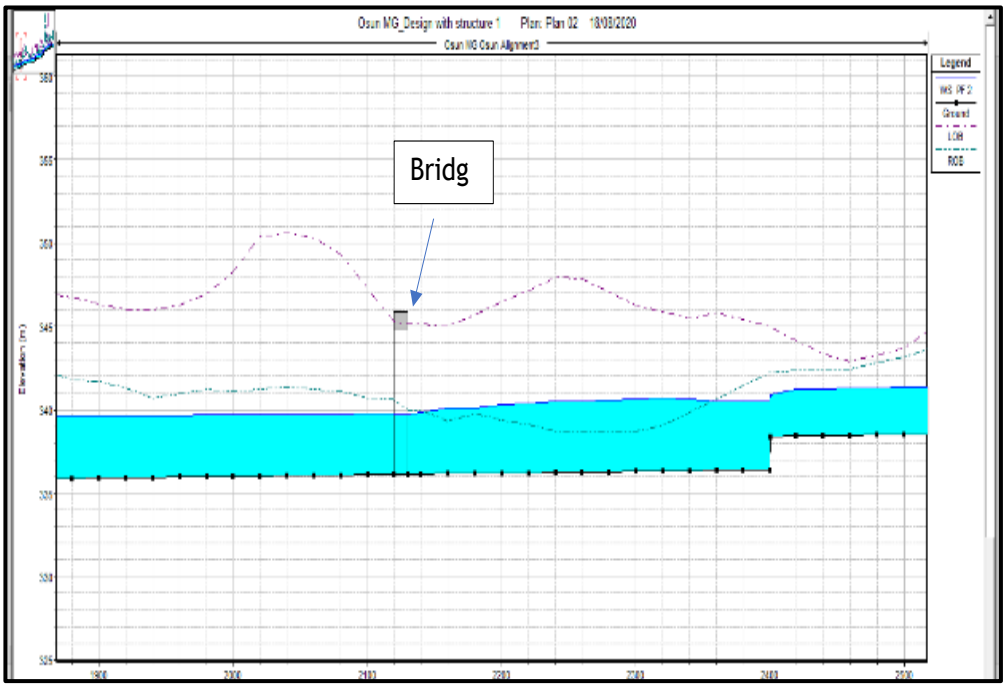


Figure 2: Flow profile at bridge

1.2.2 Campsite & Staging Areas

To ensure ease of coordination of operations, a site office and campsite will be established for this sub-project, while the contractor will be required to identify a staging area for plant & equipment that will be in conformity with the requirements of this ESMP.

The location for the establishment of the contractor's and the Resident Engineer's camps and sites should be determined in consultation with the Resident Engineer, the PCU and the local communities, taking into account the following aspects:

- Be located outside the protection zone of watercourses (100 m) and wetlands;
- Be located within an acceptable distance from existing residential areas;
- Not located in areas with intact vegetation;
- The contractor must first obtain the necessary licenses and consents from the relevant local government actors or from the owner of the needed area;
- Although it is the contractor's decision, it is recommended that whenever possible the camps should be handed over to the administrative or community authorities for future use;
- The contractor must submit for the prior approval of the Resident Engineer, the implementation design and other project structures

and specifications related to the camps and sites that are intended to be built;

- The contractor shall take all necessary measures and precautions to ensure that the execution of the works is carried out in accordance with environmental, social, legal and regulatory requirements, including those set out in this document;
- The contractor shall take all measures and precautions to avoid any disturbance in the local communities and among the users of the road, as a result of the project execution;
- The contractor shall, whenever possible, apply measures to reduce or eliminate any sources of disturbances;
- The contractor shall follow the provisions of this document, as well as the applicable legislation and standards, during the use, operation and maintenance of the camps and sites, in particular with regard to water supply and sanitation, solid waste management, handling and storage of dangerous substances, etc., and
- The areas occupied by the camps and sites must be recovered at the end of the project, when the contractor is demobilized, through the replacement of previously existing conditions, unless other uses are intended.

1.2.3 Proposed Locations for Sourcing of water & other materials

Naturally occurring construction materials such as water, fine sand and aggregates are available in the project area; where applicable approvals may be required for the extraction of raw materials. Materials that will be used are:

Water: Water for the proposed channelization & construction works can be sourced from the streams/rivers within the vicinity.

Fine Sand: Like water, river sand can be sourced from some of the rivers along the project area. The river sand may be compensated with fine aggregates (quarry dust) if river sand is found not to be in sufficient quantity.

Aggregates: Aggregates (coarse sand) and laterite can be purchased and stockpiled from existing quarries in the local government areas of the State.

1.3 Rationale for the NEWMAP Intervention

NEWMAP triggers the World Bank's Safeguard Policies. The safeguard policies triggered by the NEWMAP intervention are: Environmental Assessment OP 4.01; Natural Habitats OP 4.04; Cultural Property OP 11.03; Involuntary Resettlement OP 4.12 Safety of Dams OP 4.37; Pest Management Safeguard Policy OP 4.09; and Projects on International Waterways OP 7.50 Component[4].

[4] World Bank policies, World Bank website: www.worldbank.org

The identified sub-projects are classified as **category "B"** projects according to the World Bank categorization and a category II project under the FMEnv.

1.4 Rationale of this ESMP

An ESMP is required for site specific activities under the pre-construction, during construction and post construction phases to assess the environmental and social impacts, which trigger the World Bank's Safeguard Policies including Environmental Assessment OP 4.01 and Public Disclosure OP 17.60.

1.5 Objectives and Scope of the Consultancy Services

The objective of the consultancy services is to prepare an Environmental and Social Management Plan (ESMP) for this Ekiti State intervention site. This ESMP is site-specific and consists of a well-documented set of mitigation, monitoring, and institutional actions to be taken before and during implementation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. This ESMP also includes measures needed to implement these actions, addressing the adequacy of the monitoring and institutional arrangements for the watersheds in the intervention site.

The ESMP will be utilized by the contractor(s) to be commissioned by Ekiti NEWMAP for the sites in the preparation of the required Contractor's ESMP (C-ESMP). which will form the basis of the site-specific management plan prior to works commencing. The ESMP will be used by the contractor to address all occupational health and safety (OHS) issues and community health and safety issues associated with the proposed construction work

1.6 Study approach & methodology

Data collection and information gathering for the preparation of these ESMPs was carried out by:

1.6.1. Literature review

A thorough review of the existing environmental & social baseline information from past studies was carried out. This enabled a proper understanding of the Nigeria erosion and Watershed Management Project (NEWMAP) and the potential environmental and social conditions that exist in the specific sites. Among the documents that were reviewed in order to familiarize and deeply understand the project include: Project Appraisal Document (PAD), Project Implementation Manual (PIM), Engineering Designs of sub-projects, Nigeria's National laws, edicts and regulations on environmental

assessments, National Policies, World Bank Operational Policies and other relevant information.

1.6.2 Field Visits

The field visits for information gathering and data collection commenced from September 16, 2020 and were important to help the consultants appreciate the environmental & social challenges associated with these sub-projects. Field visits were carried out with due consideration for the sensitive nature of the security around some of the sub-project locations (especially the Ipao I & II, re-construction of Arinkin, channelization of Gully Erosion at Irele Health Centre Irele-Ekiti sites).

1.6.3 Stakeholders Consultations

As an approach of initiating the process of continual consultation and involvement of the public in the project, various discussions were kick-started with a meeting of key officers of the SPMU of the Ekiti NEWMAP and with other relevant stakeholders. Other Stakeholders consulted are the Ekiti State Waste Management Authority (Ek-WAMA), Ekiti State Emergency Management Agency (Ek-SEMA), Ministry of Lands & Ekiti Zonal Office of the FMEnv.

1.6.4 Identification of potential risks

The reconnaissance survey and site visits were undertaken to identify potential impacts through a proper screening of the anticipated changes to the socio-environmental conditions (project-environment interactions). In order to ensure all the project activities are appropriately screened for environmental and social issues, a checklist tool was also prepared to screen each cycle of the project and identify the environmental and social sensitivities.

1.6.4.1Potential environmental and social risks

Mitigation measures have been proffered to either eliminate or minimize adverse environmental and social impacts identified at specific locations. The approach to mitigation has been to primarily engage the preventive principles of anticipated impacts based on well-known negative outcomes of project-environment interactions.

1.6.5 Public Consultations

To ensure a proper data collection and information gathering process in the preparation of these safeguard instruments, the methodology included a combination of approaches such as a community stakeholders' forum or public consultation, Focus Group Discussions (FGD) & Key Informant Interviews (KII) and these approaches were used to amongst other things to undertake a socio-economic survey of the project area.

1.6.6 Environmental Sampling and Analysis

Environmental sampling was carried out at the locations of the different specific sites where interventions will be carried out to commence multiple air, noise, water and soil sample collection. These were subsequently analysed and have been included in this report.

CHAPTER TWO: INSTITUTIONAL AND LEGAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT

2.0 Introduction

This section presents the different laws and policies that are applicable to the operationalizing of this ESMP; the National Laws & Policies, State Laws & Policies, World Bank policies and the International treaties and conventions.

2.1 Federal Policy, Legal, Regulatory & Administrative Frameworks

A number of national and international environmental guidelines are applicable to the operations of the NEWMAP. This ESMP is prepared in alignment with relevant Federal & Ekiti State Government policies, laws, regulations, guidelines, and applicable World Bank Operational Policies. The relevant Federal and State policy and regulatory instruments are summarized in the Table 3 below.

Table 3: Relevant Federal/State Policies, Legislations, Regulations & Guidelines

S/N	Policy Instrument	Year	Provisions
1	National Policy on the Environment	1989 revised 1991	Describes the conceptual framework and strategies for achieving the overall goal of sustainable development in Nigeria.
Legal/Regulatory Instrument			
2.	Environmental Impact Assessment (EIA) Act No. 86	1992	Provide guidelines for activities of developmental projects for which EIA is mandatory in Nigeria. The Act also stipulates the minimum content of an EIA as well as a schedule of projects, which require mandatory EIAs.
3.	Land Use Act	1978	The Act vests all land comprised in the territory of each state in the Federation in the Governor of the state and requires that such land shall be held in trust and administered for the use and common benefit of all Nigerians in accordance with the provisions of the Act.
4.	Forestry Act	1994	Provides for the preservation of forests and the setting up of forest reserves.

5.	Endangered Species Act	1985	Provides for the conservation and management of Nigeria's wildlife and the protection of some of her endangered species in danger of extinction as a result of over-exploitation
6.	FEPA/FMEnv EIA Procedural Guidelines	1995	The Procedural Guidelines indicate the steps to be followed in the EIA process from project conception to commissioning in order to ensure that the project is implemented with maximum consideration for the environment.
7.	National Guideline and Standard for Environmental Pollution Control	1991	Provide guidelines for management of pollution control measures
8.	S.I.15 National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations[5]	1991	Regulates the legal framework for the effective control of the disposal of toxic and hazardous waste into any environment within the confines of Nigeria.
9.	Urban and Regional Planning Decree No. 88	1993	Planned development of urban areas (to include and manage waste sites).
	National Erosion and Flood Control Policy	2005	Regulates the guidelines to enforce soil, erosion and flood control, protect human life and minimize losses due to flood
10.	Workmen Compensation Act	1987 reviewed 2010	Occupational Health and Safety
11.	Child Rights Act	Act No. 26 of 2003	Best interests of a child are to be paramount in all actions and clearly states the rights of the child.
12.	Ekiti State Emergency Management Agency	Law No 9 of 2009	Implementing State emergency polices and laws
13	Ekiti State Waste Management Authority	Law No 7 of 2000	Implement laws on regular evacuation of waste in the State.

[5] FEPA (1991): *National Environmental Protection (effluent Limitation) Regulations*. Federal Environmental Protection Agency, Nigeria.

2.2 World Bank Safeguard Policies Triggered by NEWMAP

Nigerian EIA laws and the World Bank Environmental and Social Safeguard Policies by which the activities of this project have triggered some of the World Bank's Safeguard Policies including Environmental Assessment OP 4.01; Natural Habitats OP 4.04; Cultural Property OP 11.03; Involuntary Resettlement OP 4.12 Safety of Dams OP 4.37; Pest Management Safeguard Policy OP 4.09; and Projects on International Waterways OP 7.50. This is shown in Table 4.

Table 4:Potential Safeguard Policies Triggered by NEWMAP

Policy	Yes	No	Applicability due to	How this Project Addresses Policy Requirements
Environmental Assessment (OP 4.01)	**X**		**Construction, civil works will trigger site-specific impacts. Potential impacts include construction impacts on environment etc.**	**As targeted sites have been identified, a proper assessment has been carried out to determine actual environmental and social issues in project area.**
Involuntary Resettlement (OP 4.12)	X		Project impacts that may arise in loss of assets, loss of access to livelihood or disturbances.	A separate RAP & livelihoods restoration plan shall be prepared to identify Project Affected Persons (PAPs) & Livelihoods in the project area.
Natural Habitats OP/BP 4.04	X		From conversion or degrading of natural habitats.	The project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss.
Physical Cultural Resources OP/BP 4.11	X		The project may include sites having archaeological (prehistoric), paleontological, historical, religious, and unique natural values.	The project includes measures to assist in their preservation, and to seek to avoid their elimination.
Safety of Dams OP 4.37	X		Some of the sites may include dams	The project shall ensure that appropriate measures are taken, and sufficient resources provided for the safety of the dam.
Pest Management	X		The project may include sites that have pests.	The project will introduce measures towards ensuring safe,

Safeguard Policy OP 4.09				effective, and environmentally sound pest management practices.
Projects on International Waterways OP 7.50	X		Flood and erosion control measures in projects may have impacts on riparians.	The project will promote 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

2.3 International Treaties and Conventions on Environment

Some of the international Treaties and Conventions on environment to which Nigeria is a party are summarized in Table 5 below.

Table 5: International Treaties and Conventions on Environment to which Nigeria is a Party

S/N	Treaties and Conventions	Year	Agreement
1.	The United Nations Environmental Guidance Principles	1972	Provide guidelines for protecting the integrity of the global environment and the development system
2.	Montreal Protocol on Substances that deplete the Ozone Layer	1987	An international treaty to eliminate Ozone depleting chemical production and consumption.
3.	United Nations Convention on Biological Diversity	1992	Places general obligations on countries to observe sustainable use and equitably share the plants and animals of the earth
4.	United Nations Framework Convention on Climate Change	1994	It calls on developed countries and economies to limit her emissions of the greenhouse gases which cause global warming
5.	Convention on International Trade in Endangered Species of Wild Fauna and Flora	1973	Restricts the trade of fauna and flora species termed as endangered Species
6.	Convention on Conservation of Migratory species of Wild animals (Bonn Convention)	1979	Stipulates actions for the conservation and management of migratory species including habitat conservation
7.	Vienna Convention for the Protection of the Ozone Layer	1985	Places general obligation on countries to make appropriate measures to protect human health

			and the environment against adverse effects resulting from human activities, which tend to modify the ozone layer.

2.4 Gender-Based Violence

Nigeria has ratified or consented to the core international human rights treaties and is a party to the major regional human rights instrument which obliged States to respect, protect and fulfill human rights of all persons within the territory and subject to the jurisdiction of the State, without discrimination. Rape may violate several human rights obligations enshrined in the instruments ratified by Nigeria and is also a form of gender-based violence and manifestation of violence against women. As a State party to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (the "Maputo Protocol"), Nigeria has made legally binding commitments to exercise due diligence to combat gender-based violence and discrimination.

2.4.1 State Laws Relevant to GBV

The regulation in place is the Ekiti State GENDER –BASED VIOLENCE (PROHIBITATION) LAW, No 21 of 2011. This Law indicates the different types of GBV offences and provides a strategy aimed at controlling and eliminating GBV. This is by:

- Enforcing the Prohibition of Gender Based Violence (GBV) by explaining that
    - The use of violence in any form of setting is hereby prohibited.
    - No person shall engage in any form of gender-based violence.

- Stipulates the offences and penalty when the law is contravened
- It defines the role of the Court in addition to inflicting a fine or a prison term may order the offender in a case of violence to pay compensation to the victim as the court may deem fit.

- Stipulates the need for a Chief Judge to designated court for the purpose of hearing cases of violence against women and the girl child brought pursuant to the provisions of this Law.

- Defines process of lodging complaints with police

- Instructs on the approach to obtain police assistance

- Educates on process to adopt by police upon receipt of complaint and also specifies the need for free medical treatment.

2.4.2 Regional Treaties Relevant to GBV

- The African Charter on Human and Peoples' Rights (ACHPR) (1982)
- The African Charter on the Rights and Welfare of the Child (ACRWC) (2007)
- The Protocol to the ACHPR on the Rights of Women in Africa (the "Maputo Protocol") (2007)

2.4.3 National Polices Relevant to GBV

- The National Action Plan for the Implementation of United Nations Security Council Resolution 1325 (2009)
- The National Gender Policy (2010)

2.5 International Treaties Relevant to GBV

- The International Covenant on Civil and Political Rights (ICCPR) (2004)
- The International Covenant on Economic, Social and Cultural Rights (ICESCR) (2004)
- The Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) (1993)
- The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (1984)
- The Convention on the Rights of the Child (CRC) (1990), and the Convention on the Rights of Persons with Disabilities (CRPD) (2012)
- International Convention on the Elimination of All Forms of Racial Discrimination (1976)

2.6 International Treaties Relevant to Social Protection

Some relevant international treaties on social protection include:

The International Covenant on Civil and Political Rights (ICCPR) (2004); which pursues the promotion of self-realization by upholding the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development. Also, all peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.

The International Covenant on Economic, Social and Cultural Rights (ICESCR) (2004); which undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.

The Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT) (1993) that promotes the protection of people from "torture", which means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity. It does not include pain or suffering arising only from, inherent in or incidental to lawful sanctions.

The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (1984), discourages the discrimination against women by any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field.

The Convention on the Rights of Persons with Disabilities (CRPD) (2012); which adopts a broad categorization of persons with disabilities and reaffirms that all persons with all types of disabilities must enjoy all human rights and fundamental freedoms. It clarifies and qualifies how all categories of rights apply to persons with disabilities and identifies areas where adaptations have to be made for persons with disabilities to effectively exercise their rights and areas where their rights have been violated, and where protection of rights must be reinforced.

International Convention on the Elimination of All Forms of Racial Discrimination (1976), which discourages any distinction, exclusion, restriction or preference based on race, colour, descent, or national or ethnic origin which has the purpose or effect of nullifying or impairing the recognition, enjoyment or exercise, on an equal footing, of human rights and fundamental freedoms in the political, economic, social, cultural or any other field of public life.

Generally, with regards to environmental and social management issues, legislation is in a continuing process of development in Nigeria. Nevertheless, in the event of divergence between the two, the World Bank safeguard policy shall take precedence over Nigeria EA laws, guidelines for these intervention projects.

There is a need to conduct mapping of GBV service availability in the state to identify the service providers. The mapping should also assess the availability and quality of their services, institutional capacities as well as human resources availability to deliver the

services. This is in line with World Bank good practice note in addressing Gender Based Violence (2018) aimed at strengthening response for project exacerbated GBV.

2.7 Gap between 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 impact. Based on the screening, a full, partial, or no Environmental impact assessment may be required. Guidelines issued in 1995 direct the screening process.

Accordingly, a comparison between the Nigeria EIA Categories, the World Bank Guidelines is presented in Table 6.

Table 6: Comparison between Nigeria EA Guidelines & World Bank Guidelines

Nigeria EIA Guidelines	World Bank EIA Guidelines	Comparison/Gaps
Category I 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.	**Category A** - projects are those whose impacts are sensitive, diverse, unprecedented, felt beyond the immediate project environment and are potentially irreversible over the long term. Such projects require full EA.	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 two, the World Bank safeguard policy shall take precedence over Nigeria EA laws, guidelines and or standards.
Category II 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.	**Category B -** 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 adverse impacts that are not sensitive, diverse,	

	unprecedented and are mostly reversible. Category B projects will require partial EA, and environmental and social action plans.	
Category III 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.	**Category C** - Projects are mostly benign and are likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project, although some may require environmental and social action plans.	
Category not provided.	**Category FI** - A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.	WB guidelines will guide EA implementation in projects of this nature

2.7.1 Adequacy of Legal Instruments for Environmental & Social Issues[6]

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 earlier, there are a number of local, national and international environmental guidelines applicable to the sub-projects under the proposed NEWMAP intervention project.

Ekiti State has adequate legal, administrative and regulatory framework to implement environmental and social management risks and impacts, however, capacity gaps in using the EA tools will be closed by training to build capacity of the key personnel.

[6] NEWMAP Environmental and Social Management Framework - ESMF, 2018. Section 2.4.1

CHAPTER THREE: Description of Biophysical Environment

3.1 Overview of the Project Environment

Ekiti State is situated entirely within the tropics. It is located between longitudes 40°51′ and 50°451′ East of the Greenwich meridian and latitudes 70°151′ and 80°51′ North of the Equator. It lies south of Kwara and Kogi State, East of Osun State and bounded by Ondo State in the East and in the south, with a total land Area of 5887.890sq km. Ekiti State has 16 Local Government Councils.

3.1.1 Ikole Ekiti LGA

Ikole LGA is named after the principal town of the area, Ikole Ekiti. The Local Government is predominantly a homogenous society and carefully populated by Yoruba speaking people of the South West Zone of Nigeria. The people are mainly Christians and Muslims, while a percentage of the people are Traditional religion worshippers. The traditional ruler of Ikole town is the Elekole of Ikole, who also doubles as the paramount ruler of Egbeoba (Literally meaning, Confederation of Obas) Kingdom alluding to Ikole LGA's make-up of several other constituent towns with their own traditional rulers and Chiefs. There are 24 State level recognized Obas in Ikole LGA alone, a unique feature of this area when contrasted with other areas of Ekiti State.

3.2 Intervention Project Site

Site visit revealed some Environmental and Social sensitivities within the project areas. These are highlighted in the Table 7 and Figure 3, 4 and 5 show maps of project site with these sensitivities.

Table 7: Baseline Environmental & Social Conditions of sub-project

Location/ Community	GPS	Description	Picture
Arikin Bridge, Oke-Ako	7°58'06.2"N 5°33'04.1"E	**Environmental sensitivities** Gully erosion, Riverbank erosion **Social Sensitives** Damage to public utility and disruption of services (Water pipe)	  
Ogbomu Bridge, Irele	8°00'01.3"N 5°37'47.5"E	**Environmental sensitivities** Culvert is collapsing due to gully erosion from flood.	 

			
Ipao 2, Agbara	7°53'26.4"N 5°34'32.9"E	Erosion, heavy precipitation events and causes flooding of entire vicinity **Social Sensitivities** Potential loss of livelihood and property due to involuntary land acquisition for project	 
Ipao 1, Afin Street	7°53'14.4"N 5°34'45.7"E	Poor drainage	

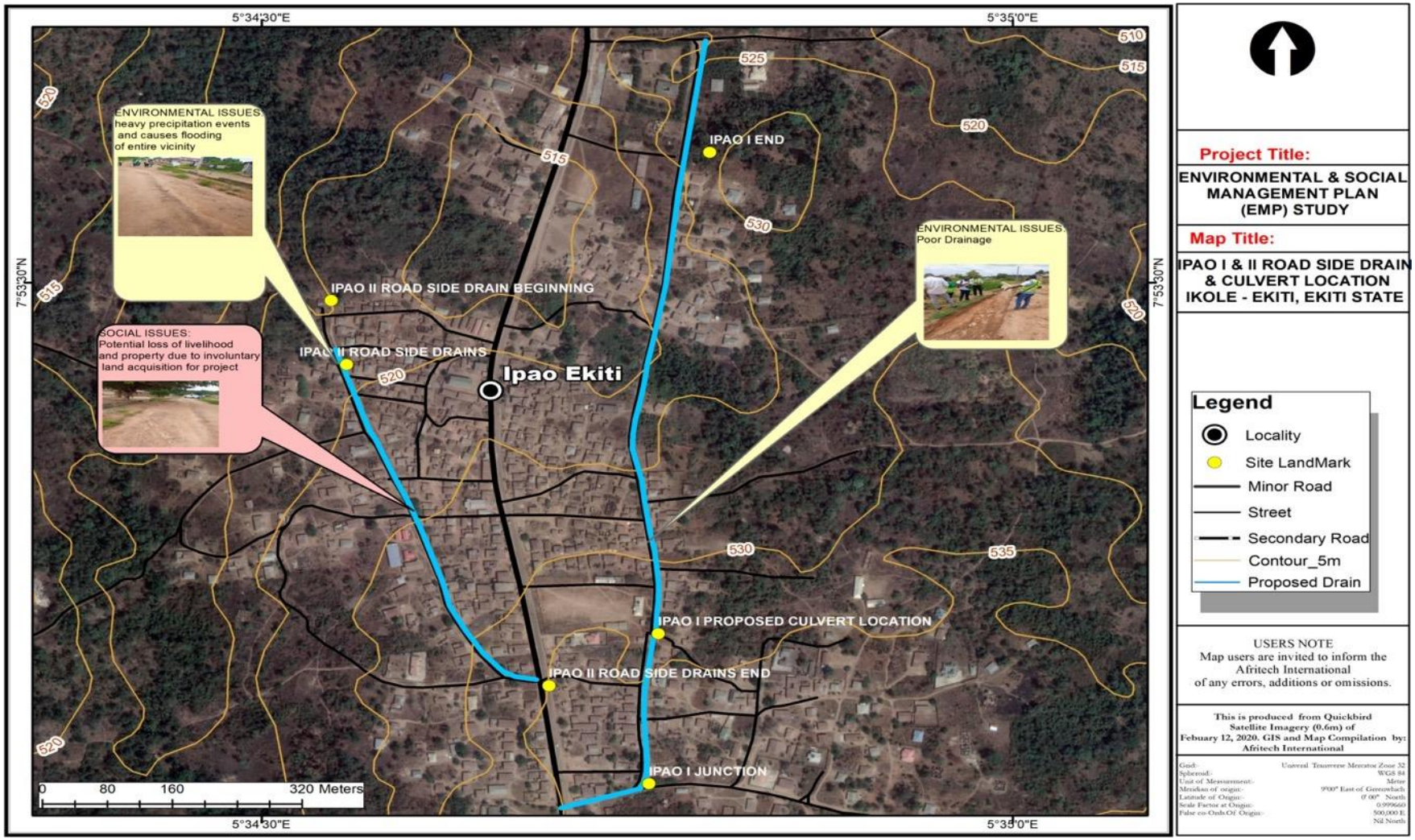


Figure 3: Map of Project site showing Sensitivities along Ipao 1&11 project corridor

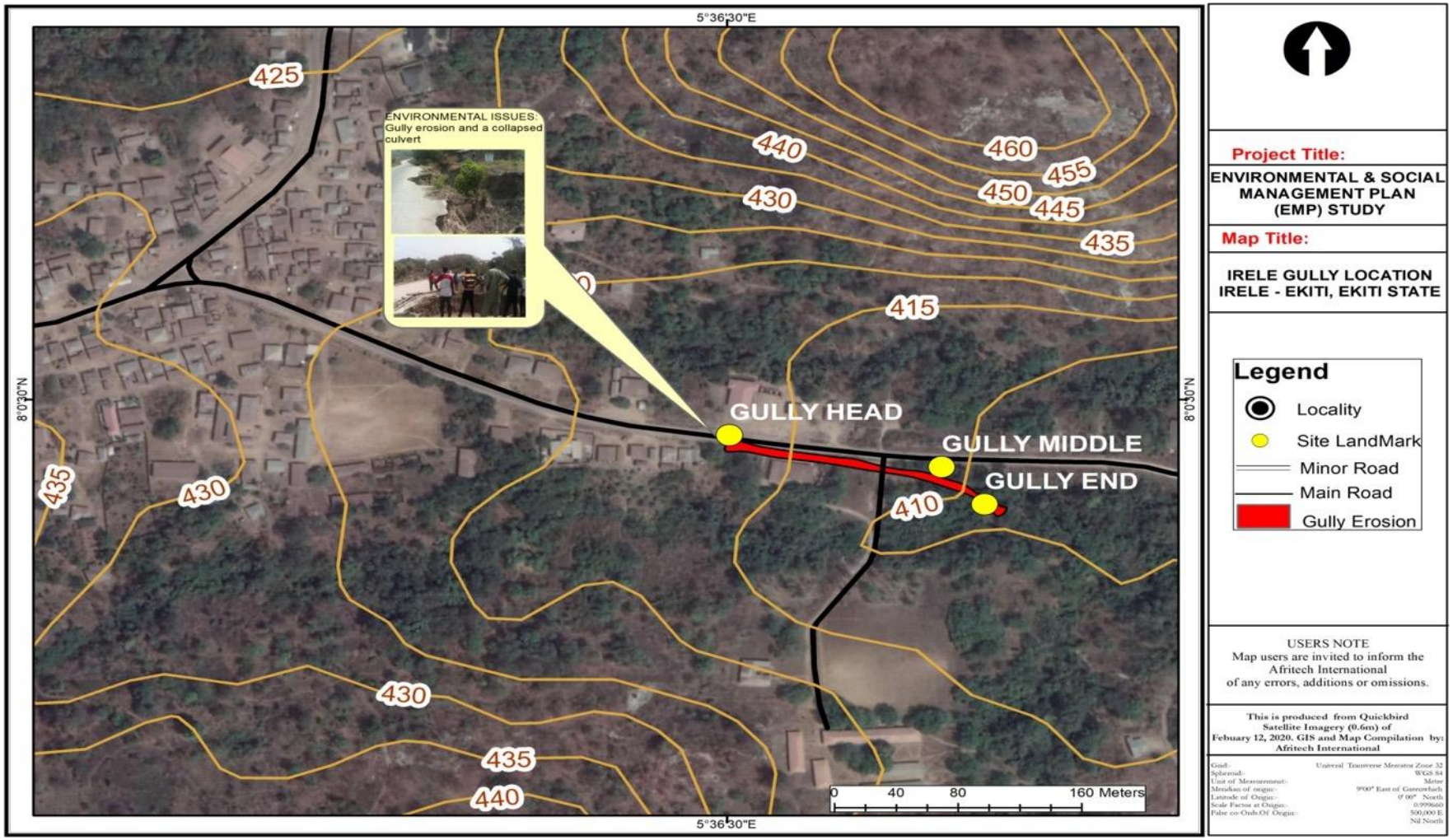


Figure 4: Map of Project site showing Gully Erosion Location in Ikole Ekiti project corridor

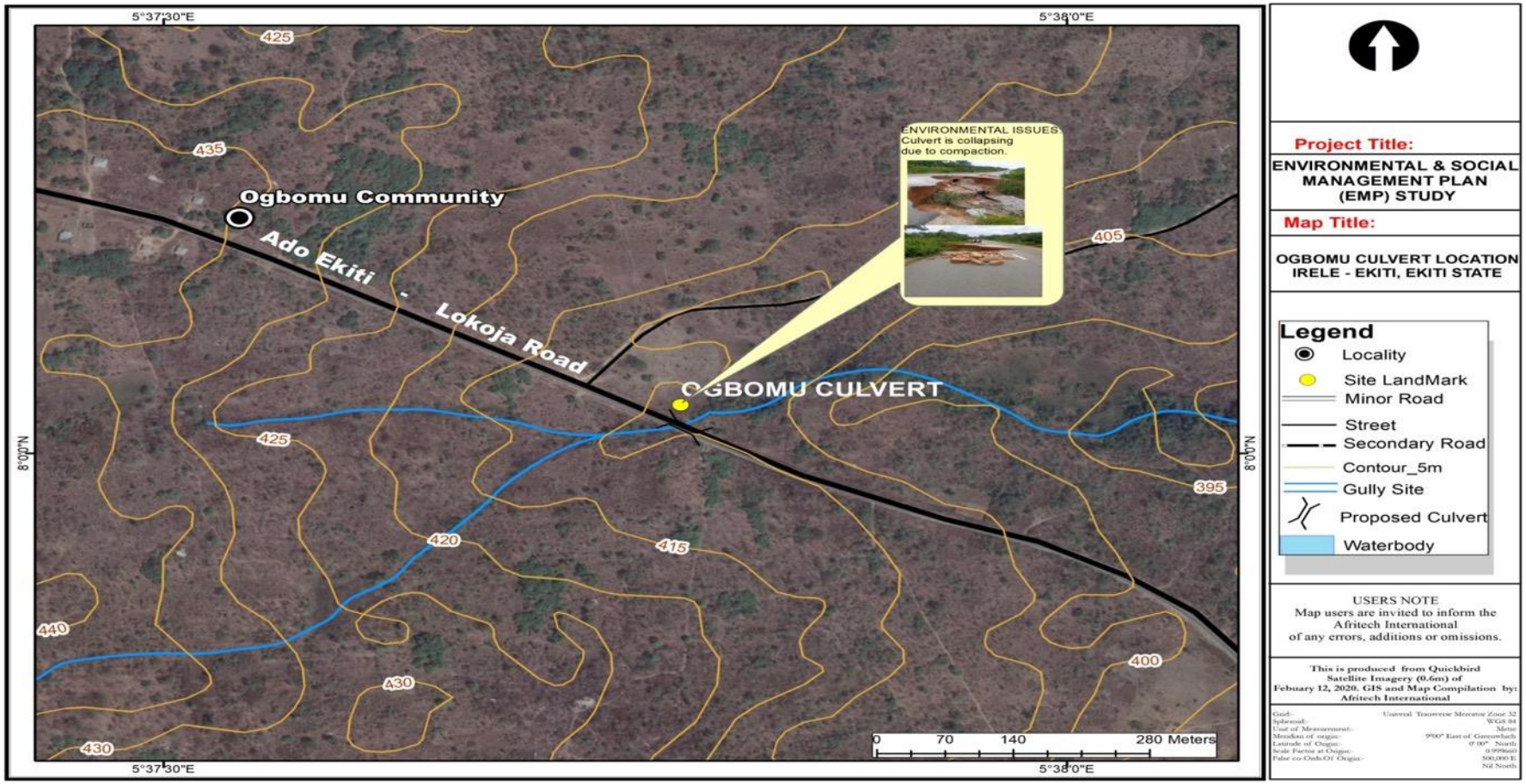


Figure 5: Map of Project site showing Ogbomu Community in project corridor

3.3 Description of the Physical Environment

The project area of Ekiti State is mainly an upland zone rising over 250 metres above sea level, Ekiti has a rhythmically undulating surface. The landscape consists of ancient plains broken by steep-sided outcropping dome rocks. These rocks may occur singularly or in groups or ridges and the most notable of these are to be found in Efon-Alaaye, Ikere-Ekiti and Okemesi-Ekiti. An important feature of the state is the large number of hills it possesses, which are often the site of towns in which much of the population resides. In fact, the word 'Ekiti' was derived from the local term for hill.

3.3.1 Climate

The Climate of Ekiti State is largely influenced by two wind systems, the southwesterly (SW) monsoon winds and the northeasterly (NE) winds. The former is due to the hot and humid tropical maritime air mass blowing in from the Atlantic Ocean while the latter is due to the tropical continental air mass that is a cold, dusty and dry air mass from the Sahara Desert. The northeast (NE) winds are characterized by the dry season, which lasts from November to March, also the wet season begins in April and ends in November and is characterized by southwest wind.

3.3.2 Drainage

Ekiti State has no coastal boundary; hence it has no coastal relief. Indeed, the term, Ekiti, denotes an interior or hinterland area as opposed to a maritime area[7]. It also means mound. This name invariably implies that Ekiti State is mainly an upland area.

In the main, the relief is rugged with undulating areas and granitic outcrops in several places. The notable ones among the hills are Ikere Ekiti Hills in the southern part of the state; Efon Alaaye Hills to the western boundary of the state and the Ado Ekiti Hills in the central part of the state.

Most of these hills are well over 250m above sea level. The drainage system over the areas of basement complex rocks is usually marked with the proliferation of many small river channels. The channels of these smaller streams are dry for many months, especially from November to May.

3.3.3 Temperature

Temperature is almost uniform throughout the year with little deviation from the mean annual of 27°C. February and March are the hottest months with mean temperatures of 28°C and 29°C respectively while June with temperature of 25°C is the coolest (Adebayo, 1993). The lowest minimum temperature of 20°C is recorded during the peak of the harmattan in January. The lowest mean maximum temperature is recorded in August when the amount of solar radiation incident on the ground is lowest because of the presence of thick cloud cover. The daily range of temperature is small, never exceeding 9°C in the wet season but rise to between 9°C and 12°C in the dry season.

[7] Oguntuyi, 1979. The History of Ekiti

3.3.4 Rainfall

The mean annual total rainfall in the area is 1369mm with a low co-efficient of variation of about 10%. Rainfall is highly seasonal with marked wet and dry seasons and double maxima as a result of the "Little Dry Season" experienced in August. These distinct wet and dry seasons are seasons respectively associated with the alternating prevalence of moist maritime southwest monsoon winds from the Atlantic Ocean and the dry continental north easterly harmattan from the Sahara Desert. The rainy season lasts from April to October, with a break in August when rainfall is relatively low on account of the prevalence of stratiform clouds which are not thick enough to yield large amounts of rain. The dry season lasts from November to early March.

3.3.5 Relative Humidity (RH)

During the dry season months of December to February the RH values range from 60% to 87%. The lowest relative humidity was recorded in January 1994 (61%) and February 2003 (60%). In the wet season the relative humidity was in excess of 80%.

3.3.6 Wind Pattern

Wind direction follows the Inter Tropical Discontinuity (ITD) zone which shows that it is mainly southwesterly (SW), westerly (W) and southerly (S) with northeasterly (NE) in some years in January. Wind speed was lowest in December ranging from 1.6ms^{-1} to 3.8ms^{-1} and highest in July/August ranging from 3.0ms^{-1} to 5.8ms^{-1}.

3.3.7 Soil

The soil type in the project area under the FAO/UNESCO classification are soils which are derived from basement complex rocks and are Orthic and Plinthic Luvisols, respectively. The former is of high agricultural value for tree crops especially cocoa and comprise broad groups of poorly drained and well upland drained soils. The well drained soils cover over 70% of the State and have good potential to support arable crops.

3.3.8 Agriculture

Agriculture is the main occupation of the people of Ekiti State, which provides income and employment for more than 75% of the population of Ekiti State. The main cash crops are cocoa, coffee, kolanut, cashew and oil palm. Other tree crops include citrus fruits, coconut, mango, sugarcane, guava and pineapple. Ado Ekiti located in the project area is the trade center for a farming region where yams, cassava, grain and tobacco are grown. Cotton is also grown for weaving. It is a fast-growing urban metropolis which is rapidly spilling over into an adjoining settlement.

3.4 Environmental Quality Assessment

This section contains the results of analysis of one-season environmental media samples obtained from project site and thereafter tested to determine air, soil & water quality comprising 104 soil samples (52 Sub-soil and 52-top soil samples) and 98 water samples (50 groundwater & 48 surface water samples). Analysis of samples were undertaken at the laboratory of the Lagos State Environmental Protection Agency (LASEPA) as contained in Annex 5.

3.4.1 Ambient Air Quality

Air quality assessment was conducted using MSA ALTAIR® 5x Multi Gas detector. All values of major air quality parameters were within FMEnv limits. The air quality levels of three locations were taken as samples from the various project locations in Ado Ekiti and the outcome of the air quality tests (Annex 5) showed that values were below the FMEnv standards for all the parameters considered (SPM, CO, NO_2, PPM, VOC). This is as represented in Figure 6.

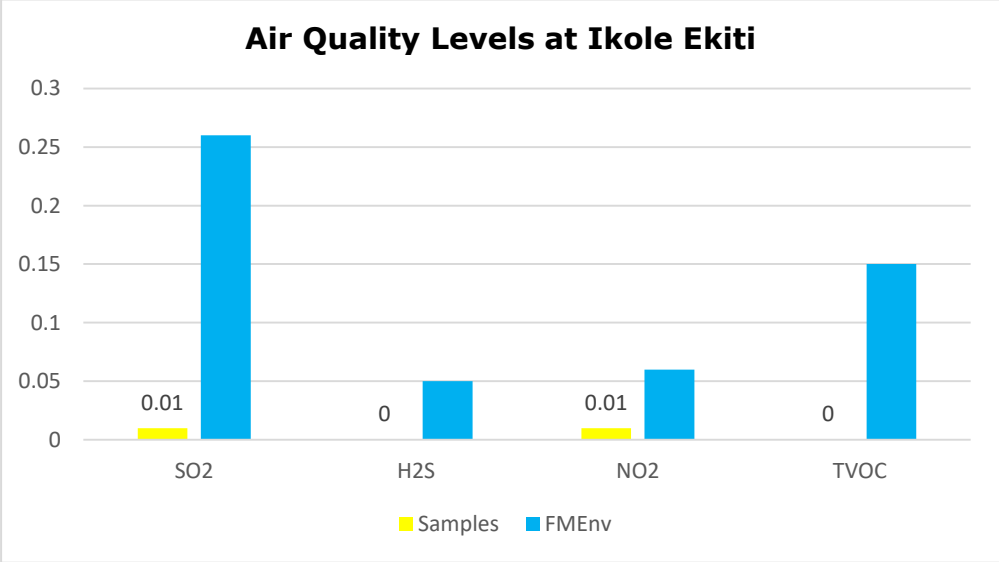


Figure 6: Air quality standards in Sites in Ikole Ekiti

3.4.2. Ambient Noise Level

Noise is ‘’unwanted sound’’ while sound is periodic fluctuation of air pressure. FMEnv standard noise levels are presented in Table 8 below.

Table 8: Nigeria’s Standard Noise Levels (FEPA, 1991)

Duration per Day, hour	Permissible Exposure Limit, dB (A)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105

0.5	110
0.25 or less	115

The average noise levels of the 18 samples taken along the corridor of the site showed mean noise values was low at 32.52 dB (A), which is still below the FMEnv limit (Annex 5). Maximum limit must be from the occasional vehicular traffic in the Ogbomu area that was 36.23 dB(A). In general, the noise levels were all below the FMEnv maximum Limit. This is as shown in Figure 7.

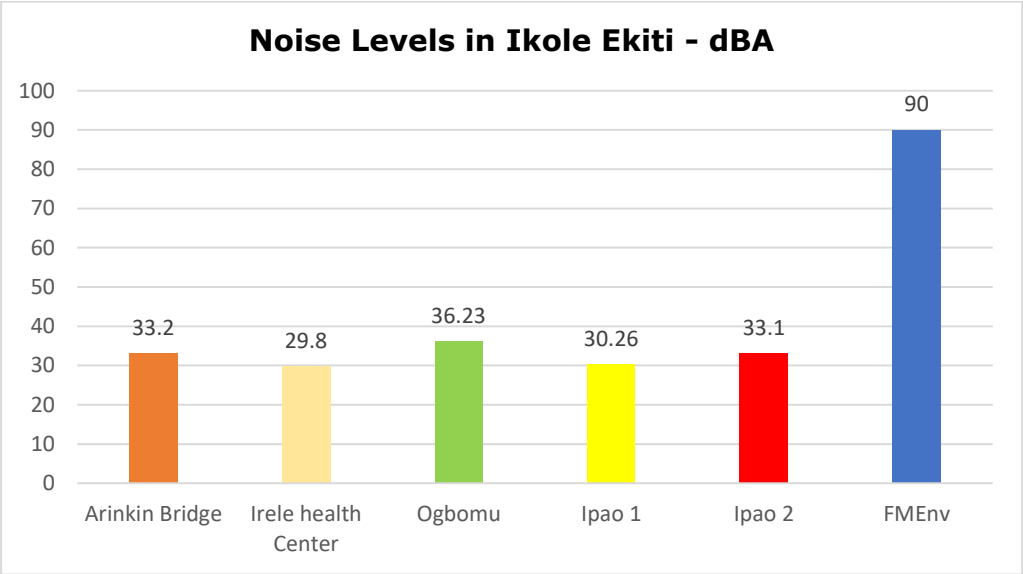


Figure 7: Noise Level in the project Corridor

3.4.3 Soil Physico-chemical properties and quality

Soil samples were collected at depths of 0-30cm (top-soil), and 30-60cm (sub-soil). Generally, the soils are sandy and silty (Annex 5). The characteristics of the soil in the project area are presented in Figure 8.

3.4.3.1Textural composition

In construction, soil with high aggregate base course (ABC) are desirable in use under asphalt pavement, backfill materials and embankment work including underground utilities work. Soil within the project corridor is rich in sand (especially topsoil) with moderate to high percentage of sand in the composition as represented in Figure 8.

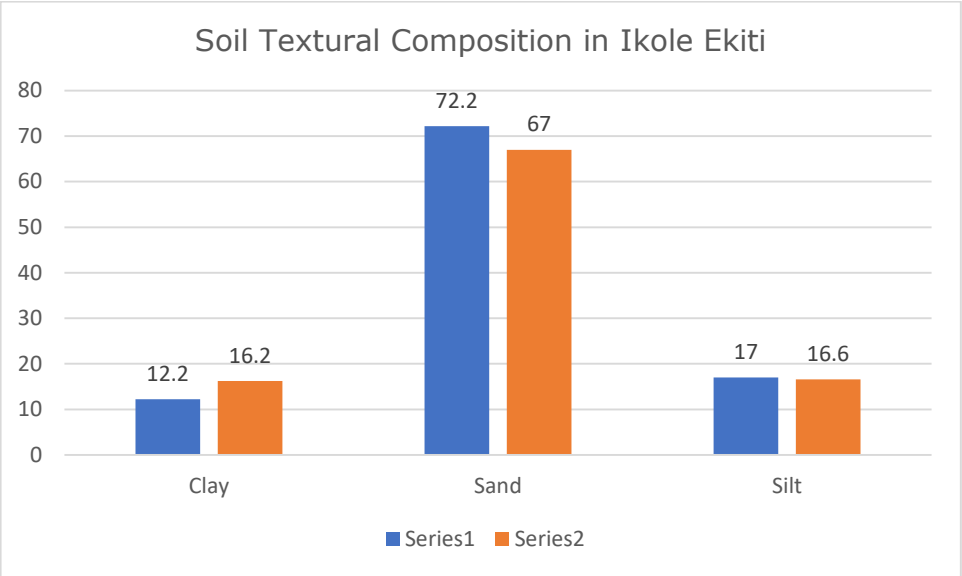


Figure 8: Texture composition of soil Ikole Ekiti

3.4.3.2 Soil Properties

The average pH of both top and sub soil taken from the study area ranges from 5.7 – 6.16 indicating a slightly acidic range, which is a good soil for construction work. In the project area, the conductivity of average soil ranges from 0.04-0.1ds/m for topsoil and 0.04-1.21ds/m for subsoil. The conductivity level of 4μs/cm corresponds to osmotic pressure of 3.5 atm in the soil solution. Figure 9 represents soil quality results in the project corridor.

Generally, in the test for heavy metals, the concentrations were lower than FMEnv Limit at places where they are present. Iron, Lead, Chromium and zinc were present in both the top and sub-soil but were below limit. The sources of these trace heavy metals are likely from vehicular emissions that ply the nearby roads and the moderate values may be from the topography of the surrounding area, which allows run-off from the roadside soils to wash off heavy metals and deposit them in low lying areas.

Presence of exchangeable bases in the soil contributes to Alkaline and alkali earth metals (Ca, Mg, K and Na) attached to the clay and organic constituents in soils which can be exchanged with each other and with other positively charged ions in the soil. Cation exchange capacity of the soil ranges from 0.67 – 0.74dS/m.

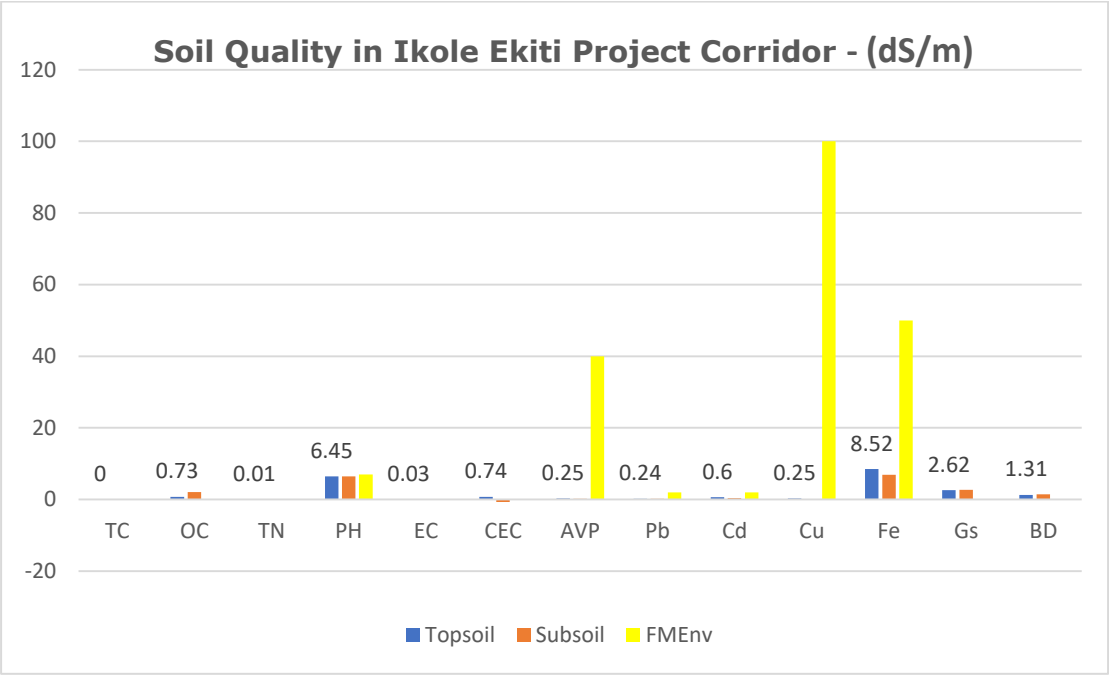


Figure 9: Soil Quality within project Corridor

3.5.3.3 Microbiology of Soil

The heterotrophic bacteria (HB) encountered in the soil of Ikere Ekiti were proteus, pseudomonas, micrococcus, klebseila, bacillus and actinomycetes. The hydrocarbon utilizing Bacteria (HUB) were; pseudomonas, micrococcus, Bacillus, and Actinomycetes; while the heterotrophic fungi (HF) include Botrycis, Aspergillus, penicillium, mucor, candida and tricoderma.

3.4.4. Physico-chemical analysis of the surface water samples

Water sample were collected across the locations of the project site in Ado-Ekiti state. 54 sites were identified and a total of 98 composite water samples were analyzed (Annex 5).

The values for the surface water quality tests conducted are as presented in Figure 10. The pH values are all slightly lower than the acceptable limit of neutral showing an acidic medium and if this water is used for the construction work it will be adequate for mixing with bituminous and asphalt layers, which performs better at pH 6.

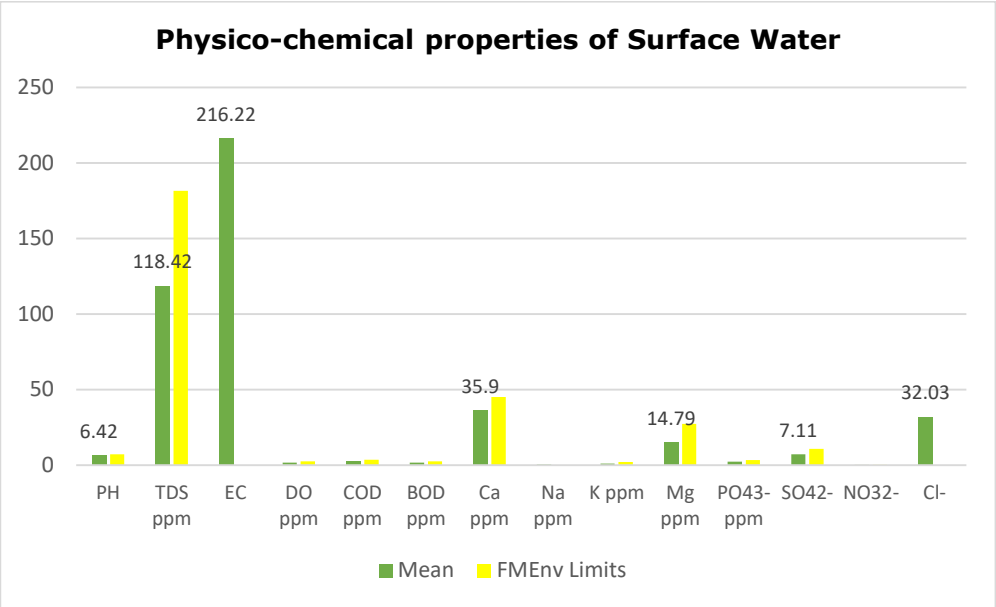


Figure 10: Surface Water Quality in project Corridor

3.4.4.1 Total dissolved solids (TDS)

The measure of the sum of the cations and anions dissolved in water is refers to as its total dissolve solid (TDS). The measured values of TDS of the surface water ranges between 1.4-195.7ppm, which is still below the acceptable limit (500ppm is FMEnv maximum limit of TDS for water).

3.4.4.2 Dissolved Oxygen

Dissolved oxygen measured in the surface water samples in the project area ranges between 2.0–3.68 with an average of 2.68. These values are lower than the FMEnv maximum value for DO in water, which is 7.5.

3.4.4.3 Exchangeable Cations

Presence of exchangeable bases in water contributes to shifts in the pH of the water to basic region of the scale and makes the water saltier. Acidic water supports the binding properties of concretes which forms the foundation of water channel embankments. Exchangeable bases in surface in the project area is high but the values are still lower than maximum permissible limit of FMEnv.

3.4.4.4Microbiology of surface water

The values for the surface water quality tests conducted are as presented in Figures 12. The values are all lower than the FMEnv acceptable limit. However, water quality results for almost all locations from where surface water samples were obtained show high E. Coli (7.6) in the water, which is higher than the limits (0)[8] as shown in Figure 11. Recent flooding events will inadvertently further contribute to exacerbating contamination of water with sewage and animal waste making the water unsuitable for drinking.

[8] Please see annex 5.

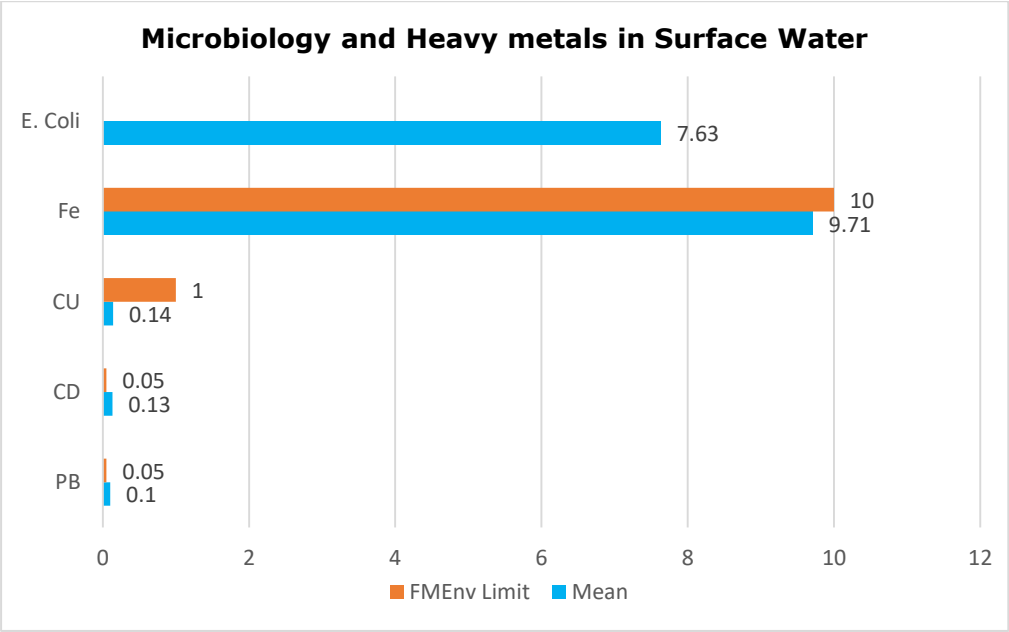


Figure 11: Microbiology and heavy metals of Surface Water in project Corridor

3.4.5 Physico-chemical analysis of the groundwater samples

Chart representing results of groundwater samples analyzed for physico-chemical properties is presented in Figure 12.

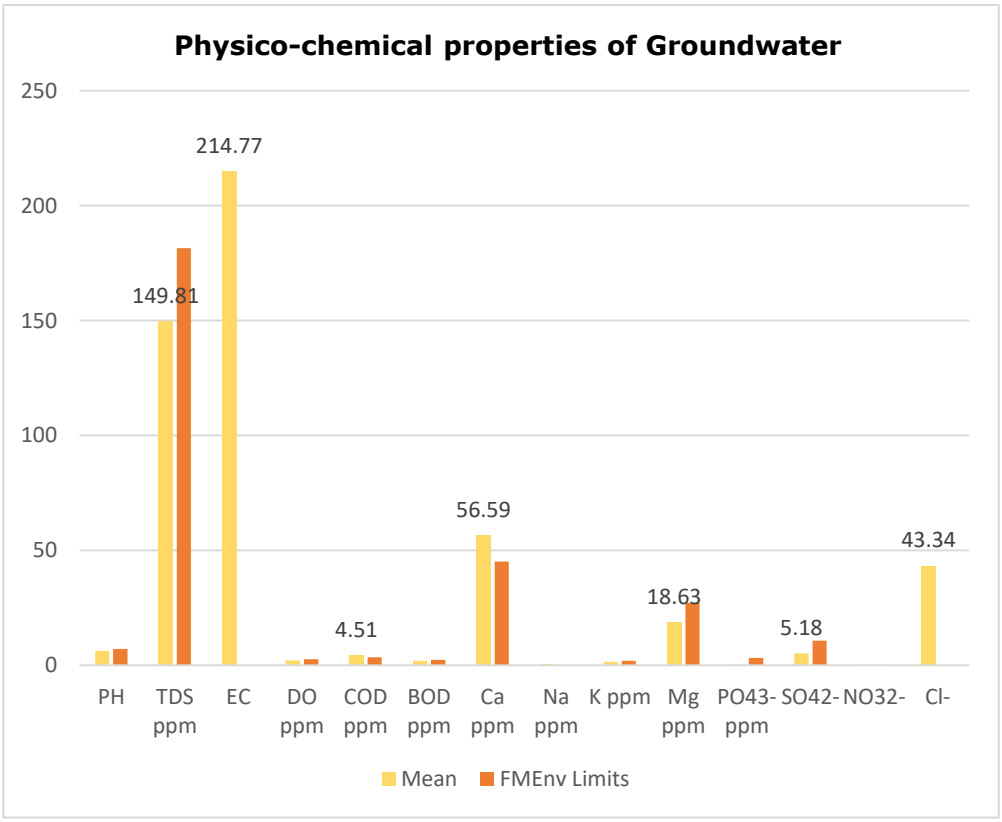


Figure 12: Ground Water Quality in project Corridor

3.4.5.1 Total dissolved solids (TDS)

The measure of the sum of the cations and anions dissolved in water is refers to as its total dissolve solid (TDS). The measured values of TDS of ground water in this corridor ranges between 103.6 – 216.5ppm, which is still lower than the acceptable limit of 500ppm. (FMEnv maximum limit of TDS for water).

3.4.5.2 Dissolved Oxygen

Dissolved oxygen measured the groundwater water samples ranges between 1.2-2.7 with an average of 2.08. These values are lower than the FMEnv maximum value for DO in water, which is 7.5.

3.4.5.3 Exchangeable Cations

Exchangeable bases in ground water in the area is high but the values are lower than maximum permissible limit of FMEnv.

3.4.5.4Heavy metals

Contact between water and rocks or soil are the principal source of heavy metal ions in water naturally. Thus, the natural terrain of Ekiti State surrounded by hills makes it vulnerable to this phenomenon.

In surface water, the mean value of lead (Pb) in water is twice the acceptable limits, while samples taken were also seen to be high in heavy metals such as cadmium and copper beyond the acceptable limit. This indicates water is not potable.

On the other hand, water quality of groundwater further indicates some heavy metal content but this was observed to be below the FMEnv limits.

3.4.5.5Microbiology of groundwater

Results obtained from analysis indicate that groundwater contains some E. Coli above the FMEnv limit thereby indicating contamination. This is likely due to the proximity of boreholes and other groundwater sources to septic tanks from which fecal matter can permeate into groundwater. T. Coliform levels are however within acceptable limits. This is presented in Figure 13.

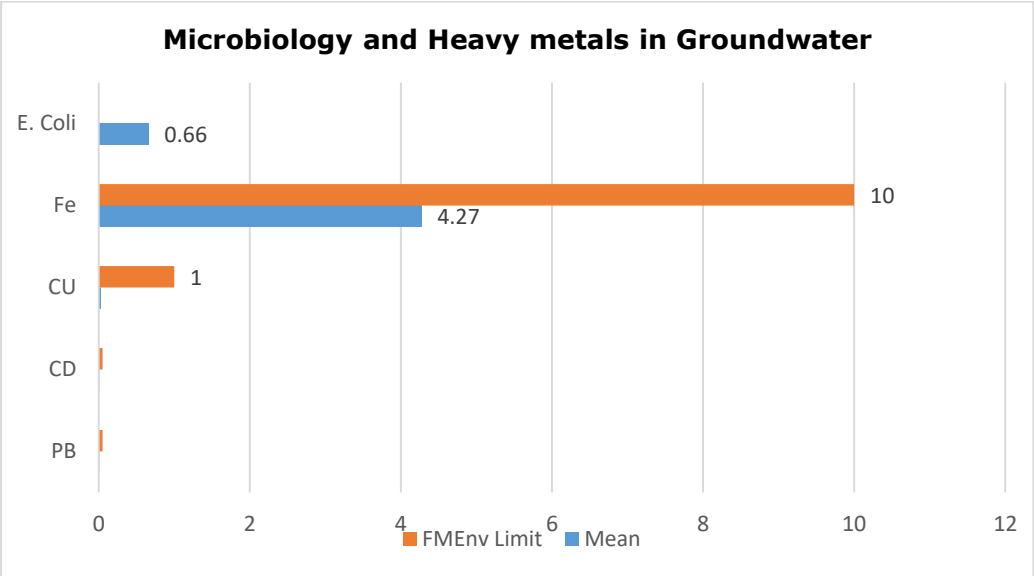


Figure 13: Ground Water Quality in project Corridor

3.4 Vegetation

The vegetation in the project areas is typified by the evergreen high forest comprising many varieties of hardwood timber, such as a procera Terminalia superba, Lophir, Khivorensis, Melicia excelsa and Antiaris africana. This natural vegetation is hardly present now, but relics are observable, especially in the southern half of the state where some forest reserves are established by the government. It can therefore be stated that the State is covered by secondary forest. To the northern part, there is the forest savannah. This is a woody savannah featuring such tree species as Blighia sapida, Parkia biglobosa, Adansonia digitata and Butyrospermum paradoxover most of the State, the natural vegetation has been very much degraded as a result of human activities, the chief of which is bush fallow farming system.

3.5 Ecological Problems

The main ecological problem of Ekiti State is the accelerated soil erosion, which is very devastating in the metropolis, Ado Ekiti and in several areas, necessitating these interventions by NEWMAP. As a result of the nature of the land surface of the State the continuous opening of the land for agricultural and constructional purposes, accelerated erosion becomes pertinent especially when no concerted effort, is being made to establish and have in place adequate control measures.

3.6 Protected Areas

The Ekiti State Government has issued an executive order establishing a conservation area within the 46km^2 Ise Forest Reserve, to underpin the conservation efforts aimed at keeping the 20 Nigeria-Cameroun chimpanzees, alive. This conservation area will provide additional forest protection measures to also ensure the chimpanzees are not killed for bushmeat, by the forest dependent communities in the area that use the forests for hunting, farmlands & heavy logging activities.

CHAPTER FOUR: SOCIO-ECONOMIC CHARACTERISTICS AND CONSULTATIONS WITH STAKEHOLDERS

4.1 Introduction

Stakeholder participation during project planning, design and implementation is widely recognized as an integral part of environmental and social management for projects. It is a two-way flow of information and dialogue between project proponents and stakeholders, which are specifically aimed at developing ideas that can help shape project design, resolve conflicts at an early stage, assist in implementing solutions and monitor ongoing activities.

4.2 Socio-economic Assessment

The main objective of the consultations with stakeholders is to discuss the proposed project's environmental and social implications and to identify alternatives for consideration. Specifically, the consultations seek to achieve the following objectives:

- To provide some information about the proposed project;
- To provide opportunities for stakeholders to discuss their concerns and offer recommendations;
- To gain insight on the role of each stakeholder in the implementation of the environmental and social safeguards as well as structures in place for the management of the proposed facilities;
- To provide and discuss with stakeholders the alternatives considered to reduce anticipated impacts;
- To identify and verify significance of environmental, social and health impacts; and
- To inform the process of developing appropriate mitigation and management options.

4.3 Data Collection Methodology

Analysis of the livelihood opportunities was carried out by undertaking a socio-economic survey carried out in order to collect the baseline information of the project area. To achieve the objectives of the study the approach adopted involved a combination of the following:

- Questionnaire administration for data collection on existing livelihood opportunities, income, gender characteristics, age profile, health, transport access
- Focus group discussion (FGD) was conducted to obtain information about the analysis of existing formal and informal grievance redress mechanisms, the fears and expectations of the people
- Key informant interviews to elicit in-depth information about community structure, norms and values, among others
- Participant observation and estimation.

4.4 Population Characteristics

With a fertility rate of 4.4, population of Ekiti State stood at 3,270,798 citizens in 2016[9]. Also, according to the NBS survey conducted in 2019[10], Poverty headcount rate in Ekiti State is 28.04 with a poverty gap index of 6.16 indicating that a little more than a quarter of people in Ekiti are living below the poverty line.

4.5 Infrastructure

The capital of Ekiti State, Ado, is a built-up urban area within which the most widespread type of government provided infrastructure is the road network, which connects the different cities and communities, in Ekiti State. Associated with these roads are the bridges and river crossings. These road networks are particularly vital as they also connect markets, educational, health centers and other transport services. However, within the project area, some of the road infrastructure and connecting hydraulic structures are now becoming overwhelmed from the heavy rainfall and the subsequent flooding and erosion problems, which continue to cause a decline in the overall integrity of the roads and bridges.

4.6 History & Sociopolitical Characteristics

Ekiti, located in the Southwest region of Nigeria was declared a State on 1 October 1996 alongside five other states in the country by the then military government of Nigeria. It was carved out of the territory of old Ondo State, and covers the former 12 local government areas that made up the Ekiti Zone of old Ondo State. On creation, it had 16 Local Government Areas (LGAs), having had an additional four carved out of the old ones. Ekiti State is one of the 36 states (including the Federal Capital Territory (Nigeria)) that constitute Nigeria.

4.7 Socio-economic characteristics of respondents

Analysis of the characteristics of respondents was carried out by undertaking a socio-economic survey of 100 persons from the project area in order to collect the baseline information of the project area. To achieve the objectives of the study the approach adopted involved a combination of the following:

- Questionnaire administration for data collection on existing livelihood opportunities, income, gender characteristics, age profile, health, transport access
- Focus group discussion (FGD) was conducted to obtain information about the analysis of existing formal and informal grievance redress mechanisms, the fears and expectations of the people
- Key informant interviews to elicit in-depth information about community structure, norms and values, among others
- Participant observation and estimation

A summary of the socio-economic survey that presents the socio-economic characteristics of respondents in the project area is summarized in Table 9.

[9] Nigerian Demographic Statistics Bulletin, 2017. A survey conducted by the National Bureau of Statistics (NBS)
[10] Poverty and Inequality in Nigeria, 2019. A survey conducted by the National Bureau of Statistics (NBS)

Table 9: Socioeconomic characteristics of Project Area

Description	Category	No	Percentage (%)	Remarks
Age	18-30	1	6.7	This reveals that more than half of the persons interviewed are in the productive age band of between 18-50yrs (97.6%) and so offers a labour pool from which contractors can source for workers for the sub-projects.
	31-50	6	40.0	
	51-70	7	46.6	
	71+	1	6.7	
Sex	MALE	8	53.3	This indicates that the higher proportion of the men in the population interviewed (53.6%) will provide sufficient human capital from the communities that the contractor can recruit personnel for the execution of this project.
	FEMALE	7	46.7	
Length of Stay in Community	From Birth	0.0	0.0	This implies that about 64% of respondents have lived in the project area for over 5 years; there is every tendency that they will be familiar with environmental and social challenges facing their communities.
	Above 15 years	10	66.7	
	10-14 years	0.0	0.0	
	5-9 years	3	20.0	
	Below 5 years	2	13.3	
Religion	Islam	0.0	0.0	Results show that two thirds (78%) of respondents are Christians.
	Christianity	15	100.0	
	Others	0.0	0.0	
Marital Status	Married	13	86.7	Results obtained shows that majority (73.5%) are married and this indicates the high positive impact this project will have on the households in these family units
	Single	2	13.3	
	Widowed	0.0	0.0	
	Divorced/Separated	0.0	0.0	
Occupation	Civil Servants	4	26.6	This suggests that over half of the respondents are self-employed (64.6%), while an additional (29.3%) have one skill or the other. As such the sub-project will boost the local and national economy by creating opportunities for suppliers & vendors
	Other	1	6.7	
	Farmers	7	46.7	
	Self employed	3	20.0	
	Traders	0	0.0	
Income Level (weekly)	Below 500	0.0	0.0	This implies that an improvement in the local economy will further enhance the earning capacity & income of persons in the project area.
	500-900	3	20.0	
	1000-5000	5	33.3	
	6000-10000	3	20.0	
	11,000 +	4	26.7	
	10+	0.0	0.0	

Description	Category	No	Percentage (%)	Remarks
Household Size	7-9	0.0	0.0	71.4% of families interviewed are between 4-6 persons in size. This implies that the sub-project will have significant impact on the persons in these family units.
	4-6	9	69.2	
	1-3	4	30.8	
Educational Level	FSLC/non-formal	5	33.3	Respondents are well educated with over 90% having one form of education and therefore consultation strategy will take this into consideration when planning future engagements.
	Formal educ.	0.0	0.0	
	WASC/SSCE	5	33.3	
	Primary	1	6.7	
	Tertiary	4	26.7	

Source: Field Survey, September 2020

4.8 Source of Energy

The main source of energy in Ekiti State; among many of the residents here was the government provided power generated and distributed through the PHCN (Power Holding Company of Nigeria). However, efficiency of power supply was described as fair and so majority of people in the project area resort to augmenting their energy demand with power from privately owned generating sets, which many connect to their residential buildings or private businesses for uninterrupted energy use.

4.9 Source of Water

The main source of water for drinking and domestic use, among many residents here were from rainwater catchments, nearby streams or rivers, while some sourced their water from private or individual boreholes. Water for other domestic activities was sourced from hand-dug wells and other groundwater sources within the community. There are also those who extract their water from private boreholes and wells and incur costs for the investment, maintenance, spare parts, pumping, and in some cases treating the water. Some of the residents stated that they drink water from the boreholes or wells most the time. Some other residents stated that they prefer to drink sachet/bottled water.

4.10 Communities Environmental & Social Concerns

The Stakeholders Consultation meetings commenced from September 16, 2020 in communities within the project area. Concerns centred mainly on time for commencing the civil works as well as involvement of members of the community as skilled and unskilled labour during the civil works. Concerns were noted and responses provided by consultant. Consultation with the stakeholders will continue throughout the life cycle of the project. Outcome of the consultations is presented in Table 10, while Figure 15 shows pictures from stakeholder meetings held with the different communities.

Table 10: Concerns raised and how they were addressed

Clarifications, Questions and concerns	How they were addressed
General stakeholders Consultations were held with the stakeholders and other community representatives and all expressed appreciation for the project and sought clarification on the following:	
Appeal to World Bank for fair interest charges on the loan being procured by the State Government to implement the project.	Appeal noted. However, participants were informed that the World Bank offers the fairest and most considerate interest charges and that was what informed the State Government's decision to approach the Bank for loan in the first place.
Hopes are very high on the project; people's hopes should not be dashed	The communities were reassured about the commitment of SPMU to deliver the project
Request if the level of the road can be filled up to the drainage level	The project has been designed to enable free flow of flood water during periods of high precipitation events.
Can the community leaders be involved to in the project?	The project will give for communities' leaders to participate in the project by allowing them to form a community's side Committee.
Compensation should be accurately evaluated and implemented with fairness, equity, transparency and accountability	Compensation valuation and implementation shall be carried out in a fair, equitable, transparent and accountable manner. The compensations shall be given directly to right individuals. However, participants were urged to furnish every team with the right information each time such is required
Is it only Erosion problems the project is concern about? Or will it cover other social amenities	This project is designed on Erosion and watershed control.
Is it just dredging that is being planned for the project or complete flood control?	The project has been planned to completely give a permanent solution to erosion and watershed in various community identified.
During the construction of Ogbomo and Arikin bridges will there be alternative routes to enable the conveyance of agricultural products?	The first step before rehabilitation work on the bridge will be to create alternative route that various communities affected can access to bring in their agricultural products into the communities.
Youths	
Suggest if the community youth will be employed by the contractors	The contractors will employ youth both the skilled and unskilled youth based on the opportunities available
Women Groups	
The women were concerned with how their children will be protected when	b. There will be adequate sensitization of households around

the construction commences, and the parents are at work and children are left alone un-supervised around the contractors?	where the construction work will be carried out to ensure all families keep children away from work sites, and also the contractors will undergo induction to prevent inappropriate interactions with the members of the various households in the communities. They were also informed about the grievance process that will be in place for community to make report of complaints related to the work.

Stakeholders/Community Consultations



Ikere & Omisanjana Stakeholder Meetings






Olorunda & Ola Oluwa Stakeholder meetings

Meetings with women groups



Omisanjana, Ikere & Olorunda women



Olorunsogo & Ola Oluwa Women Groups

Meeting with Youths



Figure 14: Stakeholders Engagement

4.11 Perception of people in project area

There was substantial awareness among the respondents on the understanding of the urgency and scope of this NEWMAP intervention. The perception was very positive as feedback showed that many households and businesses were negatively impacted by the flooding that accompanies heavy rainfall events in the project area. As such, respondents request that the project be carried out speedily to ensure the associated concerns were resolved without delay.

4.12 Public Consultations

Stakeholder consultation is a process and would continue through the ESMP study stages to its implementation. Table 11 summarizes the proposed approach for stakeholder engagement. Key stakeholders to the NEWMAP intervention sub-project were identified for consultations and these included stakeholders from the Ekiti Project Management Unit of the Federal Ministry of Environment (FMEnv), Ekiti State Ministry of Environment, Ekiti State Ministry of Works & Infrastructure, Ekiti State Waste Management Agency, village heads, local community leaders and women groups in communities. The vulnerable groups in the project areas were identified and these include:

- Children & Youths
- Elderly men and women
- Physically challenged individuals

Table 11: Stakeholders Engagement Strategy

No.	Activity	Identified Stakeholders	Focus of Consultation/ Engagement	Timelines/ Frequency	Forms of communication	Facilitator
1	Preparation of ESMP	FPMU State Project Coordinating Unit Federal Ministry of Environment State Ministry of Environment Community and Community Based Organizations FMF World Bank	Large scale forum Key stakeholders' interviews Mapping of community interests and concerns Communities need to know what the project is all about.	Throughout the ESMP study period	Focus Group Discussion/workshops Phone calls One on one interview Distribution of pamphlets Public meetings Newspapers/magazines	Ekiti NEWMAP
2	Site preparation prior to excavation, dredging, stabilization & construction work	PMU Contractor Supervising Engineers Consultant FME	Information Disclosure at Federal Ministry of Environment, State Ministry of Environment and Local Government level.	Two weeks prior to construction	Through Radio and Newspapers	Ekiti NEWMAP Federal Ministry of Environment
3	Start of excavation, dredging, stabilization & construction work on channel	PMU Contractors Supervising Engineers Consultant Suppliers Businessmen NGOs/vulnerable groups Communities	Affected Communities Government Officials World Bank	Throughout the construction period	Phone calls Newspapers Radios Pamphlets One on One	Ekiti NEWMAP FMF WORLD BANK
4	End of construction & Decommissioning of	PMU Government Officials Affected Communities World Bank	Government Officials Affected Communities	Decommissioning phase	Phone calls Televisions Radios Newspapers	Government Officials Ekiti NEWMAP

No.	Activity	Identified Stakeholders	Focus of Consultation/ Engagement	Timelines/ Frequency	Forms of communication	Facilitator
	excavation, dredging, stabilization & construction equipment & machinery for channelizatio n				Emails Pamphlets	
5	Commissionin g and handing over of channelized project corridor	Government Officials PMU Beneficiary Communities	Government Officials Benefitting Communities	Prior to operation of the facility	Newspapers Television Radio	Ekiti NEWMAP
6	Operation and maintenance of channelized project corridor	Beneficiary Communities	Beneficiary Communities	During operation and maintenance period	One on one Workshops/FGD Television Radio	Ekiti NEWMAP
		Ekiti NEWMAP	Beneficiary Communities	3 times a week	Visits	Ekiti NEWMAP
		Ekiti NEWMAP Government Officials Other Communities	Beneficiary Communities	Fortnightly	Visits	
			Beneficiary Communities	3 times a week	Visits	
			Beneficiary communities	3 times a week	Visits	
		NGOs/CBOs	Beneficiary Communities	Once a term	Visits	
		World Bank	Beneficiary communities	Once a term	Visits	Ekiti NEWMAP

CHAPTER FIVE: ASSESSMENT OF THE POTENTIAL ADVERSE IMPACTS & ANALYSIS OF ALTERNATIVES

5.1 Impacts Assessment Methodology

To ensure environmental and social performance of the entire sub-project, this impact assessment methodology focuses on the tools if impact identification, impact prediction and the mitigation of potential adverse impacts identified associated with the various phases of the project.

5.2 Impacts Identification

Identified impacts that would be associated with this intervention have been classified to occur in four (4) phases for the lifespan of the works. The phases include:

- Preconstruction phase
- Construction phase
- Operational and Maintenance phase
- Demobilization phase

5.3 Impact Prediction

Even though some of the project activities from the channelization construction work is expected to have environmental and social impacts that are manageable through standards and codes of practice, this sub-project has still been subject to environmental and/or social reviews as the key management tool for identifying opportunities for lowering negative impacts of the project (through an alternative analysis exercise) and/or for the identification of necessary mitigation measures in accordance with the prevailing legal framework and the Bank's safeguard policies.

5.4 Potential Impact of the proposed project activities

The channelization construction and rehabilitation work will have environmental and social impacts, which may be negative or positive. Some of the potential positive and negative impacts are discussed in the subsequent sections.

5.4.1 Potential Positive Environmental Impacts

The potential positive environmental impacts are as shown in Table 12.

Table 12: Potential Positive Environmental Impacts

No.	Impact	Key receptor(s)	Evaluation
1	**Slow the expansion of a targeted set of existing aggressive gullies**	Community members to reduce the loss to property and infrastructure and helping cultivate community ownership	The proposed project when completed will deliver these benefits: *Reduce aggressive erosion forces of gully formation. *Reduction in siltation of rivers due to improved vegetation cover and decrease in slope instability *Minimization of flooding and control of riverbank overflow *Control and reduction of water body sedimentation rates due to erosion *Increase in the life span of roads *Reduced fear perception of loss of property, inhabitation and ancestral origins of the communities

The potential positive social impacts are as shown in Table 13.

Table 13: Potentially Positive Social Impacts

No.	Impact	Key receptor(s)	Evaluation
1.	Improved Quality of life	Community members	*Provide better access to improved quality of life in the communities from reduction in flooding events
2.	Employment generation	Community members	*The proposed construction sub-project activities will create employment opportunities for skilled and unskilled labour during the construction and operational phases. Also, there are indirect employment opportunities such as food vendors, petty traders and suppliers of raw materials for construction. During the operational phase, job opportunities will be created for maintenance workers and suppliers, waste management companies, etc.
3.	Improvement in local and national economy	Neighboring communities, LGA and national economy	*The creation of direct and indirect job opportunities during the construction and operational phases of the project will boost the local and national economy *Increased opportunities for easy inter-state movement and business development.
4.	Stakeholders' engagement	State Government, LGAs	Improvement of public goodwill and satisfaction towards governance in Ekiti State.

No.	Impact	Key receptor(s)	Evaluation
5.	Improvement in management of resources	Neighboring communities, State Government, MDAs	Provision of a lead way to drive the State Government towards ensuring improved infrastructure
6.	Capacity building and strengthening of institutions	State Government, MDAs	Capacity building through: Strengthening of facility rehabilitation works and supervision systems of personnel involved in sub-project activities, including improvement in institutional responsibilities for construction and maintenance. Transfer of skills

5.4.2 Potential Negative Environmental Impacts

Implementation of this sub-project would exert some negative impacts on the social and physical environment within the communities, in which they are implemented. The potentially significant adverse impacts that would result from the project are expected to be site-specific, noncumulative, and relatively easy to mitigate to acceptable levels. These are presented in Table 14.

Table 14: Potential Adverse Environmental & Social Impacts

Description	Impact Source	Impacts
Environmental	Excavation, grading, compaction, filling and other civil works. air quality - Air quality deterioration Dust	Deterioration of local air quality due to the emission of dusts & release of Green House Gas emissions (drivers of global warming) from internal combustion engines of construction plant & equipment
	Increased sedimentation and runoff during the construction activities such as grading, dredging and filling of the roads etc. soil quality	Soil contamination Loss of vegetation, removal of trees and shrubs and habitat destruction
	Increase in noise levels from use of excavation, grading, compaction, filling and other equipment for civil works.	Noise and vibration disturbances from operation of heavy-duty vehicles/reports from communities
	Operation of Workers camp Discharge of effluent from workers in the campsites will impact on the water quality	Water contamination from oils & fuels Change in pH levels

	water quality	Eutrophication Increased cases of disease, illnesses (especially waterborne diseases)
	Construction activities such as grading, dredging, filling, excavation etc Destruction of flora and fauna	Reduction of the richness in the number of available living species. Reduction in the number of native wildlife.
	Construction activities such as grading, dredging, filling, excavation etc Occupational health and safety	Occupational accidents and injuries to workers and risk to community health and safety Exposure to and transmission of COVID-19
	Public Safety	Public safety, road accidents leading to injuries and fatalities
	Occupational Health & Safety a. PPEs b. Emergency Response & First Aids <u>Impact Source:</u> 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
	Waste	Generation of construction waste including spoils, debris and concrete
Social	Siting of workers camp. Land acquisition for camp	Unauthorized movements of construction workers, construction equipment, machinery and heavy-duty vehicles (during and after working hours) Conflict arising from land acquisition
	Labour influx	Threat to community culture, safety and security due to presence of workers increasing incidents of crime and or violence and threats to the safety of community members
	Child Labour	Child labour and school drop out
	GBV	Risk of GBV/SEA and VAC as a result of Labour Influx
	Public Health a. HIV/AIDS and STDs <u>Impact Sources</u>	• Increased outbreaks of HIV/AIDS and other STDs.

	3. Influx of non-local workforce. 4. Low living standards of members of the host community which will increases likelihood of social vices such as prostitution, robbery, etc. b. Water-Borne Diseases (e.g. Cholera, Dysentery, Amoebiasis, Salmonellosis etc.) <u>Impact Source</u> 1. Poor environmental sanitation habits exhibited by members of the contractor's workforce. 2.Overload of existing sanitation facilities. c. Malaria 3.During construction activity through creation of pools of stagnant water. 4.Poor environmental sanitation habits by members of the contractor's workforce. Movement of waste into the watershed	• Increase in cases of opportunistic infections within the work force, and members of the host communities. Increased outbreak of water borne diseases amongst the workforce and the local population. Increased cases of fevers amongst workers and members of the host communities.
	<u>Impact Sources</u> Influx of non-local workforce.	Increase in spread and transmission of COVID-19

5.4.3 Mitigation Measures

Potential adverse impacts and the mitigation measures are presented in Table 15.

Table 15: Mitigation Measures		
Project Activity	**Potential Impact**	**Proposed Mitigation Measures/ Actions**
A. Environmental		
I. Pre-Construction Phase		
Mobilization of materials, excavation, dredging/ construction equipment, machinery, heavy duty vehicles and preparation of workers' camp for construction work at project site	Deterioration of local air quality due to the emission of dusts & gases	Maintain equipment & machinery to manufacturers' specifications by regular servicing to reduce carbon emissions. Use water to wet active areas for dust suppression. Conduct regular visual inspection of dust pollution and ensure appropriate intervention if dust levels are high. Train drivers/ workers on proper operation of vehicles and equipment to include fuel efficiency and anti-idling. Ensure no burning of waste on sites Use of tarpaulins to cover trucks transporting earth materials or spoil on public roads Ensure rehabilitation of disturbed areas once completed Provide and enforce the usage of appropriate PPE
	Complaint from local residents on cases of respiratory problems	Ensure that the air quality levels are constantly monitored
	Use of poor-quality material that can lead to failure of erosion control measures	*Ensure design clearly defines type of material required and properly shows safety features of buildings and other ancillary facilities *Undertake proper integrity test of materials that would be used for construction *Carry out quality, soil tests and material tests for load bearing capacity
Mobilization of dredging & construction equipment, machinery, heavy duty vehicles and violation of workers' camp	Noise and vibration disturbances from operation of heavy-duty vehicles	Select and use vehicles/equipment with lower sound power levels. Install suitable mufflers on engine exhausts and compressor components. Enforce appropriate speed limit to reduce vehicle noise levels. Restrict noise-generating activities strictly to normal working hours (i.e. 9am – 5pm). Respond promptly to noise complaints. Provide and enforce the usage of hearing protection devices (ear plugs/muffs) for workers. Install appropriate safety signage and/or use signallers at strategic locations. Inform local communities in advance of road diversions & major activities likely to affect traffic. Enforce road safety standards, traffic
	Traffic congestion and risk of road traffic	

	Green House gas Emissions (GHGs)	rules including speed limits Schedule large and slow-moving vehicles for off peak period Have in place a traffic Management Plan (TMP) *Maintain equipment & machinery to manufacturers' specifications by regular servicing to reduce carbon emissions. *Train drivers/ workers on proper operation of vehicles and equipment to include fuel efficiency and anti-idling *Ensure no burning of waste or any material on sites.
Use of Excavation, dredging or grading, compaction, filling equipment and other civil works	Land degradation	*Where applicable, the Contractor shall carry out excavation in areas where rainfall runoff cannot trigger or exacerbate erosion forces. *Use only locations approved by the PMU/Engineer, which shall not be near residential settlements. *Ensure that there is provision of adequate storage space for raw and surplus materials, and ample space for traffic circulation to prevent hindrance to loading and unloading operations and ensure no spillage of raw materials such as fuels for running equipment
Use of Excavation, dredging or grading, compaction, filling equipment and other civil works	Changes in pH levels • Turbidity Change in watercolor Smell	Development of proper waste management plans by the Contractor(s) • Roadway runoff will not be placed directly into watercourses but allowed to flow over grassed or pervious pavement to permit the settling out of fine materials • Conduct periodic tests of water quality Divert the flow of surface water around the site to prevent contamination from storm water (by pollutants, soil or any other material from the site) • Develop a site drainage plan to reduce storm water flow and sediment load before storm water is discharged from the site
Site clearing for staging area Mobilisation of Excavation, dredging or grading, compaction, filling Plant & Equipment	Occupational accidents and injuries to workers and risk to community health and safety	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Yoruba languages). - Restriction of unauthorized access to all areas of high-risk activities - Provision of specific personnel training on worksite OHS management

		- Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Any uncovered work pits should have appropriate signage and protection around them - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night - appropriate security measures in place to prevent harassment or kidnapping of workers - Ensure contractors employees are aware of security threats in work location by having in place a Security Management Plan and should refer to it at all times (Annex 12)
Mobilization of personnel, equipment, machinery, heavy duty vehicles for preparation of workers' camp	Exposure to and transmission of COVID-19	*Ensure implementation of the government established and SPMU preparedness & Response protocols on COVID-19 by: *Preventing overcrowding on site by following govt. established regulations on social distancing *Provide wash hand basins for proper and thorough and washing to enter and leave sites *carry out regular temperature checks at the beginning and end of each working day *use of minimum required PPE (face masks, gloves and face shields etc.) *Ensure disinfecting of tools with strong disinfectant (bleach etc.) after work *Provision of an isolation center or room on site
Mobilisation of personnel	Increase demand on existing community health and sanitation infrastructure	Establish worker's camp and provide all basic amenities (water, sanitation etc.). • Prohibit workers from unauthorized access to community infrastructure
Site clearing for staging area & Workers camp Mobilisation of Excavation, dredging or grading,	Loss of vegetation, removal of trees and shrubs and habitat destruction	• Restrict removal of vegetation and trees to the area of need only. • Protect all vegetation not required to be removed against damage; • Undertake quick re vegetation of exposed soils with indigenous plant species once construction is completed.

compaction, filling Plant & Equipment		• Ensure construction of effective drainage system and use erosion protection structures such as riprap, gabions etc.
Site clearing for staging area Mobilisation of Excavation, dredging or grading, compaction, filling Plant & Equipment	Landscape disruption and visual intrusion	• Ensure staging area or burrow pit site considered is in a place jointly agreed between PMU and community • Restrict removal of vegetation and trees to the area of need only. • Protect all vegetation not required to be removed against damage. • Wherever possible, avoid the removal of existing mature trees, which form important visual focal points. • Ensure rehabilitation of disturbed areas once completed to restore the visual and landscape integrity of the area. • Remove all temporary structures, waste, equipment and vehicles from site immediately after construction • Examine land take issues and resolve under the RAP
B. Social	•	
Siting of workers camp Land acquisition for camp	• Unauthorized movements of construction workers, construction equipment, machinery and heavy-duty vehicles (during and after working hours) could result in trespassing, • Conflict arising from land acquisition • Damage to local land and property and create amongst local residents a sense of their privacy being invaded. • Residents may feel vulnerable and there may be increasing incidents of crime and or violence and threats to the safety of community members. • Disparity of pay, increase in disposable income and potential availability of illegal substances, illicit or culturally	*Pay full compensation for any land acquired if land is privately owned, leasehold or other legally binding rental payment *Explore all available options while selecting worker's camp with the objective of avoiding or minimizing negative impacts on communities and maintaining constructive relationships between local communities and worker's camp *Enforce a 'closed' camp policy unless otherwise agreed and approved. *Workers shall comply with the agreed camp closure hours. *Contractor shall implement suitable measures to maintain the closed camp policy, which may include perimeter security fences, security controls and guardhouses, monitoring transfer of goods into and out of camps for contraband and stolen goods. *Contractor shall have a Project Security Management Plan and should refer to it always. *Contractor, as appropriate, shall provide adequate recreation facilities for workers to reduce incentive for leaving camps during leisure time. *Contractor shall limit workers interaction with the community when outside the camp e.g., by organizing transport directly to and from the worksite.

	inappropriate lifestyle choices, leading to increased tension between local communities and the workers at camps.	*Proper sensitization of community households on conduct around contractors If community members or local businesses express grievances in relation to camp related activities/operations, the Project shall respond to the grievance in accordance with the grievance procedure outlined in the GRM and the Community Grievance Procedure contained in the Stakeholder Engagement Plan (SEP).
Preparation of Staging areas	Increased security risks due to storage of materials and equipment on site	• Deploy competent security personnel to secure project site. • Provide adequate training of security personnel. • Disclose site security arrangements to the Police and host communities.
Labour influx from employment on project	Threat to community culture, safety and security due to presence of workers	*Ensure community have priority opportunity to employment for skilled and semi-skilled work Promote equal opportunities for employment for all (both male & female) *Develop an induction program including a code of conduct for all workers. The code of conduct will address the following aspect: Respect for local residents; No hunting or unauthorized taking of products or livestock; Zero tolerance of illegal activities such as child sexual exploitation and underage sex, prostitution, harassment of women, gender based violence, purchase or use of illegal drugs, fighting; Disciplinary measures and sanctions (e.g. dismissal) for infringement of the code of conduct and/or company rules; Commitment / policy to cooperate with law enforcement agencies investigating perpetrators of crimes including gender-based violence. Provide cultural sensitization training to improve awareness of workers to local cultures, traditions and lifestyles. Prohibit child and forced labour. *Ensure contractor staff are informed of legal consequences of child labour to discourage practice • Ensure non-compliance cases have severe consequences • Employment process to include procedures for engagement where ID showing verified date of birth are mandatory Implement community-based Grievance Redress Mechanism • Limit the number of migrant workers by engaging local workers.

		• Engage competent security personnel.
Use of Workers Camp	Generation of sanitary waste from worker's camp	• Ensure provision of sanitary facilities on site for workers and enforce usage. • Ensure usage of Ekiti approved waste vendor for waste evacuation & disposal.
Use of haulage trucks for sand & materials supply	Public safety, road accidents leading to injuries and fatalities	• Train drivers on defensive driving • Conveyance of materials to site shall be by appropriate transportation means to prevent damage or accidents • Provide road signs and flag persons to warn of dangerous conditions of conveying materials such as the water trucks
Excavation, grading, compaction, filling and other civil works for channelization Excavation and compaction activities through construction works will alter the soil properties including loss of valuable topsoil's Use of generators for power supply	Public safety, road accidents leading to injuries and fatalities affecting host community population, which could lead to conflict/ unrest and stoppage of activities.	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP • Ensure QA/QC control is established on inspection of materials, which are to be of best quality to prevent defective outcomes on construction sites • Ensure workers are aware of inherent risks in use of pavement materials such as bitumen • Use of appropriate PPE to ensure risks to accidents & incidents are minimized or eliminated • Use tarpaulins to cover sand and other loose material when transported by trucks • Ensure excavation pits are used for extraction of material only for project purposes and not commercial • Ensure generators are operated by dedicated trained personnel • Carry out regular servicing of generator to reduce release of harmful emissions
Movement of heavy equipment causes vibrations that can damage structures	Aggravated soil erosion, rain fall runoff and road breakages	• Stabilize the sections of the site that are prone to rainfall run off, erosion and breakages prior to construction

Channelization and construction	Soil impacts and sediment transport Presence of undercutting in roads Risk of exacerbating erosion concerns Risk of drowning	• Vegetation (grasses) shall be cleared only when contractor is fully mobilised for construction. • Vegetation clearance (where necessary) and excavations shall be limited to the demarcated construction site. • Backfill with excavated soil material where appropriate. • Ensure that heaped sand delivered for concrete mixing/construction works is covered with tarpaulin to prevent wind and water transport of soil particles. • Ensure contractor personnel have swimming certificates • Cordon off areas close to water to prevent exposure to risk
Groundwork & Increased dust, sedimentation and runoff during construction activities such as grading, dredging and filling of roads, etc.	Air quality deterioration Damage to underground cables or water pipes	• Deliver equipment necessary for construction and other materials when community is less likely to be impacted by dust from moving machinery, such as in the evenings or on weekends. • Impose a speed limit for all vehicles and construction equipment shall be less than 30km/h within the transmission pipelines premises and less than 50km/h within communities. • Haulage trucks carrying sand shall be covered with tarpaulin. • Develop proper excavation procedures for workplace • Use of excavation, compaction and filling machines shall be complemented with regular service of all construction equipment and machinery. • Fit all heavy equipment and machinery with air pollution control devices, which are operating correctly. • Liaise with MTN/PHCN/Ministry of Power/Water corporation to ensure no damage to underground cables during excavation work
Transportation of materials and equipment	Vibration and noise nuisance	• Hydraulic concrete mixing machines shall be used as much as possible and regularly service all construction equipment and machinery. • Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers • Maintain maximum sound levels not exceeding 80 decibels (dba) when

		measured at a distance of 10m or more from vehicles, plants and machinery. • Train the operators on proper use and maintenance of tools, proper positioning of machinery on site • Maintain noise levels below 80 dB
All construction & rehabilitation phase activities	Visual intrusion Dust Excavation and compaction activities through construction works will alter the soil properties including loss of valuable top-soils	• Ensure good housekeeping at the construction site. • Ensure an acceptable post-construction site as per provisions in the contract. • Remove all construction equipment from the site after completion of work. • Consult with State SPMU on the designated areas for stockpiling of soil, gravel, and other construction materials; • Keep exposed soil and stockpiles damp by spraying with water when necessary during dry weather; • Use tarpaulins to cover sand and other loose material when transported by trucks; and • Fit all heavy equipment and machinery with air pollution control devices, which are operating correctly.
Movement of plant & equipment to and from staging area to site	Soil contamination & Contamination of water bodies	• Develop and implement a site-specific Waste Management Plan (WMP) • Prepare and implement an Emergency Response Plan to respond to incident of spillage. • Ensure regular test of water quality • Ensure fuel storage tanks are installed in a bonded area and checked daily. • Ensure regular maintenance of vehicles to avoid leaks of oil. Prevent unregulated dumping of fuel waste • Ensure local communities are sensitized on need to avoid tampering with waste bins
Use of plant and equipment with internal combustion engines	Release of Green House Gas emissions (drivers of global warming)	• Maintain equipment & machinery to manufacturers' specifications by regular servicing to reduce carbon emissions. • Ensure that the mitigation measures in B3 are carried out. • Train drivers/ workers on proper operation of vehicles and equipment to include fuel efficiency and anti-idling. • Ensure no burning of waste or any

		material on sites.
Use of workers camp	Sanitation issues and public health impacts	• Provide bins on site for temporary storage of domestic waste such as lubricant containers, drinking water sachets and carrier bags/packaging materials. • Dispose all construction and domestic waste at the approved dumpsites and in the approved manner. • Ensure all trenches or excavations made during the construction works do not collect stagnant water, which could breed mosquitoes. • Ensure access to toilets for construction crew or provide temporary toilets (mobile toilets) for use where there are no existing ones. • Ensure mobile toilets/sanitary provisions are provided to reflect gender types. • Ensure regular toolbox meetings are held among contractor workers to offer awareness on transmission of contagious or communicable diseases.
Operation of Construction Machinery & Equipment Movement of materials Use of Compaction, filling & excavation equipment	Occupational accidents and injuries to workers and risk to community health and safety	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Ibo languages). - Use only trained personnel for welding activities - Restriction of unauthorized access to all areas of high-risk activities - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Any uncovered work pits should have appropriate signage and protection around them - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and

		signage integrated in all worksites for safety at night • appropriate security measures in place to prevent harassment or kidnapping of workers •
Construction of culverts, drainage basins Construction	Occupational accidents and injuries to workers and risk to community health and safety Risk of erosion and flooding of watershed	• Ensure location is properly cordoned off before construction activities are carried out • Carry out proper levelling and setting out to ensure appropriate road gradient is achieved to prevent ponding/flooding issues • Create awareness in neighbouring communities to ensure road users are aware of road intervention work • Use of biological control measures (tree planting) with tree roots that will bind soil and reduce erosion • As much as possible, ensure community minimises movement around the site and should be informed before this type of work is carried out • Use appropriate signage along road to show work in progress • Use of flagmen to divert traffic where required • Provide side-drains to promote effective run off channelization • Crosscheck design to ensure road gradient is adequate enough to avoid backflow runoff into residences
Channelization works and construction of hydraulic structures, box and pipe culverts.	Disruption in current flow of and rivers causing flood	• Ensure that design appropriately identifies and captures engineering solutions • Construct temporary diversions or re-channel streams and rivers temporarily • Sensitise communities along road of work
Channelization and Construction work activities	Generation of construction waste including spoils, debris and concrete	• Develop and implement a site-specific Waste Management Plan (WMP) to include the following: • Ensure segregation of waste to facilitate reuse and recycling opportunities. • Ensure hazardous wastes are stored in labeled closed containers with secondary containment with storage containers. • Ensure no burning of waste on site. • Ensure usage of Ekiti WAMA approved waste vendor for waste evacuation, processing & disposal.

Channelization of flood waters – Impact on structures	Possible destruction of roadside market shops, schools, petty trading shops and houses existing on the project roads or on the ROW Grievances Disruptions to school calendar	Early notification and sensitization of PAPs Limit demolition to temporary structures and utility lines on the ROW Implement RAP for compensation of affected PAPs Implement GRM Regular community consultations to ensure updates on school calendar, which would be aligned with work schedule to prevent closures or disruptions
Channelization & construction activities	Increase in spread of Communicable diseases, STDs such as HIV/AIDS and other STIs	▪ Ensure access into construction site is restricted ▪ Free testing kits ▪ Provision of condoms ▪ Vaccinating workers against common and locally prevalent diseases; ▪ Monitoring of local population health data, in particular for transmissible diseases. ▪ Implementation of HIV/AIDS education program; • Information campaigns on STDs among the workers and local community in collaboration WITH relevant HIV/AIDS management organizations in Ekiti State.
Channelization rehabilitation, excavation & construction activities	Risk of GBV/SEA and VAC as a result of Labour Influx	• Commitment / policy to cooperate with law enforcement agencies investigating perpetrators of gender-based violence; • Provision of opportunities for workers to regularly return to their families; • Provision of opportunities for workers to take advantage of entertainment opportunities away from rural host communities. • Capacity building for local law enforcement and the Ekiti State ministry of Women Affairs and child development to act on GBV complaints; • Information and awareness raising campaigns for community members, specifically women and girls; • Provision of information to the project corridor about the contractor's

		policies and Worker Code of Conduct (where applicable). • Enforcement of laws on sexual violence and human trafficking. • Include in the bid document and also in the contract the need for contractor to draft and sign the following: • Company's code of conduct for prevention of GBV and VAC; • Manager's code of conduct for prevention of GBV and VAC • Individual's code of conduct for prevention of GBV and VAC • Community and workers' training and community sensitization on GBV/SEA/VAC; • Developing a specific internal "Reporting and Response Protocol and GRM" to guide relevant stakeholders in case of GBV/SEA/VAC incidents,
Operation of workers camp prior to demobilisation of facilities	Generation of sanitary waste from worker's camp	• Ensure provision of sanitary facilities on site for workers and enforce usage. • Ensure usage of EKITI WAMA approved waste vendor for waste evacuation & disposal.
Commissioning & use of river crossings, hydraulic structures or box culverts	Generation of construction waste and debris	• Develop and implement a site-specific Waste Management Plan (WMP) to include the following: • Ensure segregation of waste to facilitate reuse and recycling opportunities. • Ensure hazardous wastes are stored in labeled closed containers with secondary containment • Ensure no burning of waste on site. • Ensure usage of Ekiti WAMA approved waste vendor for waste evacuation, processing & disposal. • Site visit to site at the completion of project to ensure no waste is left behind.
Excavation pits created in the process of channelization and construction works	Public health from formation of stagnant pools for mosquito larvae breeding, promoting breeding of insects, reptiles etc.	*Ensure current system can handle improved drainage (prevent runoff erosion/ reservoir overflow) to prevent water stagnation. *Coordinate construction phases with dry season *Ensure current system can handle improved drainage (prevent runoff erosion/ reservoir overflow) *Develop and implement plan to deal with impacts

Interactions between Contractors and community	Child labor and school drop out	• Ensuring that children and minors are not employed directly or indirectly on the project by having in place an auditable & verifiable employment process mandating provision of identification to demonstrate date of birth (DoB) • Enforcement of legislation on child labor • Ensure periodic meetings with vulnerable groups to ensure not marginalized
Demobilisation of facilities, excavation, grading, compaction, filling plant & equipment	Risks of occupational accidents and injuries to workers.	• Develop & implement a project specific Occupational Health and Safety Plan (OHSP) to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Yoruba languages). - Restriction of unauthorized access to all areas of high-risk activities. - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night • appropriate security measures in place to prevent harassment or kidnapping of workers
Excavation pit decommissioning	Public health	*Level out hollow area of pits to reduce ponding of water & stagnation *Revegetate area around the pit to re-introduce natural habitat formation *Planting of trees to replace felled vegetation *Maintain drainage channels to reduce water collection in hollow *Use of brickets in stagnant pond formation areas to eliminate insect breeding *Carry out burrow pit reclamation according to remediation plan (annex 16)

All decommissioning activities	Waste management	* Re-vegetate areas around workers camp & Maintenance equipment sites to restore the landscape. * Ensure that any remaining waste streams created during Maintenance activities and waste generated during decommissioning activities are collected from the project sites and properly disposed before handing over the project.

5.5 Discussion of Alternatives

The PDO of the NEWMAP is to reduce vulnerability to soil erosion in targeted sub-watersheds. Consequently, this section contemplates the different alternatives and options that were considered for the proposed project in line with the overall objectives of the interventions in Ekiti State. These alternatives include taking no action, using alternative engineering solutions and alternative alignment construction as other methods of achieving the objectives of the sub-project.

5.5.1 Analysis of Alternatives

The study alternatives considered here have properly examined the need for the project and the option that best suits the project purpose. Potential alternatives include:

(1) taking no action;
(2) using alternative engineering solutions;
(3) alternative alignments of river course;

In comprehending the development options and scenarios, the following main factors were also considered:

- availability of raw materials,
- process facilities,
- cost effectiveness and more effective utilization of resources

5.5.2 No-Action Project Alternative

A no-project or no-development scenario is one in which this intervention project is not executed. With the "no-project" option, existing levels of services; for instance, the lingering flooding conditions and the increasing erosion challenges in the project area, will continue unabated. This will further contribute to inadvertently deepening the hardship of the residents that have their homes around these locations. This would ultimately have an undesirable impact on the local and national economy, as the hardship will deepen poverty and further create disaster driven displacement concerns. This scenario is therefore unsuitable, as it would inhibit meeting the NEWMAP development objectives and the nation's growing transport needs.

5.5.3 Delayed-Action and Right-Away Action Alternatives

These options are:

5.5.3.1Delayed Action

This option implies that this planned channelization sub-project will be delayed until a much later date. Adopting this option would suggest that there is a strong likelihood that population within the project area will continue to be denied relief from the current flooding and erosion concerns, and their anxieties would be further exacerbated during the wet season when the high water volume in the river basins would make life more difficult. Unintentionally, this will continue to challenge socio-economic development, and the delay may also result in unnecessary increase in the costs to implement this intervention project in the future, especially considering the impact of the inflationary forces on prices of materials in and around Ekiti State. For these reasons, a "delayed Project Option" is unsuitable.

5.2.3.2 Right-away-Action

This option implies that the project will go ahead as planned. In general, all the interactions with the communities to determine the perceived impact of this intervention were positive. In fact, these stakeholders wanted the project to commence in earnest. The results of the public meetings and the completed questionnaires supported the project and considered it a necessity to promote economic development and reduce displacement induced poverty in the area.

The "immediate project development" option will ensure that the construction and rehabilitation of the channels with the associated hydraulic structures will be carried out, by mobilising all materials, plant and equipment necessary for execution of intervention work. This would attract multiple benefits of improved harvest from improved farm yields and enhanced quality of life from elimination in flooding and erosion events. This would derive additional benefits such as improved local economy in the project affected communities.

So, the rural communities in these areas will begin to enjoy the environmental, social, economic and health benefits of this intervention project as highlighted in this ESMP report. This option is therefore considered the most viable and is therefore most suitable for implementation.

5.5.4 Use of Civil Works, Bioengineering & Technological Options

These options are:

5.5.4.1Civil & Engineering Solutions

Careful assessment of the project scope indicates that alternative engineering solutions such as stream renovation are appropriate

alternatives to channelization. This is considering that streams are frequently morphologically unstable and biologically unproductive, as such this alternative can avoid many of the detrimental features of channelization such as bank erosion and channel silting. However, this alternative approach is more expensive, takes longer and is relatively untested in Nigeria to determine effectiveness. Consequently, this approach is not suitable as the uncertainties are high, considering the urgency of the associated flooding and erosion problems currently experienced in Ekiti.

5.5.4.2 Bioengineering & Technology Options

Alternative alignment options can be achieved from modification or changes to the engineering design. However, this could be more expensive as this implication would attract more costs in terms of additional raw materials required for the work. Also, it would be more disruptive as a result of the likelihood of physical and economic displacement, prolonged road closures and traffic diversions, which can lead to loss of revenues from this diverted traffic and increased costs from additional construction materials. There is also a possibility of very high costs for property acquisitions from land take and compensation claims, lost employment and reduced access. This alternative is therefore not suitable as the likelihood of additional cost implications is high.

CHAPTER SIX: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS/MITIGATION MEASURES

6.0 Introduction

The project is envisaged to be highly beneficial to the participating communities and the State at large. The scale of the subproject as a category B project is such that severe negative impacts are not anticipated and as such the negative environmental and social impacts identified in section 5.4.2 will be localized in spatial extent and short in duration.

6.1 Environmental & Social Management Plan

This plan has been designed to reduce or minimize negative impacts through compliance with the implementation of the appropriate mitigation measures contained in Table 16.

Table 16: Environmental and Social Management and Monitoring Plan

No	Project Activity	Potential Impact	Proposed Mitigation Measures/ Actions	Responsibility for mitigation	Cost (NGN)	Parameters to be Measured	Method of Measurement	Performance Indicator	Frequency & Location of Monitoring	Responsibility for Monitoring	Cost of Monitoring (NGN)
I. Pre-Construction Phase											
A. Environmental											
1a	Mobilization of materials, excavation, dredging/ construction equipment, machinery, heavy duty vehicles and preparation of workers' camp for construction work at project site	Deterioration of local air quality due to the emission of dusts & gases	Maintain equipment & machinery to manufacturers' specifications by regular servicing to reduce carbon emissions. Use water to wet active areas for dust suppression. Conduct regular visual inspection of dust pollution and ensure appropriate intervention if dust levels are high. Train drivers/ workers on proper operation of vehicles and equipment to include fuel efficiency and anti-idling. Ensure no burning of waste on sites Use of tarpaulins to cover trucks transporting earth materials or spoil on public roads Ensure rehabilitation of	Contractor	150,000	Air quality parameters (CO, NO_2, SO_2, CO_2, $SPM_)$ Maintenance records Driver's training records Usage of appropriate PPE	*In-situ* measurement. Visual observation of records & interviews	FMEnv permissible limit	Weekly in the surrounding communities	Environmental & Project Engineering officers, Ekiti State Ministry of Environment (EKSME)	100,000

		Complaint from local residents on cases of respiratory problems	disturbed areas once completed Provide and enforce the usage of appropriate PPE Ensure that the air quality levels are constantly monitored								
1b		Use of poor-quality material that can lead to failure of erosion control measures	*Ensure design clearly defines type of material required and properly shows safety features of buildings and other ancillary facilities *Undertake proper integrity test of materials that would be used for construction *Carry out quality, soil tests and material tests for load bearing capacity	Contractor		Inclusion in design	Evidence in design Integrity & Quality Control tests	Zero safety Incidents	Before procurement/supply	Environmental Officer and Project Engineer	
2.a	Mobilization of dredging & construction equipment, machinery, heavy duty vehicles and violation of workers' camp	Noise and vibration disturbances from operation of heavy-duty vehicles Traffic congestion and risk of road traffic	Select and use vehicles/equipment with lower sound power levels. Install suitable mufflers on engine exhausts and compressor components. Enforce appropriate speed limit to reduce vehicle noise levels. Restrict noise-generating activities strictly to normal working hours (i.e. 9am – 5pm). Respond promptly to noise complaints.	Contractor	125,000	Noise level Usage of appropriate PPE	*In situ* measurement	Noise level at sensitive receptors not to exceed FMEnv recommended level (90 dBA) for an 8 hour period	Weekly at Construction site and nearby communities	Environmental Officers Ekiti State Ministry of Environment	50,000

	Use of Excavation, dredging or grading, compaction, filling equipment and other civil works	Green House gas Emissions (GHGs)	Provide and enforce the usage of hearing protection devices (ear plugs/muffs) for workers. Install appropriate safety signage and/or use signallers at strategic locations. Inform local communities in advance of road diversions & major activities likely to affect traffic. Enforce road safety standards, traffic rules including speed limits Schedule large and slow-moving vehicles for off peak period Have in place a traffic Management Plan (TMP) *Maintain equipment & machinery to manufacturers' specifications by regular servicing to reduce carbon emissions. *Train drivers/ workers on proper operation of vehicles and equipment to include fuel efficiency and anti-idling *Ensure no burning of waste or any material on sites.							(EKSME)	
2b.		Land degradation	*Where applicable, the Contractor shall carry out excavation in areas where rainfall runoff cannot trigger or exacerbate erosion forces. *Use only locations approved by the PMU/Engineer, which	Contractor	No additional costs	Visual assessment	HSE walkabout		Weekly at Construction site and nearby communi	Environmental & Social Safe	

	Use of Excavation, dredging or grading, compaction, filling equipment and		shall not be near residential settlements. *Ensure that there is provision of adequate storage space for raw and surplus materials, and ample space for traffic circulation to prevent hindrance to loading and unloading operations and ensure no spillage of raw materials such as fuels for running equipment						ties	guard Officers, Ekiti State Ministry of Environment (Ek-SME)	
2c.	other civil works	Changes in pH levels • Turbidity Change in watercolor Smell	Development of proper waste management plans by the Contractor(s) • Roadway runoff will not be placed directly into watercourses but allowed to flow over grassed or pervious pavement to permit the settling out of fine materials • Conduct periodic tests of water quality Divert the flow of surface water around the site to prevent contamination from storm water (by pollutants, soil or any other material from the site) • Develop a site drainage plan to reduce storm water flow and sediment load before storm water is discharged from the site	Contractor	200,000	Waste Mgt Plan Site drainage plan	Periodic test of water quality	FMEnv permissible limit Of PH level and turbidity			

3a.	Site clearing for staging area Mobilisation of Excavation, dredging or grading, compaction, filling Plant & Equipment	Occupational accidents and injuries to workers and risk to community health and safety	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Yoruba languages). - Restriction of unauthorized access to all areas of high-risk activities - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Any uncovered work pits should have appropriate signage and protection around them - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day	Contractor	325,000	Clearly defined boundaries of protected areas Evidence of re-vegetation Evidence of Erosion control measures drainage	Visual observation; and Biodiversity survey	Available number and diversity of plant species within baseline conditions Implement Traffic management plan	Weekly at construction area	Environmental & Social Safeguard Officers Ekiti State Ministry of Environment (Ek-SME)	50,000

			before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night - appropriate security measures in place to prevent harassment or kidnapping of workers - Ensure contractors employees are aware of security threats in work location by having in place a Security Management Plan and should refer to it at all times (Annex 12)								
3b.	Mobilization of personnel, equipment, machinery, heavy duty vehicles for preparation of workers' camp	Exposure to and transmission of COVID-19	*Ensure implementation of the government established and SPMU preparedness & Response protocols on COVID-19 (Annex 16) by: *Preventing overcrowding on site by following govt. established regulations on social distancing *Provide wash hand basins for proper and thorough and washing to enter and leave sites *carry out regular temperature checks at the	Contractor	250,000	Evidence of equipment for temperature checks Evidence of	Records of temperature checks Observed compliance with PPE requirements Observed compliance	Implementation of COVID-19 preparedness and response plans	Daily at construction area	Environmental & Social Safeguard Officers	No additional cost

			beginning and end of each working day *use of minimum required PPE (face masks, gloves and face shields etc.) *Ensure disinfecting of tools with strong disinfectant (bleach etc.) after work *Provision of an isolation center or room on site			wash hand basins on site	with hand washing protocols Observed preparation of dedicated isolation center			Ekiti State COVID-19 task force Ekiti State Ministry of Health (EkSMH)	
4.	Mobilisation of personnel	Increase demand on existing community health and sanitation infrastructure	Establish worker's camp and provide all basic amenities (water, sanitation etc.). • Prohibit workers from unauthorized access to community infrastructure	Contractor	150,000	Availability of amenities in workers' camp	Visual inspection	Public perception	Monthly at project site and surrounding communities	Environmental Safeguards Officer Ekiti State NEWMAP EkitiLGA	80,000
5.	Site clearing for staging area & Workers camp	Loss of vegetation, removal of	• Restrict removal of vegetation and trees to the area of need only.	Contractor	175,000	Clearly defined boundar	Visual observation; and	Available number and	Weekly at construct	Environmental	90,000

	Mobilisation of Excavation, dredging or grading, compaction, filling Plant & Equipment	trees and shrubs and habitat destruction	• Protect all vegetation not required to be removed against damage; • Undertake quick re vegetation of exposed soils with indigenous plant species once construction is completed. • Ensure construction of effective drainage system and use erosion protection structures such as riprap, gabions etc.			ies of protected areas Evidence of re-vegetation Evidence of Erosion control measures drainage	Biodiversity survey	diversity of plant species within baseline conditions	ion area	Safe guards Officer Ekiti State NEW MAP	
6.	Site clearing for staging area Mobilisation of Excavation, dredging or grading, compaction, filling Plant & Equipment	Landscape disruption and visual intrusion	• Ensure staging area or burrow pit site considered is in a place jointly agreed between PMU and community • Restrict removal of vegetation and trees to the area of need only. • Protect all vegetation not required to be removed against damage. • Wherever possible, avoid the removal of existing mature trees, which form important visual focal points. • Ensure rehabilitation of disturbed areas once completed to restore the	Contractor	125,000	Clearly defined boundaries of protected areas Evidence of re-vegetation	Visual observation; and Biodiversity survey	Available number and diversity of plant species within baseline conditions Site restoration and zero no of materials & equipme	Monthly at construction area	Environmental Safe guards Officer Ekiti State NEW MAP	

			visual and landscape integrity of the area. • Remove all temporary structures, waste, equipment and vehicles from site immediately after construction • Examine land take issues and resolve under the RAP					nt on site after construction			
B. Social											
7.	Siting of workers camp Land acquisition for camp	• Unauthorized movements of construction workers, construction equipment, machinery and heavy-duty vehicles (during and after working hours) could result in trespassing, • Conflict arising	*Pay full compensation for any land acquired if land is privately owned, leasehold or other legally binding rental payment *Explore all available options while selecting worker's camp with the objective of avoiding or minimizing negative impacts on communities and maintaining constructive relationships between local communities and worker's camp *Enforce a 'closed' camp policy unless otherwise agreed and approved. *Workers shall comply with the agreed camp closure hours. *Contractor shall implement suitable measures to maintain the closed camp policy, which may include perimeter security fences, security controls and guardhouses,	Contractor	200,000	No of grievances/ Disputes reported	Implementation of RAP	Record of grievances resolved	Weekly site activities	Social Safeguard officers of PMU Grievance Redress Committee	100,000

		from land acquisition • Damage to local land and property and create amongst local residents a sense of their privacy being invaded. • Residents may feel vulnerable and there may be increasing incidents of crime and or violence and threats to the safety of community	monitoring transfer of goods into and out of camps for contraband and stolen goods. *Contractor shall have a Project Security Management Plan and should refer to it always. *Contractor, as appropriate, shall provide adequate recreation facilities for workers to reduce incentive for leaving camps during leisure time. *Contractor shall limit workers interaction with the community when outside the camp e.g., by organizing transport directly to and from the worksite. *Proper sensitization of community households on conduct around contractors If community members or local businesses express grievances in relation to camp related activities/operations, the Project shall respond to the grievance in accordance with the grievance procedure outlined in the GRM and the Community Grievance Procedure contained in the Stakeholder Engagement Plan (SEP).								

		members. • Disparity of pay, increase in disposable income and potential availability of illegal substances, illicit or culturally inappropriate lifestyle choices, leading to increased tension between local communities and the workers at camps.									
8.	Preparation of Staging areas	Increased security risks due to storage of	• Deploy competent security personnel to secure project site. • Provide adequate training	Contractor	225,000	No of security personnel	Records and Interviews	Zero security incidents	Monthly at Construction site	Environmental &	50,000

		materials and equipment on site	of security personnel. • Disclose site security arrangements to the Police and host communities.			engaged			and surrounding communities	Social Safeguard officers of PMU Local Vigilante Police	
9.	Labour influx from employment on project	Threat to community culture, safety and security due to presence of workers	*Ensure community have priority opportunity to employment for skilled and semi-skilled work Promote equal opportunities for employment for all (both male & female) *Develop an induction program including a code of conduct for all workers. The code of conduct will address the following aspect: Respect for local residents; No hunting or unauthorized taking of products or livestock; Zero tolerance of illegal activities such as child sexual exploitation and underage sex, prostitution, harassment of women, gender based violence, purchase or use of	Contractor	225,000	Workers manual, employment codes etc. Level of awareness of local culture by migrant workers. Grievance Redress System Ratio of migrant	Visual observation and interviews	Community perception and level of satisfaction.	Monthly at Construction site and surrounding communities	Social Safeguards Officer – PMU Focal NGO Ekiti LGA Police	75,000

			illegal drugs, fighting; Disciplinary measures and sanctions (e.g. dismissal) for infringement of the code of conduct and/or company rules; Commitment / policy to cooperate with law enforcement agencies investigating perpetrators of crimes including gender-based violence. Provide cultural sensitization training to improve awareness of workers to local cultures, traditions and lifestyles. Prohibit child and forced labour. *Ensure contractor staff are informed of legal consequences of child labour to discourage practice • Ensure non-compliance cases have severe consequences • Employment process to include procedures for engagement where ID showing verified date of birth are mandatory Implement community-based Grievance Redress Mechanism • Limit the number of migrant workers by engaging local workers. • Engage competent security personnel.			to local workers Presence of security personnel					

II. Construction Phase											
A. Environmental Issues											
10.	Use of Workers Camp	Generation of sanitary waste from worker's camp	• Ensure provision of sanitary facilities on site for workers and enforce usage. • Ensure usage of Ekiti approved waste vendor for waste evacuation & disposal.	Contractor	300,000	Presence of functional sanitary facilities on site Waste vendor licenses and waste evacuation documentation	Visual Observation Interview	National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations 1991.	Weekly at Project Site	Environmental Officers EKITIYWMA	75,000
11.	Use of haulage trucks for sand & materials supply	Public safety, road accidents leading to injuries and fatalities	• Train drivers on defensive driving • Conveyance of materials to site shall be by appropriate transportation means to prevent damage or accidents • Provide road signs and flag persons to warn of dangerous conditions of conveying materials such as the water trucks	Contractor PMU Safeguards Team	No additional cost	Availability of up to date drainage maps of metropolis/ project area	Visual Observation	Complaints on disruptions	Weekly at project site	Environmental & Officers Drainage dept. of Ekiti Ministry of Environment	No additional cost

12.	Excavation, grading, compaction, filling and other civil works for channelization Excavation and compaction activities through construction works will alter the soil properties including loss of valuable topsoil's Use of generators for power supply	Public safety, road accidents leading to injuries and fatalities affecting host community population, which could lead to conflict/ unrest and stoppage of activities.	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP • Ensure QA/QC control is established on inspection of materials, which are to be of best quality to prevent defective outcomes on construction sites • Ensure workers are aware of inherent risks in use of pavement materials such as bitumen • Use of appropriate PPE to ensure risks to accidents & incidents are minimized or eliminated • Use tarpaulins to cover sand and other loose material when transported by trucks • Ensure excavation pits are used for extraction of material only for project purposes and not commercial • Ensure generators are operated by dedicated trained personnel • Carry out regular servicing of generator to reduce release of harmful emissions	Engineering Consultant/ Ministry of Works & Transport Environmental Safeguards Specialist	250,000	Availability of an Occupational Health and Safety Plan (OHSP). Availability of QA/QC plan for the works	Procurement planning procedures		Daily at project site	Environmental & Social Safeguard Officers	40,000

13.	Movement of heavy equipment causes vibrations that can damage structures	Aggravated soil erosion, rain fall runoff and road breakages	• Stabilize the sections of the site that are prone to rainfall run off, erosion and breakages prior to construction	Contractors	175,000	Compliance to engineering designs for drains	Visual observation Meeting minutes, and agreements	Reduced vulnerability to erosion and road breakages Compliance to provisions of minutes and agreements	Project roads	Twice Monthly	
14.	Channelization and construction	Soil impacts and sediment transport Presence of undercutting in roads Risk of exacerbating erosion concerns	• Vegetation (grasses) shall be cleared only when contractor is fully mobilised for construction. • Vegetation clearance (where necessary) and excavations shall be limited to the demarcated construction site. • Backfill with excavated soil material where appropriate. • Ensure that heaped sand delivered for concrete mixing/construction works is covered with tarpaulin to prevent wind and water transport of soil particles. • Ensure contractor personnel have swimming certificates	Contractor/ Engineering Consultant	No additional cost	Developed site Reclamation Plan Spoil management	Visual observation	Materials sourced from licenced quarries	Quarterly at material borrow sites and Project site	Environmental & Social Safeguard Officers Ekiti State Ministry of Environment	

		Risk of drowning	• Cordon off areas close to water to prevent exposure to risk							(EKSME)	
15a.	Groundwork & Increased dust, sedimentation and runoff during construction activities such as grading, dredging and filling of roads, etc.	Air quality deterioration Damage to underground cables or water pipes	• Deliver equipment necessary for construction and other materials when community is less likely to be impacted by dust from moving machinery, such as in the evenings or on weekends. • Impose a speed limit for all vehicles and construction equipment shall be less than 30km/h within the transmission pipelines premises and less than 50km/h within communities. • Haulage trucks carrying sand shall be covered with tarpaulin. • Develop proper excavation procedures for workplace • Use of excavation, compaction and filling machines shall be complemented with regular service of all construction equipment and machinery. • Fit all heavy equipment and machinery with air	Contractor	See I.A.1	Air quality parameters (CO, NO_2, SO_2, CO_2, $SPM_)$ Maintenance records Driver's training records Usage of appropriate PPE	*In-situ* measurement. Visual observation of records & interviews	FMEnv permissible limit	Weekly in the surrounding communities	Environmental & Officers, Ekiti State Ministry of Environment (Ek-SME)	See I.A.1

			pollution control devices, which are operating correctly. • Liaise with MTN/PHCN/Ministry of Power/Water corporation to ensure no damage to underground cables during excavation work			Include in consultation strategy					
16.	Transportation of materials and equipment	Vibration and noise nuisance	• Hydraulic concrete mixing machines shall be used as much as possible and regularly service all construction equipment and machinery. • Minimize noise from construction equipment by using vehicle silencers, fitting jackhammers with noise-reducing mufflers • Maintain maximum sound levels not exceeding 80 decibels (dba) when measured at a distance of 10m or more from vehicles, plants and machinery. • Train the operators on proper use and maintenance of tools, proper positioning of machinery on site • Maintain noise levels below 80 dB	Contractor	See I.A.2.	Noise level Usage of appropriate PPE	Noise measurement	Noise level at sensitive receptors not to exceed FMEnv recommended level (90 dBA) for an 8-hour period	Weekly at Construction site and nearby communities	Environmental Ekiti State Ministry of Environment (EKSME) Engineering Consultant	See I.A.2.

17.	All construction & rehabilitation phase activities	Visual intrusion Dust Excavation and compaction activities through construction works will alter the soil properties including loss of valuable top-soils	• Ensure good housekeeping at the construction site. • Ensure an acceptable post-construction site as per provisions in the contract. • Remove all construction equipment from the site after completion of work. • Consult with State SPMU on the designated areas for stockpiling of soil, gravel, and other construction materials; • Keep exposed soil and stockpiles damp by spraying with water when necessary during dry weather; • Use tarpaulins to cover sand and other loose material when transported by trucks; and • Fit all heavy equipment and machinery with air pollution control devices, which are operating correctly.	Contractor	No additional cost	Document housekeeping procedures & plans for site	Visual observation	Quality Control/ Quality Assurance Standards	Daily on Site	Environmental & Social Safeguard Officers, Ekiti State Ministry of Environment (Ek-SME)	
18.	Movement of plant & equipment to and from staging area to site	Soil contamination & Contamination of water bodies	• Develop and implement a site-specific Waste Management Plan (WMP) • Prepare and implement an Emergency Response Plan to respond to incident of spillage.	Contractor		Emergency Response Plan for spillage	Visual observation Laboratory testing	FMEnv Soil Quality Standards	Monthly at Project Site	Environmental & Social Safe	50,000

	Bioremediation		• Ensure regular test of water quality • Ensure fuel storage tanks are installed in a bonded area and checked daily. • Ensure regular maintenance of vehicles to avoid leaks of oil. Prevent unregulated dumping of fuel waste • Ensure local communities are sensitized on need to avoid tampering with waste bins		See section 2.C.	developed Soil quality parameters				guard Officers, Ekiti State Ministry of Environment (Ek-SME) Ekiti State Waste Mangt. Authority (EK-WAMA)	
19.	Use of plant and equipment with internal combustion engines	Release of Green House Gas emissions (drivers of global warming)	• Maintain equipment & machinery to manufacturers' specifications by regular servicing to reduce carbon emissions. • Ensure that the mitigation	Contractor	150,000	Maintenance records Training records	Visual Observation Interview	FMEnv permissible limit for air emission	Weekly at Project Site	Ekiti State Ministry of Environment	80,000

			measures in B3 are carried out. • Train drivers/ workers on proper operation of vehicles and equipment to include fuel efficiency and anti-idling. • Ensure no burning of waste or any material on sites.			Evidence of waste burning				(Ek-SME)	
20.	Use of workers camp	Sanitation issues and public health impacts	• Provide bins on site for temporary storage of domestic waste such as lubricant containers, drinking water sachets and carrier bags/packaging materials. • Dispose all construction and domestic waste at the approved dumpsites and in the approved manner. • Ensure all trenches or excavations made during the construction works do not collect stagnant water, which could breed mosquitoes. • Ensure access to toilets for construction crew or provide temporary toilets (mobile toilets) for use where there are no existing ones. • Ensure mobile toilets/sanitary provisions	Contractor/ Engineering Consultant Environmental Safeguards Specialist	200,000	Presence of functional sanitary facilities on site Waste vendor licenses Waste evacuation documentation	Visual Observation Interview	National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations 1991.	Weekly at Project Site	Ekiti State Ministry of Environment (Ek-SME) Ekiti State Waste Mangt Authority (EKITIWAMA)	

			are provided to reflect gender types. • Ensure regular toolbox meetings are held among contractor workers to offer awareness on transmission of contagious or communicable diseases.								
21.	Operation of Construction Machinery & Equipment Movement of materials Use of Compaction, filling & excavation equipment	Occupational accidents and injuries to workers and risk to community health and safety	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Ibo languages). - Use only trained personnel for welding activities - Restriction of unauthorized access to all areas of high-risk activities - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with	Contractor	450,000	OHSP developed No of trained first Aiders Usage of appropriate PPE Usage of signage and demarcations	Visual observation	Compliance with Factory Act, 1990 Compliance with ISO 14001 Occupational Health & Safety Standards	Monthly at Construction Site	Environmental & Officer	100,000

			reflective tapes and barriers - Any uncovered work pits should have appropriate signage and protection around them - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night • appropriate security measures in place to prevent harassment or kidnapping of workers •								
22.	Construction of culverts, drainage basins Construction	Occupational accidents and injuries to workers and risk to community health and safety	• Ensure location is properly cordoned off before construction activities are carried out • Carry out proper levelling and setting out to ensure appropriate road gradient is achieved to prevent ponding/flooding issues	Contractor	150,000	OHS Procedures developed No of trained	Visual observation	Compliance with Factory Act, 1990 Compliance with ISO	Monthly at Construction Site	Environmental & PE Officer/ Engineering Cons	60,000

		Erosion Risk of erosion and flood	• Create awareness in neighbouring communities to ensure road users are aware of road intervention work • Use of biological control measures (tree planting) with tree roots that will bind soil and reduce erosion • As much as possible, ensure community minimises movement around the site and should be informed before this type of work is carried out • Use appropriate signage along road to show work in progress • Use of flagmen to divert traffic where required • Provide side-drains to promote effective run off channelization • Crosscheck design to ensure road gradient is adequate enough to avoid backflow runoff into residences		175,000	first Aiders Usage of appropriate PPE Usage of signage and demarcations		14001 Occupational Health & Safety Standards		ultant	
23.	Channelization works and construction of hydraulic structures,	Disruption in current flow of and rivers causing flood	• Ensure that design appropriately identifies and captures engineering solutions • Construct temporary diversions or re-channel	Contractor; Supervision Consultant	350,000	Water Pollutants	Water quality tests	Routine testing procedures are being	Daily	PMU ESS Unit; Ekiti State Minis	

	box and pipe culverts.		streams and rivers temporarily • Sensitise communities along road of work					conducted		try of Env.	
24.	Channelization and Construction work activities	Generation of construction waste including spoils, debris and concrete	• Develop and implement a site-specific Waste Management Plan (WMP) to include the following: • Ensure segregation of waste to facilitate reuse and recycling opportunities. • Ensure hazardous wastes are stored in labeled closed containers with secondary containment with storage containers. • Ensure no burning of waste on site. • Ensure usage of Ekiti WAMA approved waste vendor for waste evacuation, processing & disposal.	Contractor	200,000	Contractor's WMP Evidence of waste segregation Waste storage facility Waste vendor licenses and waste evacuation documentation	Visual Observation Interview	National Environmental Protection (Management of Solid and Hazardous Wastes) Regulation 1991.	Weekly at Project Site	Environmental & Officer EKITI-WAMA	50,000
B. Social Issues											

25.	Channelization of flood waters – Impact on structures	Possible destruction of roadside market shops, schools, petty trading shops and houses existing on the project roads or on the ROW Grievances Disruptions to school calendar	Early notification and sensitization of PAPs Limit demolition to temporary structures and utility lines on the ROW Implement RAP for compensation of affected PAPs Implement GRM Regular community consultations to ensure updates on school calendar, which would be aligned with work schedule to prevent closures or disruptions	Contractor; PMU ESS Unit; GRC	275,000 No additional cost	Contractors' Compliance	Visual Observation	Compliance with proffered mitigation measures.	Monthly	PMU ESS Unit; Supervision Consultant	
26.	Channelization & construction activities	Increase in spread of Communicable diseases, STDs such as HIV/AIDS and other STIs	▪ Ensure access into construction site is restricted ▪ Free testing kits ▪ Provision of condoms ▪ Vaccinating workers against common and locally prevalent diseases; ▪ Monitoring of local population health data, in	Contractor/ Engineering Consultant; Ekiti State Minist	225,000	Evidence of inclusion in the bid advert and contractor	Records inspection	Documentation	Check and evaluate during bid evaluation	ESO EoNGO PMU	480,000

			particular for transmissible diseases. ▪ Implementation of HIV/AIDS education program; • Information campaigns on STDs among the workers and local community in collaboration WITH relevant HIV/AIDS management organizations in Ekiti State.	ry of Health		Records of training and awareness conducted and evidence of GBV track protocol prepared			Once annually	Supervision consultant and GBV Specialist	
27.	Channelization rehabilitation, excavation & construction activities	Risk of GBV/SEA and VAC as a result of Labour Influx	• Commitment / policy to cooperate with law enforcement agencies investigating perpetrators of gender-based violence; • Provision of opportunities for workers to regularly return to their families; • Provision of opportunities for workers to take advantage of entertainment opportunities away from rural host communities. • Capacity building for local law enforcement and the Ekiti State ministry of Women Affairs and child development to act on GBV complaints;	Contractor Contractor	150,000	Evidence of inclusion in the bid advert and contract Records of training and	Records inspection	Documentation	Check and evaluate during bid evaluation Once annually	Social Safeguards Officer - PMU Supervision consultan	80,000

			• Information and awareness raising campaigns for community members, specifically women and girls; • Provision of information to the project corridor about the contractor's policies and Worker Code of Conduct (where applicable). • Enforcement of laws on sexual violence and human trafficking. • Include in the bid document and also in the contract the need for contractor to draft and sign the following: • Company's code of conduct for prevention of GBV and VAC; • Manager's code of conduct for prevention of GBV and VAC • Individual's code of conduct for prevention of GBV and VAC • Community and workers' training and community sensitization on GBV/SEA/VAC; • Developing a specific internal "Reporting and Response Protocol and GRM" to guide relevant			awareness conducted and evidence of GBV track protocol				t and GBV Specialist	

			stakeholders in case of GBV/SEA/VAC incidents,								
C. Operational Phase											
28.	Operation of workers camp prior to demobilisation of facilities	Generation of sanitary waste from worker's camp	• Ensure provision of sanitary facilities on site for workers and enforce usage. • Ensure usage of EKITI WAMA approved waste vendor for waste evacuation & disposal.	Contractor	175,000	Presence of functional sanitary facilities on site Waste vendor licenses and waste evacuation documentation	Visual Observation Interview	National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations 1991.	Weekly at Project Site	Environmental Officer - PMU Supervision consultant and GBV Specialist EKITI-WAMA	50,000
29.	Commissioning & use of river crossings, hydraulic structures or box culverts	Generation of construction waste and debris	• Develop and implement a site-specific Waste Management Plan (WMP) to include the following: • Ensure segregation of waste to facilitate reuse and recycling opportunities. • Ensure hazardous wastes are stored in labeled	EKITI MOWR/ Contractor	Part of Maintenance cost	WMP for maintenance activities. Waste vendor licences	Visual observation	Management of Solid and Hazardous Wastes Regulations of 1991.	Daily during maintenance works at project site	Ek-SME EKITI-WAMA	Part of operation cost

			closed containers with secondary containment • Ensure no burning of waste on site. • Ensure usage of Ekiti WAMA approved waste vendor for waste evacuation, processing & disposal. • Site visit to site at the completion of project to ensure no waste is left behind.			Waste documentation					
Social Issues											
30	Excavation pits created in the process of channelization and construction works	Public health from formation of stagnant pools for mosquito larvae breeding, promoting breeding of insects, reptiles etc.	*Ensure current system can handle improved drainage (prevent runoff erosion/ reservoir overflow) to prevent water stagnation. *Coordinate construction phases with dry season *Ensure current system can handle improved drainage (prevent runoff erosion/ reservoir overflow) *Develop and implement plan to deal with impacts	Contractor	No additional costs	Evidence of Occurrence Reported incidence of flooding / reduced drainage capacity during construction Plan in place &	Complaints received; resolution documented	PMU Safeguard Specialist	Quarterly At the beginning of the Maintenance -	PMU Engineering Consultant	No additional cost

						Executed					
31.	Interactions between Contractors and community	Child labor and school drop out	• Ensuring that children and minors are not employed directly or indirectly on the project by having in place an auditable & verifiable employment process mandating provision of identification to demonstrate date of birth (DoB) • Enforcement of legislation on child labor • Ensure periodic meetings with vulnerable groups to ensure not marginalized	Contractor	225,000	Recruitment Reports of contractor	Complaints	Child Rights Act 2003	Monthly	Ekiti Social Safeguards Officer	50,000
D. Decommissioning											
I. Environmental Issues											
32.	Demobilisation of facilities, excavation, grading, compaction, filling plant & equipment	Risks of occupational accidents and injuries to workers.	• Develop & implement a project specific Occupational Health and Safety Plan (OHSP) to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and	Contractor	Part of Maintenance cost	OHSP developed No of trained first Aiders	Visual observation	Compliance with Factory Act, 1990	Monthly at Construction Site	Ek-SMWR	

			Yoruba languages). - Restriction of unauthorized access to all areas of high-risk activities. - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night • appropriate security measures in place to prevent harassment or kidnapping of workers			Usage of appropriate PPE Usage of signage and demarcations					

33.	Excavation pit decommissioning	Public health	*Level out hollow area of pits to reduce ponding of water & stagnation *Revegetate area around the pit to re-introduce natural habitat formation *Planting of trees to replace felled vegetation *Maintain drainage channels to reduce water collection in hollow *Use of brickets in stagnant pond formation areas to eliminate insect breeding *Carry out burrow pit reclamation according to remediation plan (annex 16)	Contractor/ Engineering Consultant	250,000	Plan in place & Executed	Complaints received; resolution documented	PMU Safeguard Specialist	Once during decommissioning	PMU/ Social Safeguards Specialist	150,000
35.	All decommissioning activities	Waste management	* Re-vegetate areas around workers camp & Maintenance equipment sites to restore the landscape. * Ensure that any remaining waste streams created during Maintenance activities and waste generated during decommissioning activities are collected from the project sites and properly disposed before handing over the project.	Contractor	250,000	Availability and proper use of PPEs - Availability and proper use of warning signs	Transport for monitoring Records on frequency and location of waste disposal site of domestic and road maintenance waste	Community road for maintenance	Weekly	Contractor / Engineering Consultant PMU/ Social Safeguards Specialist	125,000

Sub-Total Mitigation	**5,225,000.00**	**Sub-Total Monitoring**	**1,205,000.00**

6.2 Institutional Responsibilities & Accountabilities

The successful implementation of this ESMP depends on the commitment and capacity of various institutions and stakeholders to implement the ESMP effectively. Thus, the arrangement as well as the roles and responsibilities of the institutions and persons that will be involved in the implementation, monitoring and review of the ESMP are presented in Table 17 below.

Table 17: Institutional Arrangement for ESMP Implementation

S/N	Category	Roles & Responsibilities
1	**Federal Ministry of Environment**	Approve disclosure of ESMP in country Environmental monitoring to ensure country standards is complied with
2	**FPMU Safeguards Unit**	Ensuring approval & disclosure of Environmental and Social safeguards instruments to the public Facilitate M&E implementation and monitoring functions; Responsible for coordination to ensure that implementation parties carry out their responsibilities as and when due
3	**Ekiti State Ministry of Environment**	Environmental monitoring and compliance overseer at the State level Site assessment and monitoring of ESMP implementation.
4	**SPMU**	Ensuring approval of fund for Environmental and Social safeguards unit and M&E implementation and monitoring functions; Ensure that the ESMP is disclosed to the public Responsible for coordination to ensure that parties to implementation carry out their responsibilities as and when due. Ensure that World Bank safeguards policies and country standards are adhered to by contractor and workers through supervision and funding of mitigation measures/ESMP
5	**SPMU Environmental & Social Safeguard Units**	Environmental Safeguards Officer Carry out supervision functions during construction to ensure that contractor and workers adhere to mitigation measures as contained in this ESMP; Collate environmental baseline data on relevant environmental characteristics for monitoring and auditing Ensure that project activities are implemented in accordance with good practices and guidelines set out in the site specific ESMP; 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. Social Safeguards

		Coordinate and ensures the implementation of the social aspects of the ESMP Identify and liaise with all stakeholders involved in social related issues in the project; Conduct impact evaluation and beneficiary's assessment; and Establish partnerships & liaise with organizations, Community Based Organizations (CBOs), Civil Society Organizations (CSOs).
6	**Contractor**	Compliance to BOQ specification in procurement of material and construction Implement ESMP during project implementation Develop C-ESMP Ensuring staff good behaviour/ practices including the use of PPEs and zero gender violence Compliance to BOQ specification in procurement of material and construction Hire Safeguards personnel implement ESMP during project implementation Mitigate environmental and social Impacts Implementation of code of conduct for all staff Develop contractor ESMP (C-ESMP) Preparation of work plans for environmental and social management in line with the ESMP Ensure any changes during construction process that may have a significant environmental and social impact are communicated to ESO in time and managed accordingly. Maintain records of environmental incidents as well as corrective and preventive actions taken Supervision of implementation of all the measures and preparation of required Monitoring report Contractor should ensure that the safety officer conducts a Job Hazard Analysis (JHA) prior to the commencement of work to identify the hazards associated with the job activities Ensure all contractors and workers sign the Code of Conduct (CoC) and are routinely trained on the contents of the CoC Provide adequate basic amenities and PPEs to workers and ensure that the PPEs are worn by workers during work. Prepare and maintain records and all required reporting data as stipulated by the ESMP, for submission to the Supervising Consultant
7.	**Supervising Consultant**	Supervise the implementation of the ESMP by the Contractors; Review the Contractors Environmental and Social Implementation Plans (CESMP) to ensure compliance with the ESMP

		Review site-specific environmental enhancement/mitigation designs worked out by the Contractor. Develop of good practice construction guidelines to assist the contractors in implementing ESMPs. Prepare and submit regular environmental monitoring and implementation progress reports. Continuous interaction with the Engineer/ESSU regarding the implementation of the environmental/social provisions in the ESMP Provides an independent oversight ensuring contractor adhere strictly to the engineering specifications and provide frequent reports on contractor/ Client's compliance Preparation and implementation of the Environmental and Social Monitoring Plan during construction Supervision of contractor performance of implementation of the Construction and Work Camp Management Plan Hire Safeguards personnel implement ESMP Thorough supervision of the mitigation of the environmental and Social impacts such as labour influx and GBV Reporting any incidents or non-compliance with the ESMP to the PMU Ensuring adequate training and education of all staff involved in environmental supervision Making recommendations to the PMU regarding ESMP performance as part of an overall commitment to continuous improvement Supervise contractor performance of implementation of the Construction Campsite/Staging area Camp Management Plan/CESMP Prepare monthly safeguards report including recommendations to the PMU regarding ESMP performance as part of an overall commitment to continuous improvement
8	**Ekiti State Waste Management Authority (Ek-WAMA)**	Inspection of project premises in order to ensure strict compliance with sanitation and waste management standards in the state. Collaboration with other MDAs at the State and Federal level, NGOs and Donor Agencies in environmental protection and management especially in areas of waste recycling etc.
9	**Ekiti LGAs**	Provision of oversight function across project within its jurisdiction for ESMP compliance. Monitoring of activities related to public health, sanitation, waste management amongst others.
10	**Affected Community and Public**	Promote environmental awareness. Review environmental and social performance report made available by PMU. Provide comments, advice and/or complaints on issues of nonconformity.

		Attend public meetings organized by the PMU to disseminate information and receive feedback. Identify issues that could derail the project and support project mitigation measures and awareness campaigns.
11	**CDA**	Ensure community participation by mobilizing, sensitizing community members;
12	**NGOs/CSOs**	Assisting in their respective ways to ensure effective response actions, conducting scientific researches alongside government groups to evolve and devise sustainable environmental strategies and techniques.
13	**World Bank**	Overall supervision and provision of technical support and guidance. Disclosure of ESIA/ESMP at World Bank external site Oversight mission to monitor PMU's implementation and performance of ESMP

The Ekiti NEWMAP, and any institution participating in the implementation, will not issue a Request for Proposal (RFP) of any activity without the construction phase's Environmental and Social Management Plan (ESMP) inserted in, and will not authorize the works to commence before the contractor's ESMP (C-ESMP) has been approved and integrated into the overall planning of the works.

In addition, the overall goal of the Environmental, Social, Health and Safety provisions for the civil works is to ensure that all environmental and social concerns attributable to project activities are effectively addressed by the contractor. Annex 15 provides guidelines to ensure that these requirements are effectively carried out in a manner that would guarantee implementation is in compliance with local laws and international conventions as well as Environmental and Social Policies.

6.3 NEWMAP Labour Influx and Gender-Based Violence

The project may face an influx of non-local labor and working conditions issues as skilled laborers might not be available in some of the project sites. The project will take concrete measures to mitigate potential labor influx-related risks such as workers' sexual relations with minors and resulting pregnancies, presence of sex workers in the community, the spread of HIV/AID, sexual harassment of female employees, child labor and abuse, increased dropout rates from school, inadequate resettlement practices, and fear of retaliation, failure to ensure community participation, poor labor practice, and lack of road safety. These risks require careful consideration to improve social and environmental sustainability, resilience and social cohesion.

6.3.1 Gender and Gender-Based Violence

Nigeria ranks 118 out of 134 countries on the Gender Equality Index.[11] Women's disadvantaged position and lack of decision-making power in the

[11] British Council Nigeria. Gender in Nigeria report 2012; UNDP Human Development Report 2016. See: http://hdr.undp.org/en/content/gender-inequality-index-gii.

social, economic and political spheres are reflected in policies, laws and resource allocation that thwart progress towards gender equality in the country. More than 70% of women live below the poverty line, and maternal mortality ratio is among the highest in the world at 576 per 100,000.[12] More than half of people living with HIV (3.2 million) are women (55%).[13] Girl enrolment in school lags behind boys, and represents one third to one quarter of classroom participants depending the state; and two-thirds of the 10.5 million out-of-school children, are girls.[14]

6.3.1.1 Experience of Physical Violence in Ekiti State

In Nigeria, almost one in three translating to thirty-one percent (31%) women age 15-49 have ever experienced physical violence, and 14% experienced physical violence in the 12 months preceding the survey. This is consistent with information of Ekiti as Table 18 shows data on experience of physical violence in the State[15].

Table 18: Experience of Physical Violence in Ekiti State

Percentage who have experienced physical violence since age 15	**Percentage who have experienced physical violence in the past 12 months**			**Number of women**
30.7	0.6	17.0	17.7	140

6.3.1.2 Gender Based Violence (GBV)/ Sexual Exploitation and Abuse (SEA) Risk Management Mechanisms

There are specific measures to reduce and mitigate the risk of GBV/SEA in the project.

Such measures will include:

a) GBV/SEA assessment of project.
b) Mandatory signing of Code of Conduct on sexual harassment by Contractor's and their employees
c) Appointment of NGO to monitor GBV/SEA in all projects/subprojects implemented by Ekiti NEWMAP.
d) Community and workers' sensitization on GBV/SEA.
e) Provision of referral units for survivors of GBV/SEA.
f) Including provision in contracts for dedicated payments to contractors for GBV/SEA prevention activities.
g) Contractor and SPMU requirement to ensure a minimum target of female employment with incremental rewards for the attainment of this target.

The following actions are recommended for immediate implementation:

- Hiring a dedicated GBV/SEA specialist for the project.

[12] The 2013 Nigeria Demographic and Health Survey (**NDHS). See:** https://dhsprogram.com/pubs/pdf/PR41/PR41.pdf.
[13] UNAIDS 2017 Data. See: http://www.unaids.org/sites/default/files/media_asset/20170720_Data_book_2017_en.pdf.
[14] NDHS 2013.
[15] National Population Commission (NPC) [Nigeria] and ICF. 2019. Nigeria Demographic and Health Survey 2018. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF. Page 437, Table 16.1.

- Hiring NGOs at the state level to manage social risks associated with GBV/SEA in the project.
- Building and improving FPMU/SPMUs, local communities and other relevant stakeholders' capacities to address risks of GBV/SEA by developing and providing guidance, training, awareness and dissemination of relevant GBV/SEA materials to communities.
- Strengthening operational processes of Ekiti state NEWMAP on GBV/SEA.
- Identifying development partners and cultivating pragmatic partnership on GBV/SEA prevention measures and referral services.
- Developing Code of Conduct for civil works contractor with prohibition against GBV/SEA.
- Strengthening consultations and making operational GBV/SEA specific grievance redress mechanism.
- Providing financial support for implementation of the GBV/SEA actions described here-in including training and awareness building for various stakeholders.
- Establishing the inter-ministerial committee to advance GBV/SEA actions described above.

Overall, GBV risks in the project area might include Intimate Partner Violence (IPV), public harassment including verbal insults, physical abuse, rape, harmful widowhood practices and women and child trafficking. Targeted support to women under the program could likely exacerbate these risks. Development and implementation of specific GBV risk prevention and mitigation strategies tailored to local contexts will be critical. Guidelines for situation analysis of GBV and safe reporting guidelines in line with international best practices will be implemented. Further, all risks related to labour influx will have to be mitigated by participation of project beneficiaries/communities and involvement of project contractors and contractors' workers and consultant employees in identifying mitigation and implementing measures, including developing mitigation instruments such as 'Labour Influx Management Plan' (See Annex 12) or Camp Management Plan.

6.4 Grievance Redress Mechanism (GRM)

NEWMAP has established a grievance mechanism[16] to receive and act on complains and grievances by beneficiaries or stakeholders against activities being conducted by the Project in the States.

Grievance mechanisms are increasingly important for development projects where ongoing risks or adverse impacts are anticipated. For the proposed subprojects, grievances are likely to arise due to the following:

- Delay in civil works;
- Conflict between construction workers and community members;
- Unmanaged expectations;
- Lack of information about the project

[16]NEWMAP Project Implementation Manual (PIM), Revised Edition (February 2019). Section 7.5, page 186.

To manage these social risks and others, which cannot be foreseen now with a view to ensuring successful project development and implementation, experience has revealed that open dialogue and collaborative grievance resolution represent the best practice. The grievance mechanisms shall at a minimum be targeted at the following:

- Provide a way to reduce risk for projects,
- Provide an effective avenue for expressing concerns and achieving remedies for communities;
- Promote a mutually constructive relationship;
- Prevent and address community concerns, and
- Assist larger processes that create positive social change.

6.4.1Grievance Redress Committee

A three level Grievance Redress Mechanism will be established for the Ekiti NEWMAP with Grievance Redress Committees constituted at the State, LGA & Village/Community levels to receive, and ensure satisfactory resolution of grievances to interface with existing Landlords association. These are:

State Level GRC

- Social Safeguards Officer — Chairman
- Environmental safeguards Officer — Member
- MDA Desk Officers — Members
- Communications Officer — Member
- NEWMAP Legal Officer — Members
- Representative of Ek-SEMA — Members
- Representative of NGOs — Members
- NEWMAP Admin. Officer — Secretary

The Grievance Redress Committee at LGA level comprises:

- Community Development Officer
- Head of Medical Services — Member
- Head of Works — Member
- Head of Agric. and Natural Resources — Member
- Representatives of Local CSOs — "
- District Head/Head of Landlords associations — "
- Social welfare Officer — "
- Chief Imam/Pastor — "
- NEWMAP GRM Desk Officer — "
- Information Officer — Secretary

The GRC at Village/Community Level comprises:

- Community Chairman — Chairman
- Village Head — Member
- Reps of CSOs — "
- Imam/Pastor — "
- Community elders — "
- Community Oversight Committee Members — "

- Village scribe Secretary

The main functions of the Committee are spelt out below:

- Receive grievances from member of the public;
- Evaluate grievances from affected persons concerning the application to them of the Entitlement Policy;
- Recommend to the Social Officer, SPMU as the case may be, solutions to such grievances from affected persons;
- Communicate the decisions to the Claimants;
- Hear appeals from persons, households or groups who, not being affected persons, believe that they are qualified to be recognized as affected persons, to recommend to the SPMU whether such persons should be recognized as affected persons, and to communicate the decision of the PMU in that regard to the Claimants;
- Ensure that all notices, forms, and other documentation required by aggrieved persons are made available in Local language understood by people
- Make provision for complainants to submit claims without fear of retribution.

6.4.2Grievance Redress Process

At the time that the sub projects implementation is approved, and contracts are signed, communities will have been informed of the process for expressing dissatisfaction and to seek redress. The grievance procedure will be simple and administered as far as possible at the local levels to facilitate access, flexibility and ensure transparency. All the grievances will be channeled via the Grievance redress committee for each sub project at the sector level.

There is no ideal model or one-size-fits-all approach to grievance resolution. The best solutions to conflicts are generally achieved through localized mechanisms that take account of the specific issues, cultural context, local customs and project conditions and scale. In its simplest form, grievance mechanisms can be broken down into the following primary components:
(i)Receive and register a complaint
(ii)Screen and assess the complaint
(iii)Formulate a response (within a specified time frame)
(iv)Select a resolution approach
(v)Implement the approach
(vi)Settle the issues
(vii)Track and evaluate results
(viii)Appeals process
(ix)Monitoring and reporting to project management to detect systemic problems;
(x) Learn from the experience and communicate back to all parties involved.

6.4.3 Expectation when Grievances arise

When local people present a grievance, they generally expect to receive one or more of the following: acknowledgement of their problem, an honest response to questions/issues brought forward, an apology, adequate

compensation, modification of the conduct that caused the grievance and some other fair remedies.

In voicing their concerns, they also expect to be heard and taken seriously. Therefore, the company, contractors, or government officials must convince people that they can voice grievances and work to resolve them without retribution. To address these challenges, companies are being called upon to lead and work with their host communities to fund non-judicial, dialogue-based approaches for preventing and addressing community grievances. The overall process of grievance shall take the following way:

During the initial stages of the valuation process, the affected persons are given copies of grievance procedures as a guide on how to handle the grievances;
The process of grievance redress will start with registration of the grievances to be addressed for reference, and to enable progress updates of the cases.

The response time will depend on the issue to be addressed but it should be addressed with efficiency. Nevertheless, Grievance form will be filled by person affected by the project with the Grievance Redress Committee, which will act on it within 10 working days on receipt. If no understanding or amicable solution is reached, or the affected person does not receive a response from the local Grievance Redress Committee within 15 working days, the affected person can appeal to a designated office in the PMU, which should act on the complaint/grievance within 15 working days of its filing.
Compensation will be paid to individual persons only after a written consent of the complainant, including both husband and wife.
All reasonable moves shall be made to settle any arising grievance amicably. If affected person is not satisfied with the decision received, he/she can, as a last resort, appeal to a court of competent jurisdiction. Affected persons will be exempted from all administrative and legal fees incurred pursuant to grievance redress procedures.
The appeals process will use a local mechanism, which includes peers and local leaders of the affected people. These will ensure equity across cases; they eliminate nuisance claims and satisfy legitimate claimants at low cost.

For NEWMAP, it is recognized that the formal legal mechanisms for grievance redress tend to be a lengthy and acrimonious procedures, thus an informal grievance redress mechanism through the SPMU Safeguard Units will be established. This unit will work with a committee comprising administrative head of local governments; community/village chiefs, NGOs/CBOs and other relevant Government organs that will be set-up to address complaints.

The grievance redress mechanism is designed with the objective of solving disputes at the earliest possible time, which will be in the interest of all parties concerned and therefore implicitly discourages referring such matters to the law courts for resolution that will otherwise take a considerably longer time. For this reason, handling grievances will begin

with the State Project Management Unit and involve Local Government. A grievance log will be established by the project and copies of the records kept with all the relevant authorities. A review of grievances will be conducted at least every three months during implementation in order to detect and correct systemic problems.

In addition, where complainants are dissatisfied with the compensation and rehabilitation offered, The SPMU will establish an informal forum for the presentation and consideration of individual appeals after the administrative route has been exhausted. The informal forum will include local government, and other concerned responsible parties, as deemed appropriate them.

The existence, location, purpose and composition of this forum will be publicized, so that displaced persons are knowledgeable about the availability of this forum for resolving any grievance. If a grievance cannot be resolved in these informal venues, the complainant may take recourse to the administrative and legal systems for satisfaction.

6.4.4Grievance Log

The Project Liaison officer will ensure that each complaint has an individual reference number and is appropriately tracked, and recorded actions are completed. The log also contains a record of the person responsible for an individual complaint, and records dates for the following events:

- Date the complaint was reported.
- Date the Grievance Log was uploaded onto the project database.
- Date the information on proposed corrective action as sent to complainant.
- The date the complaint was closed out.
- Date response was sent to complainant.
- Monitoring Complaints

GRM flowchart is shown in Figure 15.

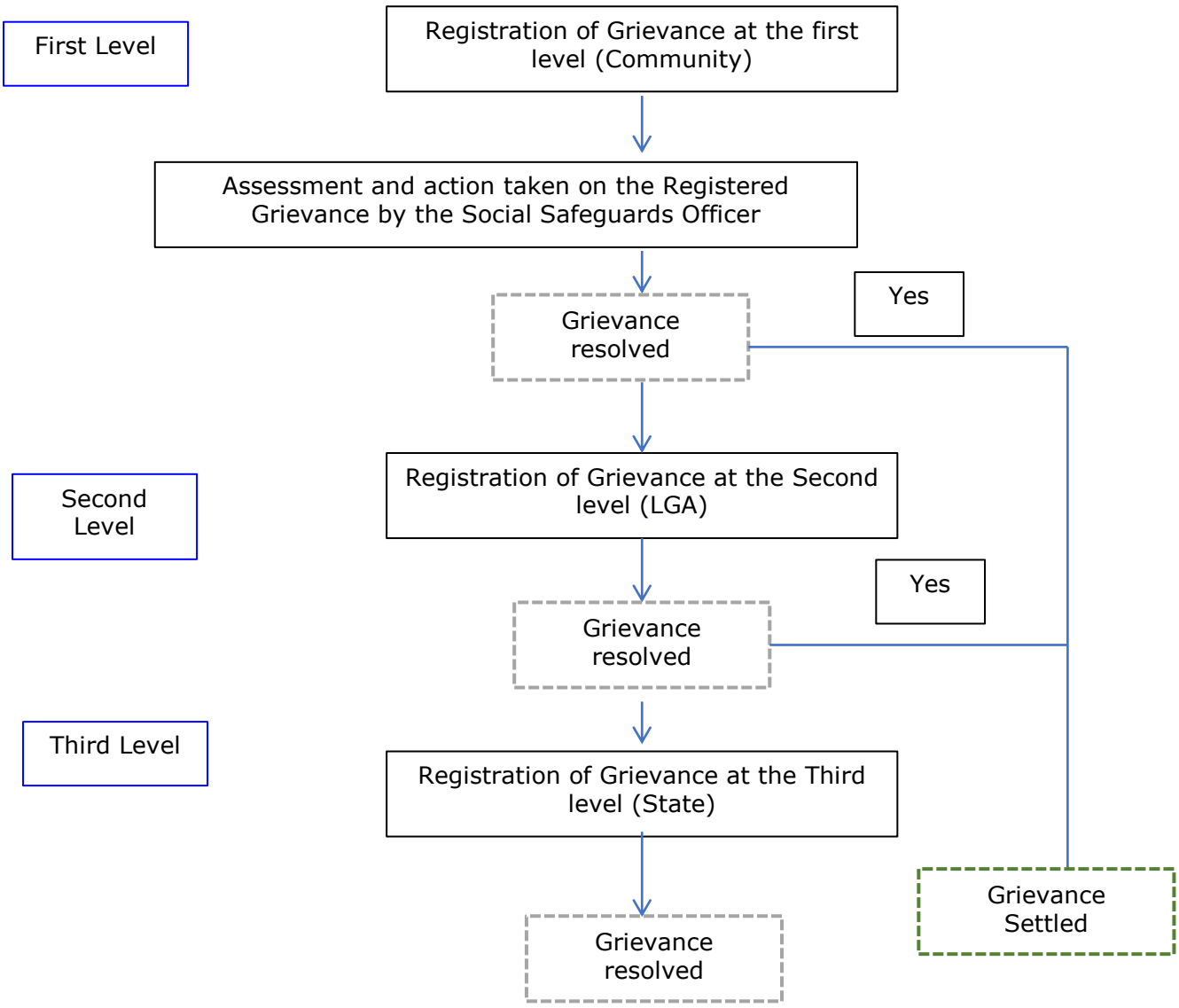


Figure 15: Flow Chart for GRM

6.4.5 Financing the Grievance Redress Mechanism and Cost of Remediation

SPMU shall be responsible for the funding of logistics for the GRC as well as the eventual compensation or remediation that aggrieved party may be entitled to. The SPMU will also be responsible for the cost of the judicial process for cases that result to court for adjudication.

6.5 Training Programmes

A preliminary assessment indicates that the capacity of the SPMU for implementing this ESMP will require strengthening, especially in the area of

implementation and monitoring, therefore requiring strengthening in order to close gaps in capacity.

Consequently, a training Workshop will be organized to guide the implementation of the ESMP, and topical areas of discussion would include the Permit Schedule, World Bank's Safeguards Policy triggered and environmental management. The training on the ESMP implementations will include the Code of conduct for contractor and his/her labour force, public health and safety issues, occupational health, Grievance Redress Mechanism for the project, ESMP monitoring and reporting. The capacity building will also involve sensitization of workers on issues such as child sexual exploitation, labour influx, Gender Based Violence, COVID19 prevention training, HIV/AIDS and their mitigation measures.

The capacity building plan proposed to achieve this is provided in Table 19.

Table 19: Capacity building plan for implementation of the ESMP & permit conditions

Activity	**Target Group/Participants**	**Timeline/ Duration**	**Proposed Facilitator**	**Cost NGN**
*Training Workshop on preparation of ESMP, Permit Schedule *World Bank Safeguards Policy triggered and environmental management. *Construction works safeguard requirements	*Engineering Consultant -Resident Engineer, Clerk of Works *Project Coordinator, Works Engineer, Planning Officer, Finance Officer Safeguard Officers	Prior to resumption / commencement of construction works. (1/2 day)	Environmental Safeguards Specialist/ Consultant	400,000
*Sensitization of workers on child sexual exploitation and HIV/AIDS, labour influx, Gender Based Violence, and their mitigation measures.	*Contractor, contractor workers, Manager, Foreman, Engineers	Prior to resumption / commencement of construction works. (1/2 days)	Social Safeguards Specialist/ Consultant	350,000
*Induction on occupational and public health and safety (OHS) requirements of the works and environmental management	All construction/ contractor workers	Prior to commencement of construction works. (1/2 day)	Lead Contractor/ Engineering	250,000

Activity	Target Group/Participants	Timeline/ Duration	Proposed Facilitator	Cost NGN
*Training on Contractor's, manager's and Worker's Code of Conduct understanding			Consultant/ HSE-OHS Consultant	
*Risk assessment on river course channelization rehabilitation and construction sub-projects *Conducting Health and Safety Assessments *Conducting trainings on COVID-19 and compliance protocols *Developing and implementing mitigation measures	All construction/ contractor workers	Prior to commencement of construction works. (1/2 day)		200,000
Total				**₦1,200,000.00**

6.6 Implementation Schedule

The activities related to environmental management and monitoring must be integrated in the overall construction schedule. The project implementation phase is estimated for 12 months for the construction activities. The implementation schedule is presented in Table 20.

Table 20: Implementation Schedule

S/N	Activity Description	Responsible	Weeks								Operations Phase
			Pre-construction				Construction				
			1	2	3	4	5	6	7	8	
1.	Clearance and Formal Disclosure of ESMP	PMU									
2.	Inclusion of E&S Requirements in bid documents	PMU									
3.	Allocating Budget for ESMP	PMU									
4.	Appointing Support Staff for ESMP	PMU									
5.	Review & Approval of Contractor's E&S Plans	PMU									
6.	Finalization of Engineering Designs	PMU/ Consultant									
7.	Mobilization to site	Contractor									
8.	Site Clearing	Contractor									
9.	Construction Phase	Contractor									
10.	Implementation of Mitigation	PMU/ Contractor									
11.	Supervising ESMP Implementation	PMU									

12.	Monitoring & Reporting on ESMP Implementation	PMU/ MDAs									
13.	Environmental and Social Training	E&S Consultant									
14.	Environmental and Social Auditing	PMU/SME /Consultant									

6.7 ESMP Costing & Cost Analysis

The environmental and social management actions is estimated at Eleven Million, One Hundred and Forty Thousand Naira Only (**₦11,140,300.00**), and a Dollar equivalent of Twenty-Nine Thousand, Three Hundred and Seventeen Dollars Only ($**29,317.00**). This is as shown in Table 21.

Table 21: ESMP Budget

#	Item	Cost Estimate	
		Naira (₦)	**USD ($)**
1	Mitigation	5,225,000.00	13,270
2	Monitoring	1,205,000.00	3,171
3	Capacity Building (including training on Code-of-conduct)	1,200,000.00	3,158
4	GBV, STIs and HIV Mitigation	500,000.00	1,316
5	Grievance Redress Mechanism	500,000.00	1,316
6.	Consultations	500,000.00	1,316
7.	Disclosure	1,000,000.00	2,632
	Sub-Total	**10,130,000.00**	**26,658**
8.	Contingency (10% of sub Total)	1,010,300.00	2,665
	Grand Total	**11,140,300.00**	**29,317.00**

6.8 ESMP Disclosures

After the ESMP review and clearance by the World Bank, the information in Table 21 describes the process of disclosure.

Table 22: Breakdown of Disclosure process

s/n	Action	Remarks
1	Disclosure in 2 state newspapers	The PMU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
2	Disclosure in 2 national newspapers	The PMU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
3	Disclosure at the Ekiti State Ministry of Environment	The PMU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
4	Disclosure at the Ekiti Ministry of Works & Transport office	The PMU will disclose the ESMP as required by the Nigeria EIA public notice and review procedures
5	Disclosure at Ikole Ekiti LGA	The purpose will be to inform stakeholders about the project activities; E&S impacts anticipated and proposed E&S mitigation measures.
6	Disclosure on the World Bank external website	The ESMP will be disclosed according to the World Bank Operational Policy on Disclosure. The ESMP shall be disclosed on the bank's external website

CHAPTER SEVEN

SUMMARY, CONCLUSION & RECOMMENDATIONS

7.0 Summary

This chapter presents recommendations to be undertaken by the SPMU to enhance the achievement of these environmental and social safeguards, while also providing a conclusion to this ESMP report.

7.1 Conclusion

The ESMP has provided in detail the mitigation measures for identified potential adverse impacts associated with the various phases of the project, and a monitoring program to ensure compliance. In concluding, with adequate application of mitigation measures the impacts will be avoided, reduced or mitigated, and in very few cases they may be offset.

7.2 Recommendations

The intervention sub-project with the associated activities outlined in this ESMP will have highly beneficial impacts by improving critical service delivery infrastructure within the communities, through which resilience would be strengthened, livelihood opportunities can be enhanced and social cohesion, improved.

Although, the channelization, construction & civil works that will be implemented will lead to some limited adverse environmental and social impacts which will largely be localized in spatial extent, short term and occurring within less sensitive environmental areas. These will be managed through the application of the appropriate mitigation measures stated in the ESMP matrix Table 16, which would be included in the contractor's agreement, good practices, adequate supervision and enforcement during project implementation. Consequently, there is therefore no major environmental or social issue to impede the implementation of the proposed project. Nevertheless, some additional recommendations that will enhance the overall sustainability of the project are as follows:

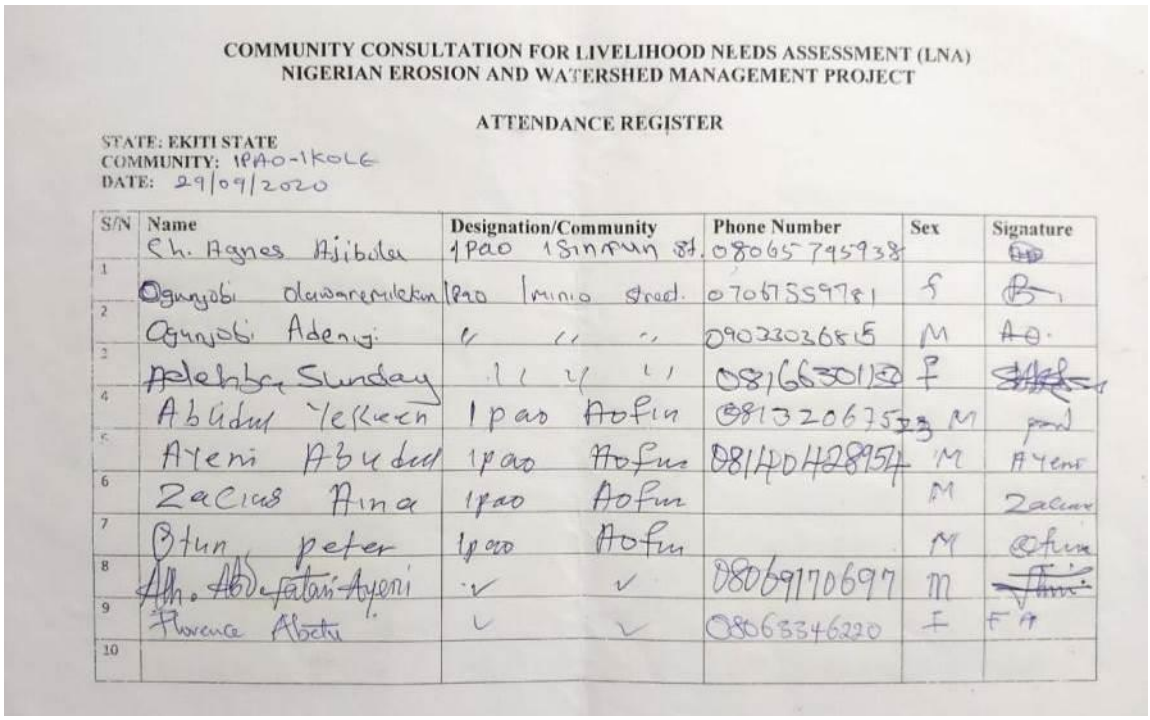
- priority should be given to local workers to stimulate local socioeconomic activities, improve livelihood and poverty reduction in the affected communities.
- ensure opinion of persons in affected communities is given priority in appropriation of mitigation measures.
- all bare and exposed soils should be re-vegetated with native vegetation immediately to prevent triggers to erosion,
- Regular monitoring of outfalls, especially after rainfall to prevent debris build up and blockages that can trigger flooding
- maintenance works should be carried out in an environmentally sustainable and socially responsible and inclusive manner;

- the Safeguard Unit of SPMU should ensure active monitoring to ensure the contractor adhere strictly to the requirements of this ESMP especially in the application of mitigation measures
- the SPMU should ensure that the relevant sections of the ESMP should be made available to contractors.

References

[2]The NEWMAP Project Appraisal Document (PAD). Section IIA Page 5. The GEF Global Environment Objective is subsumed in the PDO
[3]World Bank policies, World Bank website: www.worldbank.org
[4] FEPA (1991): *National Environmental Protection (effluent Limitation) Regulations*. Federal Environmental Protection Agency, Nigeria.
[5]Oguntuyi, 1979. The History of Ekiti
[6]British Council Nigeria. Gender in Nigeria report 2012; UNDP Human Development Report 2016. See: http://hdr.undp.org/en/content/gender-inequality-index-gii.
[7] The 2013 Nigeria Demographic and Health Survey (**NDHS). See:** https://dhsprogram.com/pubs/pdf/PR41/PR41.pdf.
[8] UNAIDS 2017 Data. See: http://www.unaids.org/sites/default/files/media_asset/20170720_Data_book_2017_en.pdf.
[9]NDHS 2013.
[10]National Population Commission (NPC) [Nigeria] and ICF. 2019. Nigeria Demographic and Health Survey 2018. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF. Page 437, Table 16.1.
[11] NEWMAP Project Implementation Manual (PIM), Revised Edition (February 2019). Section 7.5, page 186.

Annex 1: Attendance List

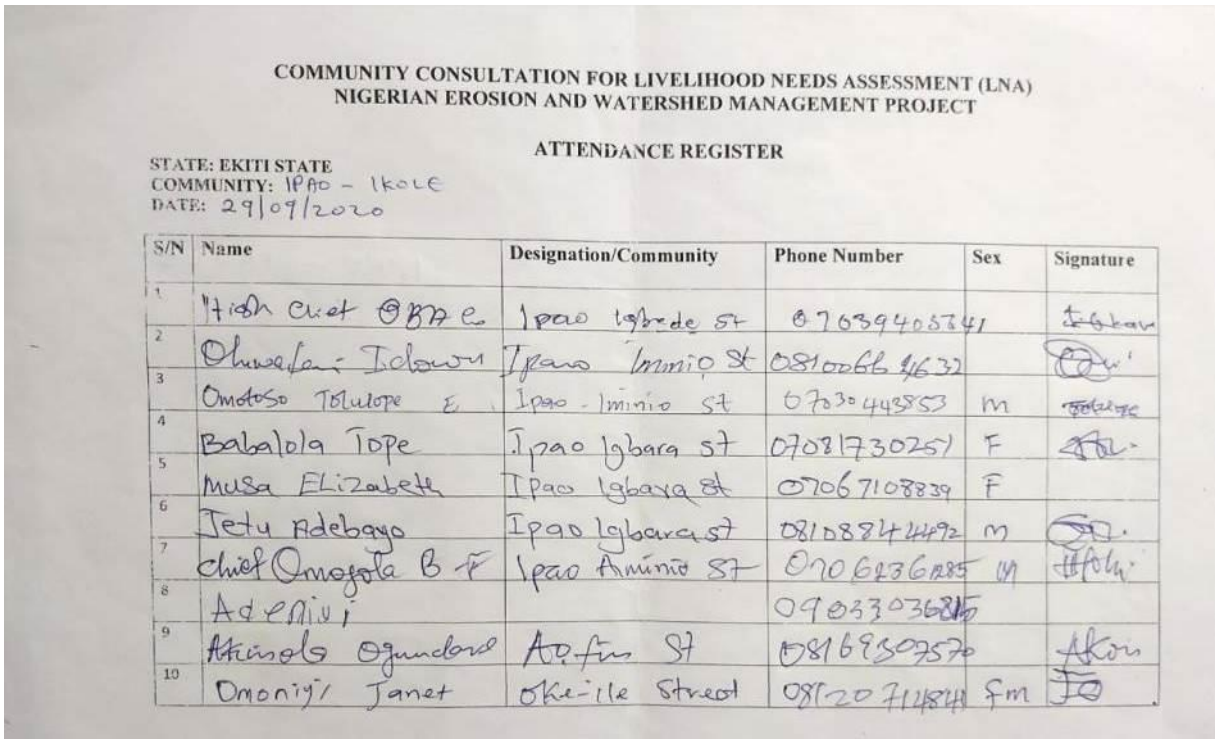


COMMUNITY CONSULTATION FOR LIVELIHOOD NEEDS ASSESSMENT (LNA)
NIGERIAN EROSION AND WATERSHED MANAGEMENT PROJECT

ATTENDANCE REGISTER

STATE: EKITI STATE
COMMUNITY: IPAO-IKOLE
DATE: 29/09/2020

S/N	Name	Designation/Community	Phone Number	Sex	Signature
	Ch. Agnes Ajibola	Ipao Isinkun St.	08065745938		
1	Ogunjobi Oluwaremilekun	Ipao Iminio Street	07067559781	F	
2	Ogunjobi Adeniyi	" " "	09023036815	M	
3	Adebisi Sunday	" " "	08166301	F	
4	Abidu Yekeen	Ipao Aofin	08132067573	M	
5	Ayeni Abudu	Ipao Aofin	08140428957	M	
6	Zacchaeus Aina	Ipao Aofin		M	
7	Otun peter	Ipao Aofin		M	
8	Alh. Abdulfatai-Ayeni	" "	08069170697	M	
9	Florence Abatu	" "	08063346220	F	
10					



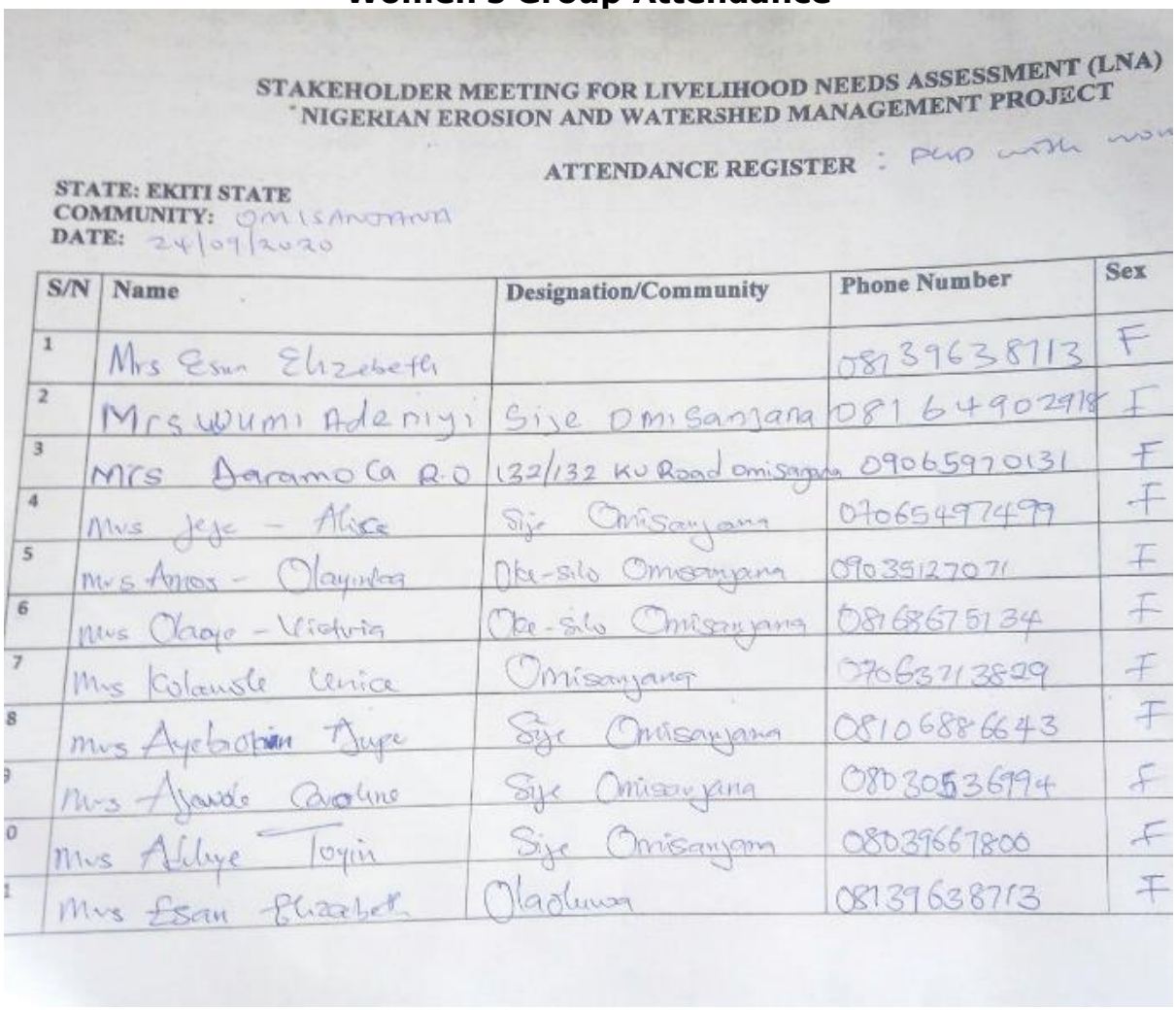
COMMUNITY CONSULTATION FOR LIVELIHOOD NEEDS ASSESSMENT (LNA)
NIGERIAN EROSION AND WATERSHED MANAGEMENT PROJECT

ATTENDANCE REGISTER

STATE: EKITI STATE
COMMUNITY: IPAO - IKOLE
DATE: 29/09/2020

S/N	Name	Designation/Community	Phone Number	Sex	Signature
1	High Chief OBE	Ipao Igbede St	07039405841		
2	Oluwafemi Idowu	Ipao Iminio St	08100666632		
3	Omotoso Tolulope E.	Ipao - Iminio St	07030443853	M	
4	Babalola Tope	Ipao Igbara St	07081730251	F	
5	Musa Elizabeth	Ipao Igbara St	07067108839	F	
6	Jetu Adebayo	Ipao Igbara St	08108844492	M	
7	Chief Omogola B. F	Ipao Aminio St	07062366285	M	
8	Adeniyi		09033036815		
9	Akinola Ogundare	Aofin St	08169307570		
10	Omoniyi Janet	Okeile Street	08120711841	F	

Women's Group Attendance



STAKEHOLDER MEETING FOR LIVELIHOOD NEEDS ASSESSMENT (LNA)
NIGERIAN EROSION AND WATERSHED MANAGEMENT PROJECT

ATTENDANCE REGISTER : PAP with wom

STATE: EKITI STATE
COMMUNITY: OMISANJANA
DATE: 24/09/2020

S/N	Name	Designation/Community	Phone Number	Sex
1	Mrs Esan Elizebeth		08139638713	F
2	Mrs Wumi Aderiyi	Sije Omisanjana	08164902918	F
3	Mrs Daramola R.O	132/132 KU Road omisanjana	09065970131	F
4	Mrs Jeje - Alice	Sije Omisanjana	07065497499	F
5	Mrs Amos - Olayinka	Oke-silo Omisanjana	09035127071	F
6	Mrs Okaye - Victoria	Oke-silo Omisanjana	08168675134	F
7	Mrs Kolawole Unice	Omisanjana	07063713829	F
8	Mrs Ayebabin Ajuye	Sije Omisanjana	08106886643	F
9	Mrs Ajayi Caroline	Sije Omisanjana	08030536994	F
10	Mrs Aliye Toyin	Sije Omisanjana	08039667800	F
11	Mrs Esan Elizabeth	Olaoluwa	08139638713	F

Annex 2: Persons met with During Study

S/N	Community Name	LGA	ADDRESS	Contact Person Name	Phone Number	position's
1	Irele	Ikole	Ikole	Chief Abiona Oladele	08067113835	Community leader
2	Irele	Ikole	Ikole	H. Chief Hasson Oloniniran	09066084916	Community leader
3	Irele	Ikole	Ikole	Ajolopo Bamidele Unice. (Ajiroba)	08037910458	Community leader
4	Irele	Ikole	Ikole	Adesogan Omopariola	07039807182	Youth leader
5	Irele	Ikole	Ikole	H. Chief Kehinde Abejide	08100962436	Community leader
6	Ipao 2	Ikole	Agbara street Ipao 2	Sola Ajiboye	08161978594	Residents
7	Ipao2	Ikole	Ikole	Chief Kayode Ajiboye	07068400504	Community leader
8	Ipao 1	Ikole	Ikole	Oso Ogunjobi	07036338194	Resident

Annex 3: General Environmental Management Conditions for Maintenance/Maintenance Contracts

General

1. In addition to these general conditions, the Contractor shall comply with any specific Environmental Management Plan (EMP) for the works he is responsible for. The Contractor shall inform himself about such an EMP, and prepare his work strategy and plan to fully take into account relevant provisions of that EMP. If the Contractor fails to implement the approved

EMP after written instruction by the Supervising Engineer (SE) to fulfil his obligation within the requested time, the Owner reserves the right to arrange through the SE for execution of the missing action by a third party on account of the Contractor.

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

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

(b) Ensure that noise levels emanating from machinery, vehicles and noisy maintenance 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 maintenance 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 archaeological or historical importance during the execution of works, immediately report such findings to the SE so that the appropriate authorities may be expeditiously contacted for fulfilment of the measures aimed at protecting such historical or archaeological resources.

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

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

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

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

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

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

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

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

Worksite/Campsite Waste Management

6. All vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous chemicals shall be bonded in order to contain spillage. All waste containers, litter and any other waste generated during the Maintenance shall be collected and disposed 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 of 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. Maintenance/maintenance 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 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 Maintenance work. Vegetation clearing shall not be done more than two months in advance of operations.
16. Stockpile areas shall be located in areas where trees can act as buffers to prevent dust pollution. Perimeter drains shall be built around stockpile areas. Sediment and other pollutant traps shall be located at drainage exits from workings.
17. The Contractor shall deposit any excess material in accordance with the principles of the general conditions, and any applicable EMP, in areas approved by local authorities and/or the SE.
18. Areas for depositing hazardous materials such as contaminated liquid and solid materials shall be approved by the SE and appropriate local and/or national authorities before the commencement of work. Use of existing, approved sites shall be preferred over the establishment of new sites.
Rehabilitation and Soil Erosion Prevention
19. To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of maintenance.
20. Always remove and retain topsoil for subsequent rehabilitation. Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.
21. Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2m high are recommended.

22. Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.
23. Locate stockpiles where they will not be disturbed by future maintenance/Maintenance 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. Re-vegetate 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 downstream and maintains the ecological balance of the river system.

36. No maintenance/Maintenance 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 Maintenance 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 maintenance/Maintenance work, the Contractor shall mount an awareness and hygiene campaign. Workers and local residents shall be sensitized on health risks particularly of Cholera, tetanus and Hepatitis.
50. Adequate road signs to warn pedestrians and motorists of maintenance/Maintenance activities, diversions, etc. shall be provided at appropriate points.
51. Maintenance/Maintenance vehicles shall not exceed maximum speed limit of 40km per hour.

Repair of Private Property

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

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

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

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

For the Contractor, for internal purposes, to ensure that all measures are in place for adequate EHS management, and as an operational manual for his staff.

For the Client, supported where necessary by a SE, to ensure that the Contractor is fully prepared for the adequate management of the EHS aspects of the project, and as a basis for monitoring of the Contractor's EHS performance.

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

a description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP;

a description of specific mitigation measures that will be implemented in order to minimize adverse impacts;

a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and

the internal organizational, management and reporting mechanisms put in place for such.

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

EHS Reporting

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

EHS management actions/measures taken, including approvals sought from local or national authorities;

Problems encountered in relation to EHS aspects (incidents, including delays, cost consequences, etc. as a result thereof);

Lack of compliance with contract requirements on the part of the Contractor;

Changes of assumptions, conditions, measures, designs and actual works in relation to EHS aspects; and
Observations, concerns raised and/or decisions taken with regard to EHS management during site meetings.
Training of Contractor's Personnel
58. The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project EMP, and his own EHS-MP, and are able to fulfil their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the EHS-MP. General topics should be:
EHS in general (working procedures);
Emergency procedures; and
Social and cultural aspects (raise awareness on social issues).
Cost of Compliance
59. It is expected that compliance with these conditions is already part of standard good workmanship and state of art as generally required under this Contract. The item "Compliance with Environmental Management Conditions" in the Bill of Quantities covers this cost. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable EHS impact.

Annex 4: Sample – Socioeconomic data collection form (Questionnaire)

NEWMAP
Nigeria Erosion and Watershed Management Project

NIGERIA EROSION AND WATERSHED MANAGEMENT PROJECT (NEWMAP)

Questionnaire for the Preparation of Safeguard Instruments (ESMP) for Ekiti - NEWMAP

This questionnaire which is expected to take about 5 minutes to complete is aimed at eliciting your view/opinion on the social and environmental implications of the Ekiti NEWMAP project activities in your community. Your input would assist in the preparation of an Environmental and Social Management Plan (ESMP) that would enable the PMU to manage the various project activities in a manner that guarantees socio-environmental sustainability of the project.

My name is ……
……
……..
DATE:……Questionnaire No……
Community:…….
LGA:……GPS Location:……..
Please simply tick (x) or write in brief detail where appropriate
SECTION A: BIO-DATA
Name: ……..

PhoneNumber:……
……
Address(optional):
……

Age (years): ☐ ☐ 18-30 ☐ ☐ 31-50 ☐ 50-70 above 70

Sex: Male ☐ ☐ Female

What is your religion: ☐ Christian ☐ ☐ Muslim ☐ ☐ Pagan traditionalist Others

Marital Status: ☐ Single ☐ Married ☐ Separated/Divorcee

No. of children: None ☐ ☐ 1-3 ☐ ☐ 4-6 ☐ 6-8 Above 8

Level of education: ( ) No formal educ. ( ) Govt. Secondary ( ) Secondary ( ) Tertiary ( ) others (specify) ……..

What do you do for a living (your Govt. secondary occupation/nature of business)?

( ) Self-employed ( ) fisherman ( ) hunter ( ) public sector ( ) Others (specify)……
11. How long have you been resident in this community?
( ) Since birth ( ) above 15 years ( ) 10 – 15 years ( ) 5 – 10 years ( ) below 5 years
12. What are the transportation means to this community?
( ) Car/bus ( ) motorcycle ( ) bicycle ( ) lorry ( ) others
13. Please give your weekly( ) or monthly ( ) earnings
Below N500 ( ) N500 – N1000 ( ) N1000 – N5000 ( ) N5000 – N7000 ( ) N7000 – N10,000 above 10,000 ( )
SECTION B
11. What is your general opinion of this project?
……
12. How do you think the project will affect the community? How will it affect the individual families?
……
Pls explain the benefits or negative impacts of this project in the community? ……..

How do you seek redress when there is a grievance among people in this community? ……

Do you have any concerns about labour influx into the community when the project commences?

……
……
How far or how close is the nearest market?
……
……
Please describe the leadership structure in this community

……
……..
Please describe the health care facilities in this village. Where is the nearest hospital located?
……
……..

19. Have you had any instances of men beating women or children in your community? If yes, please explain.……
……

Annex 5: Laboratory Data Analysis & Results

LAGOS STATE GOVERNMENT

LASEPA

Ref: EPA/LAB/V/10 Date: 29/10/2020

LABORATORY SERVICES DEPARTMENT

Client: Sada Afri tech International Limited
3B Evo Road G.R.A Pot Harcourt.

SUBMISSION OF LABORATORY ANALYSIS RESULT.

I hereby submit the result of the followings:

One hundred and four (104) soil sample (52 Top soil & 52 sub soil).

Ninety Eight (98) Water Samples (50 Ground water & 48 surface water).

Submitted to the laboratory by Mr. Ikekhua Y.O of the above firm for Elemental & microbial analysis of water, elemental, microbial and geotechnical analysis for soil.

Attached is the copy of the laboratory analysis result.

Thank you for your patronage.

Yours Faithfully.

Lanre Adekunle Dauda (Mr.)
Lab. Analyst

Laboratory Services Do
Lagos State Environmental
Protection Agency
Secretariat Alausa Ikeja
Date 29/10/2020

Annex 5a: Data on Air and Noise Quality

s/n	Location	Parameter						Noise
A	**ADO-EKITI**	**SO_2**	**H_2S**	**NO_2**	**CO**	**SPM_{10}**	**TVOC**	**dB A**
1	Crownbiz	ND	0.01	0.02	6.56	48.31	0.003	50.2
2	Basiri Sawmill	0.02	0.01	0.01	7.2	56.5	0.01	55.9
3	Olorunda bridge	0.08	0.03	0.03	5.1	36.8	0.006	50.5
4	Olorunda culvert	ND	ND	0.01	1.69	30	ND	22.8
5	Olorunsogo	0.06	0.02	ND	6.2	38.4	ND	52.7
6	Olorunsogo 1	0.01	ND	0.03	4.3	28.2	0.001	30.4
7	Olorunsogo 2	ND	ND	ND	2.98	32.6	ND	36.1
8	Police HQ	0.09	0.02	0.03	5.9	50.3	0.002	52.9
9	FAO	0.06	0.01	0.01	3.98	43.7	0.I0	30.9
10	Better life stream 1	0.01	ND	ND	2.77	28.5	ND	31
11	Better Life stream 2	ND	ND	0.02	3.11	20.3	ND	29.8
12	Ita Eku	0.01	0.01	ND	5.32	36.8	0.003	40.6
13	Moferere	0.02	O.O3	0.01	4.6	52.1	0.77	43.5
14	IRJF	0.03	0.02	0.02	3.1	27.6	ND	30.8
15	EMRRB	0.01	0.03	0.03	2	40.3	0.002	52.3
16	IRJPR	ND	0.01	ND	6.5	38.4	0.001	58.2
17	Dalimore Upstream	0.14	0.03	0.03	7.3	60.4	0.008	62.1
18	Dallimore Upstream 2	0.01	0.06	0.02	3.3	31.3	0.005	50.5
19	Dalimore Igbalaye	0.02	ND	ND	2.96	32.6	ND	34.6
20	Dallimore House	ND	ND	ND	3.6	30.2	ND	30.6
21	DLM i	0.02	0.01	0.01	4.38	28.5	0.001	33.4
22	Dallimore Housing estate	0.03	0,02	0.02	6.51	50.63	0.006	53.4
23	AKAST	0.02	0.01	0.03	2.3	35.2	ND	31.8
24	PAV	0.07	0.03	0.03	3.55	46.4	0.004	38.3
25	IRJK	0.12	0.04	0.01	7.4	54.8	0.071	60.1
26	FAL	0.01	0.01	0.03	2.4	41.2	0.008	41.5
27	ADRB	0.13	0.03	0.02	7.34	60.21	0.006	67.41

28	ABKB	0.19	0.02	0.13	3.01	40.02	0.08	56.4
29	ADKC	0.06	0.01	ND	4.04	37.4	0.05	58.1
30	SGDB	ND	ND	0.03	3.11	50.13	ND	48.54
31	Awajin 2	0.01	0.03	ND	2.63	37.26	ND	38.21
32	Awajin 1	0.13	0.22	0.03	8.02	64.6	0.06	58.6
33	USGD	0.16	0.03	0.03	6.4	32.4	0.01	39.7
34	Omisanjana 1	0.03	0.01	0.04	7.13	56.5	0.04	61.6
35	Omisanjana 2	0.04	0.03	0.02	4.01	48.3	0.01	51.6
36	Ominsanjana 3	0.11	0.02	0.04	3.02	36.9	0.03	51.7
37	PVB	0.08	0.11	0.03	6.3	56.8	0.021	6O.10
38	BWEB	0.13	0.01	0.04	6.1	48.2	0.1	61.21
B	**IKERE**							
39	OSNB	0.17	0.03	0.19	7.57	57.9	0.061	58.5
40	AJGB	0.2	0.02	0.03	8.5	63.4	0.07	51.5
41	OKOSNB	0.16	0.03	0.01	7.25	47.5	0.02	50.3
42	AIYA II	ND	ND	0.01	0.08	25.2	ND	21.8
43	AIYA I	0.13	0.16	0.07	6.71	56.5	0.001	66.2
44	AIYAIF	0.01	0.01	ND	3.09	12.3	ND	37.6
C	**IKOLE**							
45	ARKB	0.01	ND	0.01	5.21	43.03	ND	33.2
46	IRHC	ND	ND	ND	3.87	30.2	ND	29.8
47	OGM	ND	ND	ND	3.66	50.16	ND	36.23
48	PAO II	0.01	ND	ND	2.1	25.8	ND	30.26
49	PAO I	ND	ND	ND	4.51	23.3	ND	33.1
D	**EFON-ALAAYE**							
50	OWD II	0.02	0.02	0.01	7.1	62.23	0.06	45.2
51	IJFT	0.03	0.01	0.04	5.2	48.31	0.03	56.81
52	OLOR	0.02	0.01	0.03	5.18	51	0.03	56.94
53	ITOSN	0.03	0.02	0.02	6.12	58.2	0.01	60.11
54	IJIB	0.02	ND	0.03	4.63	27.52	0.03	32.86
	FME MAX. VALUES	0.26	0.05	0.06	10PPM	73PPM	0.15	90dB

Annex 5b: Data on Physico-chemical properties of Groundwater

H2O ID	PH	TDS	EC	DO	COD	BOD	Ca	Na	K	Mg	PO_4^{3-}	SO_4^{2-}	NO_3^{2-}	Cl^-
		ppm		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
CBR GW	6.2	103.6	147	1.21	3.92	1.21	45.2	0.7	1.81	15.1	0.25	3. 92	0.21	28.3
SW	6.5	110.8	625	3.01	4.84	3.01	26.8	0.5	1.32	24.3	3.61	11.13	0.18	35.4
BSMB GW	5.9	112.5	172.6	2.13	2.83	2.13	56.2	0.8	1.05	17.6	0.27	4.08	0.23	45.6
S W	6.7	136.2	345	2.81	5.48	2.81	48	0.7	0.92	28.5	3.85	10.46	0.16	32.8
OLDB GW	5.5	138.3	120.8	3.71	6.32	3.71	75.3	0.5	0.81	16.8	0.32	3.05	0.23	38.5
S W	6.4	165.4	713	3.63	7.18	3.63	47.5	0.6	0.76	20.6	3.95	9.03	0.18	40.2
OLDC GW	6	123.6	95.6	1.82	4.23	1.82	76.4	0.8	1.39	24.5	0.28	4.21	0.19	28.1
S W	6.8	182.1	281.3	2.01	6.61	2.01	83.6	0.6	1.57	22.1	3.76	8.36	0.13	32.6
OLG1 GW	6,2	152.6	110.9	1.3	2.63	1.3	54.3	0.3	1.91	18.5	0.29	5.36	0.26	33.5
S W	6.6	185.1	103.2	2.61	3.93	2.61	36.9	0.2	1.21	16.8	3.82	9.2	0.17	40.2
OLG2 GW	5.8	143.4	151.4	1.33	5.92	1.33	47.4	0.3	2.01	14.2	0.31	4.89	0.15	35
S W	6.3	172.5	548.7	2.16	7.1	2.16	42.8	0.2	1.69	12.4	4.31	10.26	0.12	45.6
OLG3 GW	5.6	109.6	98.71	1.33	6.3	1.84	52.5	0.8	2.16	21.8	0.33	5.33	0.2	47.7
S W	6.1	158.3	613.5	2.16	7.08	2.63	28.6	0.7	2.36	27.5	4.01	11.8	0.24	55.4
PHQ GW	5.5	118.6	173.6	1.48	3.55	3.01	58.5	0.5	1.92	24.4	0.2	3.88	0.21	40.3
S W	6.4	165.2	813.4	2.63	4.09	4.05	44.3	0.3	2.45	28.5	3.11	10.36	0.18	42.5
FAO GW	5.7	140.1	112.9	3.01	4.08	2.01	60	1.1	1.77	19.6	0.15	4.11	0.15	48.6
S W	6,5	167.5	285.8	4.05	6.11	3.15	49.3	0.9	2.48	23.2	4.01	11.3	0.17	33.2
BTLS GW	6.4	136.3	92.25	2.18	2.82	2.18	47.1	0.7	1.96	16.2	0.3	6.36	0.1	36.6
S W	6.4	175.8	265.2	3.46	3.68	3.46	40.3	1.2	1.78	21.8	3.91	12	0.24	30.8
BLMS GW	5.7	148.4	118,7	1.88	4.28	1.88	56.4	1.3	1.55	18.1	0.35	5.2	0.22	31.3
S W	6.1	192.1	268.1	1.95	5.13	1.95	49.5	0.2	0.97	22.9	3.88	10.06	0.13	34.5
ORU GW	5.9	156.5	96.31	3.02	3.91	3.02	56.5	0.6	1.18	14.7	0.18	3.92	0.23	38.2
S W	6.8	195.6	257.3	2.18	4.46	2.18	49.8	0.5	2.08	19.3	3.8	9.86	0.16	25.6
ITE GW	6.3	153.4	228.6	3.05	3.94	3.05	47.9	0.8	1.65	17.8	0.34	4.06	0.28	43.4
S W	6.7	185.6	715.1	3.68	5.03	3.68	63.7	0.4	2.09	14.6	3.42	10.28	0.17	39.1
IRJFGW	6.1	165.5	103.6	4.01	1.82	4.01	59.1	0.5	1.29	19.3	0.26	6.3	0.25	45.7
SW	6.4	1.4	413.5	4	2.95	4	50.5	0.3	1.36	15.7	3.75	11.25	0.18	44.6

EMRBGW	6.7	140	122.4	1.43	3.16	1.43	63.2	0.4	2.48	18.3	0.31	5.99	0.29	51.2
S W	6.6	210.2	756.5	2.61	4.82	2.61	51.8	0.2	2.51	22.6	4.03	11.25	0.2	40.1
IRPRGW	6.3	175.5	118.2	2.05	3.51	2.05	73.6	1.1	2.11	21.1	0.24	5.99	0.26	1.5
S W	6.7	213.6	412.5	3.08	5.56	3.08	61.2	0.8	1.1	19.5	3.7	11.47	0.21	36.2
DMUSGW	6.6	118.3	102.4	1.62	3.04	1.62	65.8	0.4	1.15	20.4	0.31	5.5	0.27	48.5
S W	6.5	196.4	96.5	2	5.12	0	57.1	0.3	0.81	22.3	3.65	10.98	0.15	39.4
DMUS1GW	6.8	128.8	500	2.13	2.92	2.13	60.9	0.6	0.83	19.4	0.28	4.38	0.18	54.5
S W	7.5	200.3	98.2	3.61	2.93	3.61	55.7	0.2	0.76	25.2	4.03	10.84	0.24	28.9
DMOGW	6.9	130.5	625.1	3.11	4.11	3.11	63.2	0.3	0.66	22.3	0.24	4.81	0.21	51.7
S W	7.8	195.7	108.7	3.82	4.02	3.82	56.4	0.5	0.24	28.2	3.86	10.76	0.16	51.6
DM4GW	6.7	141.6	413.3	1.62	6.18	1.62	53.1	0.6	0.32	24.5	0.23	6.38	0.25	58.3
S W	7.2	190.2	128.3	2.06	7.83	2.06	48.2	0.7	0.78	19.3	3.61	12.05	0.19	49.2
DMiGW	7.5	152.5	421.9	1.2	5.83	1.2	49.4	0.4	0.92	18.7	0.31	7.52	0.27	54.8
S W	7.9	173.2	116.4	2.18	3.18	2.18	36.8	0.5	1.25	19.6	3.58	12.15	0.21	55
DMHBGW	6.9	155.8	500.1	2.63	4.86	2.63	59.5	0.3	1.58	14.7	0.23	6.18	0.29	49.24
S W	7.4	195.1	121.5	3.06	2.16	3.06	53.6	0.4	1.62	18.4	3.42	11.38	0.15	45.8
AKAGW	6.7	148.4	503.6	1.28	3.08	1.28	63.5	0.3	1.33	23.5	0.19	5.84	0.24	55
S W	7.3	182.6	101.8	2.22	3.56	2.22	58.6	0.5	1.72	18.5	3.33	12.15	0.16	52.5
PAVGW	6.9	152.3	712.5	2.03	5.71	2.03	48.4	0.6	1.36	15.8	0.17	6.11	0.21	50.7
S W	7.6	193.5	99.6	3.18	2.25	3.18	33.2	0.4	1.55	24.2	3.38	12.17	0.23	61.3
IRKDGW	7.2	158.1	701.4	2.12	3.68	2.12	57.7	0.2	2.1	19.7	0.21	6.02	0.31	54.8
S W	7.9	192.4	601.5	2.85	3.01	2.55	49.6	0.9	2.61	16.5	3.46	12.04	0.25	60
FALGW	6.7	186.5	101.8	2.19	4.53	2.19	66.3	0.4	2.8	18.4	0.29	5.32	0.31	56.2
S W	7’3	213.6	406.3	2.59	2.93	2.59	60.4	0.6	1.62	21.3	4.03	11.1	0.2	66.8
ADRBGW	6.5	175.5	160.8	1.82	5.82	1.82	61.5	0.8	1.36	14.6	0.31	4.76	0.25	58.5
S W	6.9	226.4	612.1	2.13	5.62	2.13	52.6	0.3	1.98	20.3	3.84	10.3	0.18	67.3
ABKBGW	7.1	167.1	96.6	1.98	6.81	1.98	68.3	1.3	1.42	19.4	0.33	4.12	0.2	54.1
S W	7.6	209.7	418.3	2.29	4.57	2.26	52.1	1.4	1.56	23.2	3.6	11.01	0.16	62.8
ADKCGW	6.8	160.5	119.3	1.93	4.91	1.92	46.5	0.8	1.54	19.7	0.29	3.59	0.23	55.7
S W	**	192.8	439.4	2.69	3.86	2.29	43.8	0.9	1.96	22.4	3.47	12.14	0.17	63.9
SGDBGW	7.3	166.4	112.8	2.67	5.01	1.93	35.1	0.5	0.92	20.6	0.16	5	0.23	51.8
S W	7.7	181.3	516.2	3.33	4.3	2.69	61.9	0.4	1.48	17.8	3.52	12.08	0.13	65.3
	0	175.2	0	0	0	0	0	0	0	0	0	0	0	0
AWJ2GW	6.6	206.5	102.5	2.11	6.11	2.67	50	0.5	1.56	15.4	0.23	4.52	0.25	40.2

S W	7.4	168.1	608.6	2.75	4.36	3.33	62.5	0.4	1.98	23.2	3.87	11.16	0.16	58.6
AWJ1GW	7.1	216.5	113.1	1.98	7.01	2.11	59.3	0.4	2.03	18.5	0.34	3.89	0.28	47.1
S W	7.3	138.4	600.3	2.16	3.92	2.75	59.8	0.8	2.01	25.7	3.92	10.52	0.17	56.3
USGGW	6.6	196.5	120.5	1.69	7.01	1.98	50.7	0.7	2.11	16.9	0.25	4.26	0.2	59.4
S W	6.9	129.8	608.1	2.1	3.92	2.16	60.6	0.3	2.73	25.4	4.07	10.78	0.21	48.7
OMJCGW	6.5	181.4	98.6	1.84	7.05	1.69	58.1	0.2	2.62	16.3	0.28	6.01	0.27	30.9
S W	7.3	190.3	638.2	2.14	5.21	2.1	75.3	0.5	2.34	26.9	3.05	12.16	0.18	37.6
OMJSGW	6.8	152.8	106.9	1.95	6.83	1.84	60.2	0.4	2.05	19.8	3.08	6.21	0.29	33.2
S W	7.9	185.6	522.4	1.95	5.36	1.84	70.4	0.6	2.11	27.2	0.31	12.28	0.15	39.5
OMJOGW		0	0	1.95	0	0	56.8	0	0	0	0	0	0	0
S W	6.7	148.2	113.5	2.56	7	2.14	68.5	0.4	1.92	21.1	4.08	15.17	0.26	32.8
PVB GW	7.5	186.3	581.3	1.66	3.46	1.95	61.3	0.3	1.75	26.8	0.15	11.75	0.22	40.5
S W	6.7	135.7	145.8	2.84	4.81	2.56	53.8	0.2	1.64	20.4	3.17	5.46	0.25	40.5
BWEBGW	7.3	192.5	21.7	2.56	4.13	1.66	25.4	0.4	1.82	24.5	0.22	11.81	0.19	48.3
S W	6.8	158.3		3.08	6.16	2.84	32.6		2.1	22.3	3.3	4.31	0.22	
FMELMT	7.2	181.5		2.61	3.51	2.43	45.1		2.01	27.2	3.3	10.72	0.17	

Annex 5c: Data on Physico-chemical properties of Surface Water

H2O ID	PH	TDS	EC	DO	COD	BOD	Ca	Na	K	Mg	PO_4^{3-}	SO_4^{2-}	NO_3^{2-}	Cl^-
		ppm		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
CBR SW	6.5	110.8	625	3.01	4.84	3.01	26.8	0.5	1.32	24.3	3.61	11.13	0.18	35.4
BSMB S W	6.7	136.2	345	2.81	5.48	2.81	48	0.7	0.92	28.5	3.85	10.46	0.16	32.8
OLDB S W	6.4	165.4	713	3.63	7.18	3.63	47.5	0.6	0.76	20.6	3.95	9.03	0.18	40.2
OLDC S W	6.8	182.1	281.3	2.01	6.61	2.01	83.6	0.6	1.57	22.1	3.76	8.36	0.13	32.6
OLG1 SW	6.6	185.1	103.2	2.61	3.93	2.61	36.9	0.2	1.21	16.8	3.82	9.2	0.17	40.2
OLG2 S W	6.3	172.5	548.7	2.16	7.1	2.16	42.8	0.2	1.69	12.4	4.31	10.26	0.12	45.6
OLG3 S W	6.1	158.3	613.5	2.16	7.08	2.63	28.6	0.7	2.36	27.5	4.01	11.8	0.24	55.4
PHQ SW	6.4	165.2	813.4	2.63	4.09	4.05	44.3	0.3	2.45	28.5	3.11	10.36	0.18	42.5
FAO S W	6,5	167.5	285.8	4.05	6.11	3.15	49.3	0.9	2.48	23.2	4.01	11.3	0.17	33.2
BLTS S W	6.4	175.8	265.2	3.46	3.68	3.46	40.3	1.2	1.78	21.8	3.91	12	0.24	30.8
BLMS S W	6.1	192.1	268.1	1.95	5.13	1.95	49.5	0.2	0.97	22.9	3.88	10.06	0.13	34.5
ORU SW	6.8	195.6	257.3	2.18	4.46	2.18	49.8	0.5	2.08	19.3	3.8	9.86	0.16	25.6
ITE SW	6.7	185.6	715.1	3.68	5.03	3.68	63.7	0.4	2.09	14.6	3.42	10.28	0.17	39.1
IRJFGW SW	6.4	1.4	413.5	4	2.95	4	50.5	0.3	1.36	15.7	3.75	11.25	0.18	44.6
EMRB S W	6.6	210.2	756.5	2.61	4.82	2.61	51.8	0.2	2.51	22.6	4.03	11.25	0.2	40.1
DMU SW	6.5	196.4	96.5	2	5.12	0	57.1	0.3	0.81	22.3	3.65	10.98	0.15	39.4
DMSU1 SW	7.5	200.3	98.2	3.61	2.93	3.61	55.7	0.2	0.76	25.2	4.03	10.84	0.24	28.9
DMOGW SW	7.8	195.7	108.7	3.82	4.02	3.82	56.4	0.5	0.24	28.2	3.86	10.76	0.16	51.6
DM4SW	7.2	190.2	128.3	2.06	7.83	2.06	48.2	0.7	0.78	19.3	3.61	12.05	0.19	49.2
DMiGWSW	7.9	173.2	116.4	2.18	3.18	2.18	36.8	0.5	1.25	19.6	3.58	12.15	0.21	55
DMHBG SW	7.4	195.1	121.5	3.06	2.16	3.06	53.6	0.4	1.62	18.4	3.42	11.38	0.15	45.8
	6.7	148.4	503.6	1.28	3.08	1.28	63.5	0.3	1.33	23.5	0.19	5.84	0.24	55
DMHBG SW	7.3	182.6	101.8	2.22	3.56	2.22	58.6	0.5	1.72	18.5	3.33	12.15	0.16	52.5
PAV SW	7.6	193.5	99.6	3.18	2.25	3.18	33.2	0.4	1.55	24.2	3.38	12.17	0.23	61.3
IRKD S W	7.9	192.4	601.5	2.85	3.01	2.55	49.6	0.9	2.61	16.5	3.46	12.04	0.25	60

FAL SW	7'3	213.6	406.3	2.59	2.93	2.59	60.4	0.6	1.62	21.3	4.03	11.1	0.2	66.8
ADRB SW	6.9	226.4	612.1	2.13	5.62	2.13	52.6	0.3	1.98	20.3	3.84	10.3	0.18	67.3
ABKB SW	7.6	209.7	418.3	2.29	4.57	2.26	52.1	1.4	1.56	23.2	3.6	11.01	0.16	62.8
ADKC S W	**	192.8	439.4	2.69	3.86	2.29	43.8	0.9	1.96	22.4	3.47	12.14	0.17	63.9
SGDB SW	7.7	181.3	516.2	3.33	4.3	2.69	61.9	0.4	1.48	17.8	3.52	12.08	0.13	65.3
AWJ2 S W	7.4	168.1	608.6	2.75	4.36	3.33	62.5	0.4	1.98	23.2	3.87	11.16	0.16	58.6
AWJ1 S W	7.3	138.4	600.3	2.16	3.92	2.75	59.8	0.8	2.01	25.7	3.92	10.52	0.17	56.3
USG S W	6.9	129.8	608.1	2.1	3.92	2.16	60.6	0.3	2.73	25.4	4.07	10.78	0.21	48.7
OMJC S W	7.3	190.3	638.2	2.14	5.21	2.1	75.3	0.5	2.34	26.9	3.05	12.16	0.18	37.6
OMJS S W	7.9	185.6	522.4	1.95	5.36	1.84	70.4	0.6	2.11	27.2	0.31	12.28	0.15	39.5
OMJO SW	6.7	148.2	113.5	2.56	7	2.14	68.5	0.4	1.92	21.1	4.08	15.17	0.26	32.8
PVB SW	6.7	135.7	145.8	2.84	4.81	2.56	53.8	0.2	1.64	20.4	3.17	5.46	0.25	40.5
BWEB S W	6.8	158.3		3.08	6.16	2.84	32.6		2.1	22.3	3.3	4.31	0.22	
Mean	6.42	172.36	394.86	2.68	4.68	2.62	52.12	0.51	1.68	21.94	3.53	10.67	0.19	46.25

Annex 5d: Data on Physico-chemical properties in Soil

Soil ID	Cmolkg-1								
	Ca	K	Na	Mg	HB	HUB		HF	HUF
OSNB TS	4.86	0.45	0.18	1.43	$2.8x10^3$	$1.9x10^3$	$0.8x10^3$	$4.3x10^3$	
SS	3.21	0.32	0.15	1.08	$2.5x10^3$	$1.1x10^3$	$0.3x10^3$	$3.7x10^3$	
AJLB TS	4.05	0.54	0.26	1.05	$6.1x10^3$	$4.4x10^3$	$1.6x10^3$	$3.6x10^3$	
S S	3.98	0.61	0.03	1.01	$6.0x10^3$	$3.9x10^3$	$1.0x10^3$	$7.3x10^3$	
OKOS TS	4.01	0.46	0.93	1.26	$7.4x10^3$	$5.0x10^3$	$3.1x10^3$	$8.1x10^3$	
S S	4.01	0.53	0.68	1.11	$5.0x10^3$	$5.0x10^3$	$2.5x10^3$	$7.4x10^3$	
AYA2 TS	3.11	0.45	1.4	1.28	$7.1x10^3$	$3.8x10^3$	$3.9x10^3$	$6.8x10^3$	
S S	3.02	0.12	1.36	1.17	$6.8x10^3$	$2.4x10^3$	$1.7x10^3$	$6.3x10^3$	
AYA1 TS	3.06	0.54	1.45	1.3	$5.9x10^3$	$1.3x10^3$	$0.6x10^3$	$3.8x10^3$	
S S	3.94	0.43	1.52	1.25	$3.3x10^3$	$1.0x10^3$	$0.1x10^3$	$2.5x10^3$	
AYAi TS	3.63	0.68	1.5	1.36	$7.0x10^3$	$4.6x10^3$	$3.8x10^3$	$7.9x10^3$	
S S	3.54	0.7	1.41	1.14	$7.0x10^3$	$3.8x10^3$	$3.0x10^3$	$6.5x10^3$	
IKOLE									
PAO1 TS	3.81	0.65	0.13	2.36	$3.5x10^3$	$3.1x10^3$	$2.7x10^3$	$3.0x10^3$	
S S	3.11	0.6	0.12	1.08	$1.9x10^3$	$2.2x10^3$	$2.2x10^3$	$2.9x10^3$	
PAO2 TS	3.77	0.6	0.09	2.11	$3.8x10^3$	$2.8x10^3$	$2.9x10^3$	$3.6x10^3$	
S S	3.56	0.61	0.05	2.01	$2.6x10^3$	$1.5x10^3$	$2.6x10^3$	$2.5x10^3$	
ARK TS	5.36	0.68	0.16	1.28	$6.0x10^3$	$5.3x10^3$	$4.3x10^3$	$8.2x10^3$	
S S	4.62	0.53	0.1	1	$4.3x10^3$	$3.8x10^3$	$4.1x10^3$	$7.0x10^3$	
IRHC TS	5.85	0.55	0.08	2.19	$7.8x10^3$	$5.6x10^3$	$3.2x10^3$	$6.8x10^3$	
S S	5.7	0.52	0.06	2.1	$5.0x10^3$	$2.9x10^3$	$3.0x10^3$	$5.1x10^3$	
OGMUTS	4.01	0.61	0.03	1.25	$6.0x10^3$	$3.5x10^3$	$2.8x10^3$	$6.0x10^3$	
S S	3.3	0.58	0.03	1.08	$2.4x10^3$	$1.8x10^3$	$2.5x10^3$	5.8103	
EFON-ALAYE									
OWO2TS	5.01	1.52	0.15	2.81	$5.1x10^3$	$2.9x10^3$	$3.0x10^3$	$7.0x10^3$	
S S	4	1.5	0.13	2.53	$1.0x10^3$	$2.3x10^3$	$3.0x10^3$	$6.3x10^3$	
IJTNTS	5.1	1.43	0.16	2.94	$6.0x10^3$	$1.7x10^3$	$2.9x10^3$	$6.5x10^3$	
S S	5.02	1.32	0.1	2.4	$3.3x10^3$	$1.0x10^3$	$2.6x10^3$	$6.0x10^3$	
OLORTS	XX	XX	XX	XX	XX	XX	XX	XX	
S S	XX	XX	XX	XX	XX	XX	XX	XX	

ITOSTS	4.3	1.11	0.19	1.85	$7.3x10^3$	$4.3x10^3$	$4.0x10^3$	$8.0x10^3$
S S	3.92	1.06	0.12	1.48	$4.1x10^3$	$3.9x10^3$	$3.9x10^3$	$7.3x10^3$
IJIBTS	3.69	1	0.17	1.12	$5.4x10^3$	$3.6x10^3$	$3.8x10^3$	$6.2x10^3$
S S	3.01	0.91	0.11	1.06	$5.0x10^3$	$3.0x10^3$	$2.9x10^3$	$5.9x10^3$
FMELMT	500	180	100	150	$9.0x10^3$	$5.5x10^3$	$4.9x10^3$	$9.0x10^3$

Annex 6: Occupational Health & Safety (OHS) Plan

No	Project Activity	Potential Impact	Proposed Mitigation Measures/ Actions	Responsibility for mitigation	Cost (NGN)
I. Pre-Construction Phase					
3a.	Site clearing for staging area Mobilisation of Excavation, dredging or grading, compaction, filling Plant & Equipment	Occupational accidents and injuries to workers and risk to community health and safety	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Yoruba languages). - Restriction of unauthorized access to all areas of high-risk activities - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Any uncovered work pits should have appropriate signage and protection around them - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night - appropriate security measures in place to prevent harassment or kidnapping of workers - Ensure contractors employees are aware of	Contractor	650,000

			security threats in work location by having in place a Security Management Plan and should refer to it at all times (Annex 12)		
3b.	Mobilization of personnel, equipment, machinery, heavy duty vehicles for preparation of workers' camp	Exposure to and transmission of COVID-19	*Ensure implementation of the government established and SPMU preparedness & Response protocols on COVID-19 by: *Preventing overcrowding on site by following govt. established regulations on social distancing *Provide wash hand basins for proper and thorough and washing to enter and leave sites *carry out regular temperature checks at the beginning and end of each working day *use of minimum required PPE (face masks, gloves and face shields etc.) *Ensure disinfecting of tools with strong disinfectant (bleach etc.) after work *Provision of an isolation center or room on site	Contractor	500,000
10.	Use of Workers Camp	Generation of sanitary waste from worker's camp	• Ensure provision of sanitary facilities on site for workers and enforce usage. • Ensure usage of Ekiti approved waste vendor for waste evacuation & disposal.	Contractor	600,000
11.	Use of haulage trucks for sand & materials supply	Public safety, road accidents leading to injuries and fatalities	• Train drivers on defensive driving • Conveyance of materials to site shall be by appropriate transportation means to prevent damage or accidents • Provide road signs and flag persons to warn of dangerous conditions of conveying materials such as the water trucks	Contractor PMU Safeguards Team	No additional cost
12.	Excavation, grading, compaction, filling and other civil works for channelization	Public safety, road accidents leading to injuries and fatalities	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP • Ensure QA/QC control is established on inspection of materials, which are to be of best quality to	Engineering Consultant/Ministry of Works & Transport Environmental Safeguards Specialist	500,000

	Excavation and compaction activities through construction works will alter the soil properties including loss of valuable topsoil's Use of generators for power supply	affecting host community population, which could lead to conflict/ unrest and stoppage of activities.	prevent defective outcomes on construction sites • Ensure workers are aware of inherent risks in use of pavement materials such as bitumen • Use of appropriate PPE to ensure risks to accidents & incidents are minimized or eliminated • Use tarpaulins to cover sand and other loose material when transported by trucks • Ensure excavation pits are used for extraction of material only for project purposes and not commercial • Ensure generators are operated by dedicated trained personnel • Carry out regular servicing of generator to reduce release of harmful emissions		
20.	Use of workers camp	Sanitation issues and public health impacts	• Provide bins on site for temporary storage of domestic waste such as lubricant containers, drinking water sachets and carrier bags/packaging materials. • Dispose all construction and domestic waste at the approved dumpsites and in the approved manner. • Ensure all trenches or excavations made during the construction works do not collect stagnant water, which could breed mosquitoes. • Ensure access to toilets for construction crew or provide temporary toilets (mobile toilets) for use where there are no existing ones. • Ensure mobile toilets/sanitary provisions are provided to reflect gender types. • Ensure regular toolbox meetings are held among contractor workers to offer awareness on	Contractor/ Engineering Consultant Environmental Safeguards Specialist	400,000

			transmission of contagious or communicable diseases.		
21.	Operation of Construction Machinery & Equipment Movement of materials Use of Compaction, filling & excavation equipment	Occupational accidents and injuries to workers and risk to community health and safety	• Develop and implement a project specific Occupational Health and Safety Plan (OHSP). OHSP to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Ibo languages). - Use only trained personnel for welding activities - Restriction of unauthorized access to all areas of high-risk activities - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Any uncovered work pits should have appropriate signage and protection around them - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night • appropriate security measures in place to prevent harassment or kidnapping of workers •	Contractor	450,000

22.	Construction of culverts, drainage basins Construction	Occupational accidents and injuries to workers and risk to community health and safety Erosion Risk of erosion and flood	• Ensure location is properly cordoned off before construction activities are carried out • Carry out proper levelling and setting out to ensure appropriate road gradient is achieved to prevent ponding/flooding issues • Create awareness in neighbouring communities to ensure road users are aware of road intervention work • Use of biological control measures (tree planting) with tree roots that will bind soil and reduce erosion • As much as possible, ensure community minimises movement around the site and should be informed before this type of work is carried out • Use appropriate signage along road to show work in progress • Use of flagmen to divert traffic where required • Provide side-drains to promote effective run off channelization • Crosscheck design to ensure road gradient is adequate enough to avoid backflow runoff into residences	Contractor	300,000
26.	Channelization & construction activities	Increase in spread of Communicable diseases, STDs such as HIV/AIDS and other STIs	▪ Ensure access into construction site is restricted ▪ Free testing kits ▪ Provision of condoms ▪ Vaccinating workers against common and locally prevalent diseases; ▪ Monitoring of local population health data, in particular for transmissible diseases. ▪ Implementation of HIV/AIDS education program; • Information campaigns on STDs among the workers and local community in collaboration WITH relevant HIV/AIDS	Contractor/ Engineering Consultant; Ekiti State Ministry of Health	450,000

			management organizations in Ekiti State.		
32.	Demobilisation of facilities, excavation, grading, compaction, filling plant & equipment	Risks of occupational accidents and injuries to workers.	• Develop & implement a project specific Occupational Health and Safety Plan (OHSP) to include but not limited to: - Prohibition of drug and alcohol use by workers while on the job. - Provision of adequate first aid, first aiders, PPE, signage (English and Yoruba languages). - Restriction of unauthorized access to all areas of high-risk activities. - Provision of specific personnel training on worksite OHS management - Ensure that staging areas for contractor equipment are adequately delineated and cordoned off with reflective tapes and barriers - Workers should get a daily induction/toolbox before going on the site and a refresher of what happened on site a day before - Adequate safety signage on construction sites should be installed to alert community/drivers/pedestrians - lighting and/or reflective tapes and signage integrated in all worksites for safety at night • appropriate security measures in place to prevent harassment or kidnapping of workers	Contractor	Part of Maintenance cost
33.	Excavation pit decommissioning	Public health	*Level out hollow area of pits to reduce ponding of water & stagnation *Revegetate area around the pit to re-introduce natural habitat formation *Planting of trees to replace felled vegetation	Contractor/ Engineering Consultant	500,000

			*Maintain drainage channels to reduce water collection in hollow *Use of brickets in stagnant pond formation areas to eliminate insect breeding *Carry out burrow pit reclamation according to remediation plan (annex 16)		
Sub-Total HSE			**N4,350,000.00**		

Annex 7: Sample Company Code of Conduct

Company's Code of Conduct

Preventing Gender Based Violence and Violence Against Children

The company is committed to creating and maintaining an environment in which gender-based violence (GBV) and violence against children (VAC) have no place, and where they will not be tolerated by any employee, associate, or representative of the company. Therefore, in order to ensure that all those engaged in the project are aware of this commitment, and in order to prevent, be aware of, and respond to any allegations of GBV and VAC, the company commits to the following core principles and minimum standards of behavior that will apply to all company employees, associates, and representatives including sub-contractors, without exception:

The company—and therefore all employees, associates, and representatives—commit to treating women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status. Acts of GBV and VAC are in violation of this commitment.

Demeaning, threatening, harassing, abusive, culturally inappropriate, or sexually provocative language and behavior are prohibited among all company employees, associates, and its representatives.

Acts of GBV or VAC constitute gross misconduct and are therefore grounds for sanctions, which may include penalties and/or termination of employment. All forms of GBV and VAC, including grooming are unacceptable, regardless of whether they take place on the work site, the work site surroundings, at worker's camps or at worker's homes.

In addition to company sanctions, legal prosecution of those who commit acts of GBV or VAC will be pursued if appropriate.

Sexual contact or activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.

Sexual favors—for instance, making promises or favorable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior are prohibited.

Unless there is full consent17 by all parties involved in the sexual act, sexual interactions between the company's employees (at any level) and members of the communities surrounding the work place are prohibited. This includes

17 Consent is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

relationships involving the withholding/promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered "non-consensual" within the scope of this Code.

All employees, including volunteers and sub-contractors are highly encouraged to report suspected or actual acts of GBV and/or VAC by a fellow worker, whether in the same company or not. Reports must be made in accordance with GBV and VAC Allegation Procedures.

Managers are required to report suspected or actual acts of GBV and/or VAC as they have a responsibility to uphold company commitments and hold their direct reports responsible.

To ensure that the above principles are implemented effectively the company commits to ensuring that:

All managers sign the 'Manager's Code of Conduct' detailing their responsibilities for implementing the company's commitments and enforcing the responsibilities in the 'Individual Code of Conduct'.

All employees sign the project's 'Individual Code of Conduct' confirming their agreement not to engage in activities resulting in GBV or VAC.

Displaying the Company and Individual Codes of Conduct prominently and in clear view at workers' camps, offices, and in in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.

Ensure that posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.

An appropriate person is nominated as the company's 'Focal Point' for addressing GBV and VAC issues, including representing the company on the GBV and VAC Compliance Team (GCCT) which is comprised of representatives from the client, contractor(s), the supervision consultant, and local service provider(s).

Ensuring that an effective Action Plan is developed in consultation with the GCCT which includes as a minimum:

GBV and VAC Allegation Procedure to report GBV and VAC issues through the project Grievance Redress Mechanism (GRM);

Accountability Measures to protect confidentiality of all involved; and,

Response Protocol applicable to GBV and VAC survivors and perpetrators.

That the company effectively implements the Action Plan, providing feedback to the GCCT for improvements and updates as appropriate.

All employees attend an induction training course prior to commencing work on site to ensure they are familiar with the company's commitments and the project's GBV and VAC Codes of Conduct.

All employees attend a mandatory training course once a month for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the project's GBV and VAC Code of Conduct.

I do hereby acknowledge that I have read the foregoing Company Code of Conduct, and on behalf of the company agree to comply with the standards contained therein. I understand my role and responsibilities to prevent and respond to GBV and VAC. I understand that any action inconsistent with this Company Code of Conduct or failure to take action mandated by this Company Code of Conduct may result in disciplinary action.

Company name: _____

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Manager's Code of Conduct

Preventing Gender Based Violence and Violence Against Children

Managers at all levels have particular responsibilities to uphold the company's commitment to preventing and addressing GBV and VAC. This means that managers have an acute responsibility to create and maintain an environment that prevents GBV and VAC. Managers need to support and promote the implementation of the Company Code of Conduct. To that end, managers must adhere this Manager's Code of Conduct and also sign the Individual Code of Conduct. This commits them to supporting and developing systems that facilitate the implementation of the Action Plan and maintain a GBV-free and VAC-free environment at the workplace and in the local community. These responsibilities include but are not limited to:

Implementation

To ensure maximum effectiveness of the Company and Individual Codes of Conduct:

Prominently displaying the Company and Individual Codes of Conduct in clear view at workers' camps, offices, and in in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.

Ensuring all posted and distributed copies of the Company and Individual Codes of Conduct are translated into the appropriate language of use in the work site areas as well as for any international staff in their native language.

Verbally and in writing explain the Company and Individual Codes of Conduct to all staff.

Ensure that:

All direct reports sign the 'Individual Code of Conduct', including acknowledgment that they have read and agree with the Code of Conduct.

Staff lists and signed copies of the Individual Code of Conduct are provided to the GCCT and the client.

Participate in training and ensure that staff also participate as outlined below.

Staff are familiar with the Grievance Redress Mechanism (GRM) and that they can use it to anonymously report concerns of GBV or VAC incidents.

Staff are encouraged to report suspected or actual GBV or VAC through the GRM by raising awareness about GBV and VAC issues, emphasizing the staff's responsibility to the Company and the country hosting their employment, and emphasizing the respect for confidentiality.

In compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed. Use background and criminal reference checks for all employees.

Ensure that when engaging in partnership, sub-contractor or similar agreements, these agreements:

Incorporate the GBV and VAC Codes of Conduct as an attachment.

Include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers, to comply with the Individual Codes of Conduct.
expressly state that the failure of those entities or individuals, as appropriate, to take preventive measures against GBV and VAC, to investigate allegations thereof, or to take corrective actions when GBV or VAC has occurred, shall constitute grounds for sanctions and penalties in accordance with the Individual Codes of Conduct.
Provide support and resources to the GCCT to create and disseminate internal sensitization initiatives through the awareness-raising strategy under the Action Plan.
Ensure that any GBV or VAC issue warranting police action is reported to the client and the World Bank immediately.
Training
All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the GBV and VAC Codes of Conduct. This training will be separate from the induction training course required of all employees and will provide managers with the necessary understanding and technical support needed to begin to develop the Action Plan for addressing GBV and VAC issues.
Ensure that time is provided during work hours and that staff attend the mandatory project facilitated induction training on GBV and VAC required of all employees prior to commencing work on site.
Ensure that staff attend the monthly mandatory refresher training course required of all employees to combat increased risk of GBV and VAC during civil works.
Managers are required to attend and assist with the project facilitated monthly training courses for all employees. Managers will be required to introduce the trainings and announce the self-evaluations.
Collect satisfaction surveys to evaluate training experiences and provide advice on improving the effectiveness of training.
Response
Managers will be required to provide input to the GBV and VAC Allegation Procedures and Response Protocol developed by the GCCT as part of the final cleared Action Plan.
Once adopted by the Company, managers will uphold the Accountability Measures set forth in the Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of GBV and VAC (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
If a manager develops concerns or suspicions regarding any form of GBV or VAC by one of his/her direct reports, or by an employee working for another contractor on the same work site, s/he is required to report the case using the GRM.
Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced,

within a maximum timeframe of 14 days from the date on which the decision to sanction was made.

Managers failing to report or comply with such provision can in turn be subject to disciplinary measures, to be determined and enacted by the company's CEO, Managing Director or equivalent highest-ranking manager. Those measures may include:

Informal warning.

Formal warning.

Additional Training.

Loss of up to one week's salary.

Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.

Termination of employment.

Ultimately, failure to effectively respond to GBV and VAC cases on the work site by the company's managers or CEO may provide grounds for legal actions by authorities.

I do hereby acknowledge that I have read the foregoing Manager's Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and VAC. I understand that any action inconsistent with this Manager's Code of Conduct or failure to take action mandated by this Manager's Code of Conduct may result in disciplinary action.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Individual Code of Conduct
Preventing Gender Based Violence and Violence Against Children

I, _____, acknowledge that preventing gender based violence (GBV) and violence against children (VAC) is important. The company considers that GBV or VAC activities constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. All forms of GBV or VAC are unacceptable be it on the work site, the work site surroundings, or at worker's camps. Prosecution of those who commit GBV or VAC may be pursued if appropriate.
I agree that while working on the project I will:
Consent to police background check.
Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
Not participate in sexual contact or activity with children—including grooming, or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
Not engage in sexual favors—for instance, making promises or favorable treatment dependent on sexual acts—or other forms of humiliating, degrading or exploitative behavior.
Unless there is the full consent18 by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered "non-consensual" within the scope of this Code.
Attend and actively partake in training courses related to HIV/AIDS, GBV and VAC as requested by my employer.
Consider reporting through the GRM or to my manager any suspected or actual GBV or VAC by a fellow worker, whether employed by my company or not, or any breaches of this Code of Conduct.

With regard to children under the age of 18:

18 Consent is defined as the informed choice underlying an individual's free and voluntary intention, acceptance or agreement to do something. No consent can be found when such acceptance or agreement is obtained through the use of threats, force or other forms of coercion, abduction, fraud, deception, or misrepresentation. In accordance with the United Nations Convention on the Rights of the Child, the World Bank considers that consent cannot be given by children under the age of 18, even in the event that national legislation of the country into which the Code of Conduct is introduced has a lower age. Mistaken belief regarding the age of the child and consent from the child is not a defense.

Wherever possible, ensure that another adult is present when working in the proximity of children.
Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible.
Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium (see also "Use of children's images for work related purposes" below).
Refrain from physical punishment or discipline of children.
Refrain from hiring children for domestic or other labor which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
Comply with all relevant local legislation, including labor laws in relation to child labor.

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
Ensure images are honest representations of the context and the facts.
Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:

Informal warning.
Formal warning.
Additional Training.
Loss of up to one week's salary.

Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.
Termination of employment.
Report to the police if warranted.

I understand that it is my responsibility to avoid actions or behaviors that could be construed as GBV or VAC or breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and VAC. I understand that any action inconsistent with this Individual Code of Conduct or failure to take action mandated by this Individual Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signature: _____

Printed Name: _____

Title: _____

Date: _____

Annex 8: Project Traffic Management Plan (Sample)

1. Introduction

This Traffic Management Plan describes procedures and protocols for site access, traffic routing and management, and contractor company guidelines with respect to vehicle and employee transportation in delivering their obligations on this intervention project. Public, employee and contractor safety is the primary goal of this plan. It is vital that the Contractor recognizes that the traffic within the project area will be dynamic throughout the course of execution of this works and the safety of other road users is absolutely essential during this time.

2. General Site Access

In the interest of site security and public safety, access to operational areas or locations where heavy duty machinery would be operated in related to the execution of this contract will be restricted to authorized site personnel through the usage of signs and gates where appropriate. Facilities that potentially present danger to persons or wildlife such as the electrical substation, equipment staging area and workers camp will be fenced or barricaded as appropriate to prevent general access.

3. Traffic Management

All traffic on routes to and from the site will be radio controlled. Where this is not possible, signage will be installed at appropriate locations in order to warn the public along these routes.

In the event that temporary closure occurs, access to the sites will be further restricted through the use of fences and gates as appropriate. Access to work areas such as temporary excavated places, or confined spaces where work is ongoing will be securely blocked by means of a temporary but robust barrier or barricade. Buildings and ancillary facilities will be locked and secured. A number of additional general measures related to site access, road management and public safety and construction events notification are presented here:

Private employee off-road vehicles or private transport buses will be prohibited from entry into the site.

Signage will be posted near all construction sites.

Notifications will be provided for activities that would be carried out over the weekend or public holiday periods. These would be disseminated through existing social institutions such as the village or district heads of communities, Local Government Councilors and NGO’s or CBO’s

Speed limit maintained at 10 km/hr speed limit within or near the communities;

Install reverse alarm fitted on all trucks, heavy duty equipment and off road vehicles

Employ or engage the use of a minimum of two flagmen around excavated areas, one for traffic approach and one to direct traffic away from the sites

In accordance with the Occupational Health and Safety Regulations for public roads, use of flashing devices/trifactor on all vehicles/machinery and equipment that will cross, travel on or may otherwise pose a risk to users of public roads.

4. Employee Transportation

To the extent possible employees will use buses provided by the contractor as transportation to and from the site, thereby reducing overall vehicle traffic. Project vehicles or will be utilized by staff, only when necessary.

5. Speed Limits

Speed limits will be enforced to and from the site and signage(s) shall be posted along the access and site roads (maximum 40 km/hr, reduced to 20 km/hr at blind corners and bridge crossings. Traffic along other access roads will be radio controlled for safety and speed control. Furthermore, employees and contractors will be educated on safety including traffic protocols and speed limits during mandatory orientation. Routine traffic inspections and/or speed indicator signs will be used to encourage safe and responsible driving.

6.Communications And Notification Protocols

It is anticipated that the intervention project will require only single-lane temporary closures. Signage warnings of construction activities on the roads will be placed at appropriate distances from the construction site, in consultation with SPMU, Ministry of Transports, department of Highways & Public Works. For significant work activity (those requiring more than one day to complete), written notification will be distributed to residents and the SPMU, Ministry of Transport, department of Highways & Public Works will be notified. A public notice would be posted at multiple locations in the metropolis to communicate to residents any new activities that may be occurring or scheduled. Contact information for the Contractors senior management will be included in this notice and any concerns regarding the intervention work/project or traffic management can be forwarded through this notification system.

7. Traffic Routing and Volumes

Alternative traffic routing shall be mapped out and provided in the event that there will be complete closure of the road due to this intervention work activity. Traffic officers and appropriate road diversion signage(s) shall be deployed to ensure diversions routes are properly identified and traffic is directed along the mapped route. The flagmen shall be properly kitted in their Personal Protective Equipment (PPE), such as reflector vests and safety boots, to ensure that safety on the job is given due priority.

8. Reporting

Records on traffic management and implementation of this plan should be kept and updated by the contractor as evidence of ongoing mitigation compliance, which will be submitted to SPMU as part of routine reports on progress of work.

Annex 9: Contingency and Emergency Response Plan (Sample)

Introduction

An emergency is best described as a serious situation or unforeseen crisis that happens unexpectedly and requires or demands immediate/necessary action. This is often associated with danger. Therefore, this plan has been prepared to establish a process that has been adopted by our organization to respond to any emergency situation. This plan has the following fundamental objectives are:

To ensure that we can identify how to prepare for an emergency
Provide a checklist of actions that would enable our team prepare to handle such emergencies

The objective

The aim of this plan is therefore to examine a series of steps in the process, which is designed to ensure that any situation that necessitated that the status of emergency be apportioned, be managed in a manner that would ameliorate this condition.

Thus, this plan provides guidelines on the best approach that would be engaged by employees of the Contractor company in emergency situations, which may be as a consequence of the following:

Medical (health)
Safety
Environmental
Security
Any other types of emergencies

Emergency Response Team (ERT)

An emergency response team will be constituted for the project. These will be the group of persons that would have the responsibility of managing this emergency plan in a manner that would ensure the goals of this plan are achieved. For this reason, the members of the ERT are:

Managing Director (or representative)
HSEQ Officer
Project Engineer
Supervisor

Support members (headmen from units – civil, mechanical, electrical etc.)
Supervising Consultant representative
SPMU representative

Emergency Response Centre (ERC)

Due to the temporary nature of the facilities that would be utilized as workers camp & site office, for intervention projects, the site office will also be converted into the Emergency Response Centre (ERC), in cases of emergency. Therefore, appropriate communication equipment shall be available in the office, to ensure that the channels of contact are available, at all times.

In the minimum our ERC will have:
A computer system with internet facilities available
A telephone
A public address system

Activation of this Emergency Response Centre

The individual that receives the information that could potentially necessitate an emergency response should immediately convey the information to the Project Engineer.

Jointly, the project engineer and the Safety officer will review the situation/information, following which the managing director will be contacted (if not on site).

The managing director will hereafter take the decision of the gravity of the situation, following which it may be necessary to constitute an ERT and convert the site office into the ERC.

Core ERT and support members will be represented once the ERC is activated.

Checklist of Emergency Response Actions

These actions shall be implemented immediately the ERC is activated:

S/n	Actions
1.	Verify status of emergency and likely exposure of other personnel to risk, ensure ERT members are fully equipped in emergency response equipment
2.	Locate and account for all personnel on site (muster point) and if appropriate, implement the evacuation procedure, if necessary. Review

	decision on need to establish contact with family of personnel involved in emergency
3.	Establish and maintain close contact with relevant authorities related or connected to the resolving of this emergency. e.g. in case of medical emergency, a hospital, security emergencies will require a contact with government law enforcement agencies – police etc.
4.	Inform supervising consultant & SPMU representative as promptly as possible in order to establish interface link with Client
5.	Transmit any information update or changes in situation status to emergency focal group; the managing director and members of the ERT and determine if there is a need to shut down critical on going operational activities
6.	Depending on the type of emergency, any necessary follow up action should be determined and promptly acted upon, as may be required e.g. medical emergencies may require evacuation, environmental emergencies may require containment, safety emergencies may require prompt cordoning off of area etc.
7.	Internal Communication channel with other personnel should be kept open, by means of public address system or telecommunication (walkie talkies) and updates provided to forestall any likely re-occurrences, where possible
8.	Examine cross-cutting impact of emergency on liability issues and operational continuity. e.g. media involvement in security emergencies
9.	Undertake an assessment of risk to review other potential liabilities and deploy mitigation measures, where necessary. e.g. workmen compensation insurances in case of accident emergencies
10.	Review all cost implications of emergency response actions and make necessary budgetary provisions
11.	Provide the SPMU with updates immediately additional information is received.

Accident reporting

This accident report would be factual, free from hearsay, assumptions, gossips and / or preliminary conclusions. The report shall be duly signed by the Project engineer. The SPMU shall be briefed about the accident in writing within 24 Hours.

Timing of investigation

The investigation should be carried out as soon as possible after the accident. The quality of evidence can deteriorate rapidly with time and delayed investigation are usually not as conclusive as those performed with dispatch. A prompt investigation is a good demonstration of management concern for safety.

Scope of Investigation
The scope of the investigation can be divided into four areas:
Personnel
Technique
The Environment
Organization

In each of these areas, actions of omission may be identified which could be a factor contributing to the accident or subsequent injury, damage or loss.

Establishment of the fact
In establishing the fact(s) of an accident, we would consider the followings as necessary factors:

Background information that would be considered,
the procedure for this type of operations
command structure
the person involved

Facts collection
Facts collection shall include but not limited to topography, weather, warning signs /notices, condition of the equipment, housekeeping, before interview can be conducted.

ACCIDENT REPORT AND INVESTIGATION
(Standard report form)

Date: ---------- Time: ----------
----/AM/PM

Location: ---------- Department: ----------

Supervisor: ----------

Name of Victim: ----------

Nationality: ---------- Address: ----------

Marital Status: ---------- Occupation:----------

Date of Birth: ---------- Experience (years):--------

Equipment/tools being used when accident occurred:----------

Description of accident:----------

Name of Witness (if any): ----------

Conditions during accident: weather- dry, rain, clear, dusk, dark etc.

Unsafe acts, actions and conditions (Please describe):----------
---

Report verification by:

Name: ----------Date: ----------

Annex 10: Waste Management Plan

No	Project Activity	Potential Impact	Proposed Mitigation Measures/ Actions	Responsibility for mitigation	Cost (NGN)
I. Pre-Construction Phase					
10.	Use of Workers Camp/Site Office	Generation of sanitary waste	Ensure provision of sanitary facilities on site for workers and enforce usage. Ensure usage of Ekiti waste management agency approved waste vendor for waste evacuation & disposal.	Contractor	300,000
17.	Movement of plant & equipment to and from staging area to site	Soil contamination	Develop and implement a site-specific Waste Management Plan (WMP) Prepare and implement an Emergency Response Plan to respond to incident of spillage. Ensure fuel storage tanks are installed in a bonded area and checked daily. Ensure regular maintenance of vehicles to avoid leaks of oil. Prevent unregulated dumping of fuel waste Ensure local communities are sensitized on need to avoid tampering with waste bins	Contractor	250,000
19.	Use of workers camp/site office	Sanitation issues and public health impacts	Provide trash bins on site for temporary storage of domestic waste such as lubricant containers, drinking water sachets and carrier bags/packaging materials. Dispose all construction and domestic waste at the approved dumpsites and in the approved manner. Ensure all trenches or excavations made during the construction works do not collect stagnant water, which could breed mosquitoes. Ensure access to toilets for construction crew or provide temporary toilets (mobile toilets) for use where there are no existing ones.	Contractor/ Engineering Consultant Environmental Safeguards Specialist	350,000

			Ensure mobile toilets/sanitary provisions are provided to reflect gender types. Ensure regular toolbox meetings are held among contractor workers to offer awareness on transmission of contagious or communicable diseases.		
21.	Construction work activities	Generation of construction waste including spoils, debris and concrete	Develop and implement a site-specific Waste Management Plan (WMP) to include the following: Ensure segregation of waste to facilitate reuse and recycling opportunities. Ensure no burning of waste on site. Ensure usage of EKITI WAMA approved waste vendor for waste evacuation, processing & disposal.	Contractor	200,000
24.	Operation of workers camp/site office prior to demobilization of facilities	Generation of sanitary waste from worker's camp	Ensure provision of sanitary facilities on site for workers and enforce usage. Ensure usage of approved waste vendor for waste evacuation & disposal.	Contractor	400,000
25.	Commissioning of library & buildings	Generation of construction waste and debris	Develop and implement a site-specific Waste Management Plan (WMP) to include the following: Ensure segregation of waste to facilitate reuse and recycling opportunities. Site visit at the completion of project to ensure no waste is left behind.	Contractor	Part of Maintenance cost
29.	All decommissioning activities	Waste management	* Re-vegetate areas around workers camp & Maintenance equipment sites to restore the landscape. * Ensure that any remaining metal or pvc pipes, or other waste streams created during Maintenance activities and waste generated during decommissioning activities are	Contractor	250,000

			collected from the project sites and properly disposed before handing over the project.		
Sub-Total Mitigation			**1,750,000**		

Annex 11: Cultural Heritage Management/Chance Find Procedure

Identification and Assessment
For Cultural Heritage Management (CHM) under the Ekiti NEWMAP, Inventory will always be a key management tool in the area of **identification and assessment**. The extent to which inventories are prepared will depend on criteria adopted by the PMU and in lines with requirements or guidelines by the WB.

The principal best practice in assessing cultural heritage issues around roads to be rehabilitated under the Ekiti NEWMAP is to have a thematic and individual value assessment procedure in place, so as to justify long-term conservation of an asset. The aim of an identification and assessment process should be not only the identification of places, but also the establishment of a hierarchy of significant places under a thematic system.

Best Practice Inputs

1. The NEWMAP should have a standard inventory form, also available as a Standard Operating Procedure (SOP).
2. Inventory should be updated as new information comes to light, or as new technology is introduced eg. GPS plotting of sites.
3. Inventory is thematically linked and has the primary aim of revealing a hierarchy of significant places under a variety of relevant themes.
4. Inventory work focuses on geographic areas or themes where there is little recorded inventory and a potential threat exists to unrecorded sites.
5. Each road project area has assessment criteria and an assessment process, both of which have been endorsed by the PMUs Safeguard Unit and WB.
6. The NEWMAP PMU should maintain a CHM database containing all information relating to history and management of CHM assets with cross-reference to other state inventories.
7. Assessment of significance of heritage places by an external CHM specialist should be a prerequisite for major capital expenditure on any CHM asset.

Allocating Resources
Best Practice inputs/Indicators
1. There should be provision for access to a capital works budget for CHM catch up maintenance.
2. The Ekiti NEWMAP PMU should plan for an ongoing core funding base for cyclical maintenance of CHM assets within each institution responsible for CHM and the reflection of this responsibility in the expected outputs.
3. Ensure risk management actions for CHM emergencies.
4. Prioritization of resource allocation to places on a thematic significance basis. This should be founded on an understanding of the history of land under management and broader state or national themes.
5. The proportion of CHM staff /institutional responsibilities to CHM assets managed should be similar to the proportion of staff to assets in other functional areas within the organization.
6. Identification of core competencies for CHM staff/institutional responsibilities and competency-based recruitment procedures including assessment of competencies by a CHM specialist.
7. The PMU should ensure that training in core CHM competencies are integrated into PMU training programs. (Including instruction in broad CHM principles and specific standard operating procedures)
8. Development of a suite of partnership tools to expand CHM management options eg. Local government management, community participation.

9. Regular analysis of CHM assets to ensure that each asset is managed by the NEWMAP PMU with the best expertise, resources, motivation and local presence to effectively conserve that place, and to present the place if it is appropriate to do so.
10. Comprehensive guidelines and programs to promote and support active community involvement in CHM.
11. All leases on CHM assets include provision for specific ongoing works funded by lessee.
12. Revenue generated from CHM should be retained for CHM without a corresponding drop in budget funding, in order to encourage sustainable management.

Protection

1. The NEWMAP should ensure that the process of acquiring places with a range of conservation or heritage values (natural, historic and indigenous) should take into account all the identified values and provide for their future management.
2. If the PMU considers acquisition is not an option, or is unnecessary, then other options including reserving, listing on a state heritage register, voluntary conservation agreement, covenanting, gazetting or referral to another relevant authority are pursued, with the co-operation of the owner.
3. The NEWMAP risk management strategy addresses the need for staff training and appropriate checks and balances to minimize the threat to CHM assets by in-house staff.

Conservation

1. Conservation of places of cultural significance should be done according to a plan – a conservation management plan (CMP).
6. The breadth and detail of CMPs are commensurate with the needs of the place.
7. Shorter CMPs for individual sites, tailored to specific circumstances, should be prepared where; there is urgency to do the work, or the issues are simple and the vision statement for the place dictates action, or the plan forms part of a broader management plan.
8. Broad management plans or 'historic area plans' are prepared for larger land areas with predominantly historic values or places with multiple, geographically linked heritage assets. Work specifications or shorter CMPs are then prepared for each identified heritage asset in the area.
9. All CMPs are signed off by, at the minimum, by the PMUs Safeguard Unit (or their equivalent) to ensure organizational 'buy-in'.
10. Properly costed work specifications, together with plans, must be are prepared to relevant industry standards
11. Provision is made for a CHM specialist to inspect progress and ensure that work is proceeding according to the plan and that all work is supervised and conducted by skilled conservation practitioners or tradespeople.
12. Where sites have a multiplicity of values (e.g. natural and cultural as well as historic), then an overarching integrated management plan is prepared for that place. Cultural heritage is a component of such a plan.

Monitoring

Physical monitoring of sites of cultural heritage will require synergized involvement attention by several relevant state and national agencies e.g. State Ministry for Culture and Tourism.

Best Practice Inputs/Indicators

The Ekiti NEWMAP PMU should ensure:

1. The use of a formal asset management and monitoring system for CHM assets.
2. Annual reporting of agreed performance measures
3. Auditing of CHM to ensure management objectives are met
4. Integration of heritage places into organizational asset management systems.
5. A process existing for consistently reviewing plans, quality of planning and those who prepare them.

6. Establishment of a register of contract CHM specialists that is regularly reviewed on the basis of existing contractors' work, allows for the addition of new contractors and is open to public inspection.
7. Long term monitoring of the condition of cultural heritage places
8. Regular meetings of Ekiti NEWMAP PMU Staff and CHM specialists as a means of monitoring progress towards best practice and assisting agencies to set higher levels of best practice.
9. Ongoing market research to measure effectiveness of presentation in interpreting specific places, raising awareness of cultural heritage conservation and encouraging appropriate growth in visitor numbers.
10. A CHM strategy/policy document which is published and subject to public consultation and scrutiny
11. Monitoring of visitor numbers at all actively managed places

Annex 12: Labour Influx Plan

This plan identifies labour requirements and sets out the procedures for addressing labour conditions and risks associated with the proposed project, which is aimed at helping Ekiti NEWMAP to determine the resources necessary to address project labor issues.

SUB-CATEGORY	WORKER IMPACTS\RISKS	PROJECT IMPACTS\RISKS	MITIGATION MEASURES	MONITORING	MONITORING FREQUENCY	RESPONS-IBILITY
Employment	Influx of many foreigners into project community	Competition on livelihood and job opportunity with locals	60 of unskilled labour shall be from the project community. Where possible qualified skilled workers on contract shall also be sourced within the community	Verify	Onset of Project and bi-weekly	ESO; SSO
Housekeeping.	The general appearance of the camp deteriorates making camp life unpleasant.	The overall camp experience is compromised which in turn leaves workers demoralised and unproductive.	Ensure that camp grounds and common areas are routinely cleaned and organised with appropriate signage in place, and that grounds are maintained (e.g., grassed areas are regularly mown). Establish easily accessible, designated smoking areas which are clearly highlighted and regularly cleaned.	Verify	Monthly	ESO; SSO
Recreation.	Workers spend most of their time in the camps and could become disenchanted and bored. They may want to leave the camps and go into the local towns and villages in search of recreation.	Tensions arise from the local communities as workers impact their activities in search of recreation. An increase in alcohol consumption and prostitution could result due to the influx of workers	Provide appropriate recreational facilities and activities. These should be discussed with the camp residents committee.	Assessment	Quarterly	ESO; SSO

		into local communities.				
Spiritual /Religion.	Workers will want access to places of worship for their chosen religion. They may leave the camps and go into the local towns and villages in search of an appropriate place of worship.	Tensions arise from the local communities as workers impact their activities.	Provide appropriate places of worship where residents express a need for this in accordance with cultural sensitivities, and assess transport arrangements on a case-by-case basis. Ensure that equipment and facilities are kept clean and well maintained.	Assessment	Quarterly	ESO; SSO
Security.	Inconsistent and aggressive behaviour of security personnel towards workers can result in tensions and conflict in the workplace and a perception of human rights abuses.	Insufficient training and control of security personnel can lead to the inappropriate use of force, while protecting Project workers and assets, or inappropriate behaviour towards local populations, resulting in human rights claims.	Ensure that camp security personnel meet at least the following requirements: • Have not been implicated in past abuses • Are trained in appropriate conduct towards workers and community members including: o Exercising constraint and caution and understand how force may be used o Respecting human rights o Behaving consistently o Knowing and abiding by applicable laws o Fostering good community relations through their interaction and behaviour	Assessment	Quarterly	ESO; SSO

			towards the workforce and communities			
Community relations.	Communities are negatively impacted by camp activities: noise, waste, traffic, lighting and so forth. This may result in negative actions towards camp operations such as road closures and the prevention of workers or suppliers from entering the worksite.	Workers are stopped from going to work, which affects productivity.	Implement control measures to avoid and minimise the impacts of camp and living conditions on communities. Limit foreign worker interaction with communities and provide cultural sensitivity awareness training to facilitate appropriate interaction with communities.	Assessment	Quarterly	ESO; SSO

Annex 13: Camp Management Plan

Company X (the Company) has developed this Camp Management Plan as part of its Environmental and Social Management Plan (ESMP) outlining a range of mitigation measures designed to avoid or reduce undesired camp management impacts during construction. This document establishes a basis and template for use by the Contractor(s) to develop their own plans outlining not only mitigation measures but to also incorporate the roles and responsibilities described in the ESMP.

The objectives of the Camp Management Plan are:

Avoid or reduce negative impacts on the community and maintain constructive relationships between local communities and workers' camps; and

Establish standards on worker welfare and living conditions at the camps that provide a healthy, safe and comfortable environment.

This Plan should be read in conjunction with other environmental and social management plans (ESMPs), if available including:

- Traffic Management Plan
- Security Plan
- Stakeholder Engagement Plan

Legal Requirements and Grievances

The Contractor is required to operate within the parameters of the Nigeria Labour Law and the International Labour Organization guidelines. The World Bank Performance Standards are applicable to NEWMAP and its sub projects. Furthermore, the Grievance Redress Mechanism contained in this ESMF is required to be adhered to by the Contractor.

Contractor personnel shall conduct regular safety walks and an HSE committee will track performance against requirements stipulated in this plan. The Contractor will also have its grievance mechanism developed for the project.

Additionally, Contractor would be required to sign and acknowledge the Code of Conduct and agree to abide by its provisions.

Management and Monitoring

Figure below presents a flow chart summarising key management steps associated with implementation and review of this Plan, including steps to allow for continued improvement. Table 1 presents a summary of the potential impacts related to camp activities, together with mitigation and management measures to avoid or reduce these impacts, and the monitoring required to assess the performance of these measures.

The Contractor shall develop a Contractor Plan which shall, as a minimum, incorporate the camp management measures described in Table 1. The Contractor shall not be limited to these measures.
Monitoring to be undertaken as part of this Plan is described in Table 1.The Contractor is responsible for developing area or site-specific procedures for the monitoring program (where necessary) based upon the final design details of the infrastructure

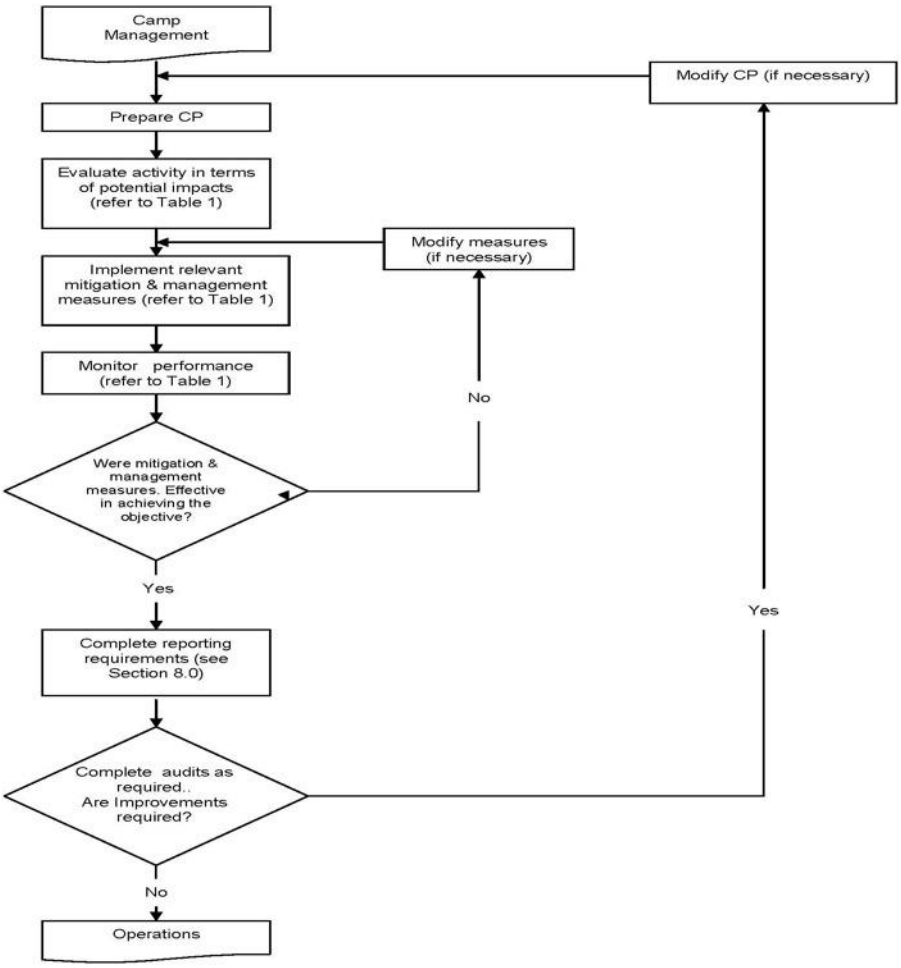


Figure 1: Camp Management Process

Table 1: Management and Monitoring

Aspect	Potential impact	Mitigation & Management	Monitoring	Frequency	Responsibility
Community Relations	Unauthorised movements of construction workers (during and after working hours) could result in trespassing, damage to local land and property and create amongst local residents a sense of their privacy being invaded. Residents may feel vulnerable and there may be increasing incidents of crime and or violence (GBV etc) and threats to the safety of community members. Disparity of pay, increase in disposable income and potential availability of illegal substances, illicit or culturally inappropriate lifestyle choices, leading to increased tension between local communities and the workers at camps.	1. Contractor shall enforce a 'closed' camp policy unless otherwise agreed and approved by Company. Workers will comply with the agreed camp closure hours. 2. Contractor shall implement suitable measures to maintain the closed camp policy which may include perimeter security fences, security controls and guard houses, monitoring transfer of goods into and out of camps for contraband and stolen goods. Contractor should refer to the Project Security Management Plan. 3. Contractor, as appropriate, shall provide adequate recreation facilities for workers to reduce incentive for leaving camps during leisure time. 4. Contractor shall limit workers interaction with the community when outside the camp e.g., by organising transport directly to and from the worksite. 5. If community members or local businesses express grievances in relation to camp related activities/operations, the Project shall respond to the grievance in accordance with the Grievance Redress Mechanism contained in the ESMF. 6. FPMU/SPMU may request that camp related activities/operations be amended to address community grievances. Contractor shall comply with these requests. 7. Workers shall abide by camp rules which include a disciplinary process to be developed by the contractor once appointed. 8. The Project shall, be cognisant of the environment in which it works and shall, where practicable, respect local cultural events such as religious events, funerals and the like. 9. The Project shall provide training to all workers on camp management including:	1. Monitoring 2. Verification 3. Verification 4. Verification 5. Notification 6. Verification 7. Verification 8. Verification 9. Verification	5. On-going 6. Every 3 months 7. Every 6 months 8. On-going 9. On-going 10. On-going 11. Every 3 months 12. On-going 13. Every 3 months	1. Contractor 2. Contractor 3. Contractor 4. Contractor 5. Contractor and FPMU/SPMU 6. Contractor and FPMU/SPMU 7. Contractor and FPMU/SPMU 8. Contractor and FPMU/SPMU 9. Contractor and FPMU/SPMU

		a. A briefing on camp rules, including closed camp policy, behaviour between fellow workers and the community; b. Procedures for dealing with camp related complaints, worker issues and community issues and c. Community relations orientation. The objective of this orientation will be to increase awareness about the local area and cultural sensitivities.			
Health	Potential interaction between workers, persons engaged in illicit activities and the community increases the risk of spreading communicable diseases, particularly in more remote communities. Camp operations have the potential to develop favourable conditions for pests and disease, which could impact the health of workers and the community, as well as affect community livelihoods (e.g. rodent infestation affecting crops).	1. Contractor shall comply with the Minimum Health Requirements for Project Execution and the Community Health and Safety Management Plan which set out requirements and management measures on controlling communicable diseases within camps and to outside communities 2. Contractor shall enforce the closed camp policy to limit interaction with community 3. The Contractor shall develop a Pathogen and Pest Management Plan to prevent pathogens and pests from entering the camps and spreading outside the camps. 4. Posters and informational sessions will be conducted to raise awareness among the workforce and communities locally around the worker camps.	Verification	1. Every three months 2. On-going 3. Every three months	Contractor
Waste management, pollution and environmental impacts	Camp has the potential to have off site pollution impacts from waste disposal, emissions and spills. Camp operations may also cause environmental issues including deteriorating water quality, erosion, sedimentation, noise and air quality issues. These factors have the potential to affect the community if not adequately managed.	a) Contractor shall exercise all reasonable due diligence to conduct its operations in a manner that will minimize pollution. b) Contractor shall comply with the Waste Management Plan and Hazardous Materials Management Plan which define requirements to contain, transport, handle and dispose of camp wastes and hazardous materials to avoid impacts to human health and the environment. c) Contractor shall also apply appropriate mitigation measures as contained in this ESMF.	1. Verification 2. Verification 3. Notification	On-going	Contractor
Community resources	• Any infrastructure, services or resources used by camps (e.g. water abstraction) that	1. Contractor shall utilise water sources for camp use in a manner that minimises impacts on local supply and use. Where necessary, water supply	1. Verification 2. On-going 3. Verification	1. Prior to establishin	1. Contractor 2. Contractor

	result in reductions/ shortage/interruptions for the local community will have a negative impact. • There is potential for social envy and increased resentment from the community towards the Project and project team if camp facilities are perceived to be superior to those in the community. Services of note include camp health facilities, power supply, clean running water. Restricted ability to access these services may increase frustration at the level of the services available to them.	should be sought outside of the community source(s). 2. The Project shall routinely monitor quality and supply of water source used by camp through quarterly sampling exercises. 3. Contractors shall be encouraged to extend Corporate Social Responsibility projects to host communities.		g the camps 2. Every 3 months 3. Annual	3. Contractor & SPMU
Procurement and supply of goods	Increased demand for food and other provisions may deplete natural resources e.g. agriculture, fisheries, etc. potentially causing shortages of supply in the local community, and/or increasing the price of goods, affecting affordability for local communities.	The Project shall not purchase products in the local community unless through formal contracts with approved suppliers.	Verification	On-going	Contractor
Camp location	• Siting of camps may result in displacement of residents, loss of productive lands and the resources upon these lands. Camps may also restrict or impede access to areas for the local community. • Construction camps may result in a noticeable increase in traffic, noise, air emissions and light intrusion which could negatively affect the amenity and lifestyle of	1. Potential camp locations will be selected in consultation with FPMU/SPMU and affected communities will be subsequently consulted. Necessary permits will be obtained from the relevant Local Authorities for the approved camp location. 2. The Project shall refer to those Environmental & Social Management Plan's (ESMP) that include mitigation/avoidance measures that relate to the local community, including: • Noise and Vibration Management Plan; • Air Emissions Management Plan; and • Waste Management Plan.		1. Prior to establishing the camp 2. On-going	Contractor and/or Company

	nearby communities and pose a potential safety issue.				
Labour Influx	There is a likelihood of influx of non local labour into areas around the construction camps. However, people from outside of the local area may migrate into existing settlements or develop new settlements in proximity to camps and the Project area. Labour Influx can result in disputes and sometimes violence between the new settlers and the resident community. Migrants moving into existing settlements may increase demand and inflate prices for housing, goods and services. Increased population and development of new and uncontrolled settlements increase pressure on infrastructure, services and resources. Major labour influx related risks include workers' sexual relations with minors and resulting pregnancies, presence of sex workers in the community, the spread of HIV/AIDS, sexual harassment of female employees, child labour and abuse, increased drop out rates from school, poor labour practice and lack of road safety.	• Contractor shall enforce a 'closed' camp policy. This is intended to deter individuals setting up near camp. • Contractor shall develop a Labour Influx Management Plan. • Contractor is to coordinate with Local government to ensure that no illegal and unsafe settlements develop. • Contractor shall eview and ensure adherence to labour influx management plan.	Verification	On-going	Contractor and FPMU/SPMU
Worker welfare and living conditions	Construction workers living in camps may encounter stresses and discomforts that negatively impact their health and welfare. These stressors or discomforts may be caused by Poor living conditions (accommodation, ablution and sanitary, health, recreation catering and laundry).	Contractor shall comply with minimum standards for camp buildings, facilities and services in line with the Bank standard or as contained in the Project Invitation to Tender (ITT) requirements.	Verification	On-going	Contractor

	Cultural issues (nationality, religion, discrimination, GBV and harassment, etc.).	• Contractor shall ensure that applicable ESMF mitigation measures for specific issues are applied. • Contractor may provide prayer rooms and other facilities, as necessary and to the extent practicable, to satisfy the religious needs and customs of its workforce. • Contractor's personnel shall not engage in any discrimination, GBV, SEA or harassing behaviour. Contractor shall establish an Equal Opportunity Policy to promote non-discrimination in accordance with Labour and Worker Conditions Management Plan. • Contractor shall implement a worker grievance procedure to address grievances between workers. .	Verification	On-going	Contractor
	Mental health issues (morale, isolation, family attachments, boredom).	• Camps will be treated as closed camps. Camp rules in relation to alcohol consumption and drug prohibition will be complied with. • Contractor shall provide recreational facilities where practicable. • Contractor will provide counselling for all workers, with no discrimination by race, sex or religion.	Verification	• On-going • Every 6 months	Contractor
	Personal security (crime, and emergencies).	• Camps will be controlled by security to avoid intrusions from outside community. • Work Site Security Plan to be developed by Contractor shall include security measures to be provided at the camps which may include fencing, locks, alarms, pass card systems, badge and pass system, access points, safe transport of personnel as appropriate. • Contractor shall develop an Emergency Response Plan that meets requirements set out in ITT package	Verification	Prior to establishing camp	Contractor
	Environmental stress (climate, noise etc.).	Contractor shall comply with Minimum Health requirements for Project Execution including the following: • Accommodation will be designed to suit climatic conditions; • Accommodation and surroundings shall be constructed so that noise does not interfere	Verification	On-going	Contractor

		with sleep to the extent that is reasonably practicable; and • Health and hygiene inspections shall be carried out.			
Decommissioning	Decommissioning of camps has several potential impacts: • Local employment and provision of local goods and services at camps will no longer be required; • Locals employed and previously accommodated in camps will no longer have access to services and benefits available at camps (e.g. health services, recreation facilities); and • Infrastructure which provides benefits to communities may no longer be maintained (e.g. roads, camp boreholes) and may be decommissioned and removed.	• Contractor is to follow retrenchment procedure contained in Labour and Worker Conditions Management Plan (if available) • Where Community requests, some infrastructure and services may be retained as advised by the FPMU and the World Bank: o Disturbed areas will be reinstated; o Where practicable, Contractor will return camp areas to former landforms; o No facilities will be maintained in or near especially environmentally or socially sensitive areas; and o Where there are negative consequences of induced access, the facility will also be decommissioned, and the area reinstated.	Verification	On-going	Contractor and FPMU/SPMU

Annex 14: Security Management Plan (Sample)

The contractor shall pay necessary attention to ensuring security of life & property during the execution of this contract according to the scope of works. In ensuring that this role is carried out, the following will be given priority:

1. Management Commitment and Responsibilities

Management is committed to ensuring that the following are in place:

- Providing up to date information regarding the security management mechanism, tools & updates in and around the work sites
- Ensure necessary early warning system is deployed to respond to security emergencies in the workplace by:
    - Development of a specific step-by-step approach to security response
    - Establish a security task force to respond to specific hazards, which is to be deployed in the case of security emergency (kidnapping, insurgency etc.)

- Employing the appropriate personnel for the role of security personnel/advisor(s) and security staff
- Prioritize training of security personnel
- Enforcing disciplinary actions as needed to enforce security compliance
- Promoting interaction and assistance with regulatory and response agencies such as the Nigerian Police Force & Nigerian Military armed forces.

2. Threat Assessment and Analysis

A vital component of this Security Management Plan is the identification of internal and external threats. The mechanisms for identifying threats shall comprise but will not be limited to:

- Have in place and periodically update a threat matrix that will be submitted to management for review and approval.
- Undertake periodic drills that will include responses to:
    - Attacks from herdsmen
    - Knife or gun threats
    - A violence in the workplace situation – potential or actual
    - Domestic violence occurring within our facilities
    - General evacuation requirements due to a technical, human or natural threat
    - Others as may be determined by the General Manager or Security Management Committee

Threats will be qualified utilizing a threat matrix, or other tool that compares operations to threats, and their likelihood and severity. Where possible, mitigating actions and recommendations will be initiated.

3. The Role of the Security Focal Person or Manager

In the minimum, the contractor will have a security manager or focal staff that will be responsible for all security related issues in the workplace. The role of this security focal person includes:

- Lead role in threat assessments
- Program maintenance and updates
- Incident response and coordination
- Chair of the Security Program Committee
- Training Responsibilities
- Coordination with other Departments
- Coordination with agencies and response units

4. Employee security education and training

The company-training security program will ensure:

- Employee duties and responsibilities
- Event-specific responsibilities
- Threat or event reporting
- Back-to-work/check-in requirements
- Potential disciplinary actions
- Dealing with the media, regulatory agencies, or other entities outside the company

5. Management and Supervisor Education and Training

For Managers and Supervisors, our program focuses upon:

- Individual or Department duties
- Knowledge and deployment of response protocols
- Assuring employee and other constituent welfare
- Threat or event reporting
- Back-to-work/check-in requirements
- Potential disciplinary actions
- Dealing with the media, regulatory agencies, or other entities outside the company

Program Exercises and Drills

The training and education activities that will be undertaken for the purposes of implementing this Security Management Plan shall be one of the following: case studies, table top exercises, or small and/or large scale exercises involving response pattern to adopt in the face of clear and present threats e.g. herdsmen or insurgent attacks.

Annex 15: Environmental, Social, Health and Safety Mgt Plan

Policy Statement

The overall goal of the Environmental, Social, Health and Safety provisions of the Civil works is to ensure that all environmental and social concerns attributable to project activities are effectively addressed by the contractor.

These requirements demand that civil works are carried out to ensure that local laws and international conventions as well as Environmental and Social Policies are fully implemented to guarantee the following;

ESHS Performance Objectives

The employer is committed to ensure full adherence to its commitments on sound Environmental, Social and Health impact management practices on all its projects. As an organization, the employer insists in sound environmental and social performance by its employees, their agents and privies in fulfilling performance objectives of all applicable policies and legislations on management of environmental and social issues attributable to project interventions.

The objectives of Environmental and Social regulations of the Employer are as follows;

- apply good international industry practice to protect and conserve the natural environment and to minimize unavoidable impacts;
- provide and maintain a healthy and safe work environment;
- protect the health and safety of local communities with particular concern for those who are vulnerable such as the elderly, disabled, minors etc.;
- avoid or mitigate impacts of project activities on movable or immovable objects, or other intangible assets that have cultural significance in its project areas
- ensure effective offsets for temporary or permanent land take and other forms of displacement arising from restriction of access to land and means of livelihood;
- ensure that terms of employment and working conditions of all workers engaged in the contract meet the requirements of the International Labour Organization (ILO) conventions to which the employer's country is a signatory;
- be intolerant of, and enforce disciplinary measures for GBV and SEA activities;
- incorporate gender considerations and enabling environment where equal opportunities are provided to participate in, and benefit from, planning and development of the contract;
- work respectfully with beneficiaries, relevant authorities, contractors and local communities;
- encourage an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation, and protects whistleblowers;
- minimize the risk of HIV, STIs and other communicable diseases in the course of executing the Works contract;
- ensure that ESHS measures developed by the employer to mitigate adverse project impacts are well implemented and monitored accordingly.
- Ensure timely and effective reporting (weekly, monthly, quarterly, terminal) of implementation and compliance actions

Employer's ESHS Requirements for Works

A. Overview

This section describes the Environmental, Social, Health and Safety (ESHS) requirements under the Works Contract. These requirements are to be implemented in accordance with site-specific Environmental and Social Management Plan (ESMP) for the works. The bidder shall prepare its bid to implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in an ESMP. The bidder shall address these requirements in its ESHS Management Plans and Implementation Plans and plan to fully take into account specific site ESHS considerations. If there is failure to implement these ESHS requirements in the course of executing the works contract, the employer reserves the right to arrange through the Engineer for execution of the missing action by a third party on account of the Contractor.

B. Pre-Bid Environment, Social, Health & Safety Considerations

Prior to bid preparation, the bidder is expected to assess the Environment; Health & Safety plan specific to the requirements for the Work being bided for, taking into account the size and nature of the project as well as the nature and extent of potential Environmental, Social Health and Safety risks.
The Company's assessment must include:

- A ''**Hazard Assessment''** of potential hazards associated with the Projects being bidded for and formulated prevention control measures to address the identified hazards;
- List of equipment and resources required to perform the work in a manner that fulfils ESHS requirements of the works;
- Qualifications of Employees with the knowledge and skills to be used in performing the work in line with ESHS requirements;
- An understanding of the obligations expected of the Company in order to comply with the applicable Environment, Social, Health & Safety Acts, Regulations and procedures;
- A planned schedule for Environment, Social, Health & Safety inspections of the contract sites and facilities;
- Plan for reviewing, recording and reporting of Environment, Health & Safety related events that may arise in the Course of the Projects;
- Plan for reviewing Environment, Health & Safety performance measurement activities; and

C.1 Minimum Environmental, Social, Health and Safety outcomes

The bidder is expected to demonstrate capacity to produce sound ESHS results in the course of implementing the works in this contract. In general the ESHS measures to be planned shall include shall include, but not limited to, those which will produce the following ESHS outcomes:

1. **Reduction of Pollution Impacts:** All works must be planned and implemented to minimize the effect of dust and noxious gases on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, earth moving activities e.t.c. to ensure safety, health and the protection of workers and communities living in the vicinity of project activities. All works must be planned

and implemented to minimize noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities. All works must be planned and implemented to prevent oils, lubricants and wastewater used or produced during the execution of works from entering into rivers, streams and channels

2. **Restoration of Water Flow Regimes**: All works must be planned and implemented in a manner that ensures that pre-existing water flow regimes in rivers and streams is maintained and/or re-established where they are disrupted due to works such as dredging, river training e.t.c to be carried out.

3. **Conservation of Natural Resources**: All works must be planned and implemented to 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. Such impacts shall be remedied to acceptable standards. Exploitation of natural resources such as hunting, fishing, collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities shall be avoided.

4. **Ensure adequate Waste Management:** All works must be planned and implemented to ensure that construction and other solid waste generated on all construction sites, site yards and workers' camps are properly disposed. Sewage and wastewater from construction camps must also be satisfactorily managed through the provision of proper sanitation facilities on all premises under the works contract

5. **Reduce impact of construction activities on vehicular traffic, pedestrian movement and access within project corridors**: All works must be planned and implemented to offset temporary disruptions to vehicular traffic and human movement. Temporary access facilities (roads, footbridges) shall be done in consultation with the local community especially in important or sensitive environments. They shall also be optimized to guarantee safety and protect users from freak accidents. Traffic management shall be inclusive of all relevant communal, local, state and federal institutions.

6. **Ensure safety of workers and community residents:** All works must be planned and implemented in a way that protects workers and residents of project areas from adverse impacts on their health and wellness. Work areas shall be cordoned off to prevent freak accidents. Workers shall use personal protective equipment such as safety boots, reflective jackets etc. Adequate road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.

7. **Community Health and Safety:** All works must be planned and implemented in a way that guarantees the control of the spread of communicable diseases attributable to project staff: Workers and local residents shall be sensitized on health risks particularly of AIDS. Stagnant water in uncovered borrow pits shall be treated in the best way to avoid creating possible breeding grounds for mosquitoes, Work yards shall be organized in a way that prevents breeding of disease vectors.

8. **Prohibition of all Forms of Forced of Harmful Child Labour**
The Bidder shall not employ "forced or compulsory labor" in any form. "Forced or compulsory labor" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty. In the course of the works contract, the firm shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

9. **Improving capacity for implementation of ESHS on Works Contract**: The Contractor shall provide sufficient training to his own personnel to ensure that they are all aware of the relevant aspects of these ESHS requirements, project ESIA/ESMP, and his own ESHS-MSIPs and are able to fulfil their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the ESHS-MSIPs. General topics should be:
EHS in general (working procedures);
emergency procedures; and
social and cultural aspects (awareness raising on social issues)

10. **Reduction of impacts of incoming workers:** The works contract shall be planned and implemented in a way that reduces the temporary and permanent effects of incoming personnel into project beneficiary communities i.e Labour Influx Impacts. Measures that will reduce conflict with host communities, reduce pressure on resources, reduce inflations of prices and promote social harmony will be required by the works contractor.

11. **Avoidance of Gender Based Violence (GBV), Sexual Exploitation and Abuse (SEA) and Violence Against Children (VAC):** The works contract shall be planned and implemented in a way that addresses the risk of Gender Based Violence GBV (with zero tolerance), all forms of Sexual Exploitation and Abuse (SEA), Violence Against Children (VAC), Alcohol and Substance abuse. The Bidder shall develop plans to mitigate such social risks at project execution sites. The Codes of Conduct and Action Plan for Preventing Gender Based Violence (GBV) and Violence Against Children (VAC) shall clearly define obligations on all project staff (including sub-contractors and day workers) with regard to implementing the project's environmental, social, health and safety (ESHS) and help prevent, report and address GBV and VAC within the work site and in its immediate surrounding communities

C.2 Other requirements that build on employer responsibilities

12. Avoidance of Impacts on Private Property: Except otherwise addressed by a Resettlement Plan implemented by the employer, the bidder's plan must not include deliberate or accidental damage to private property. Such unplanned damage shall demand repair of the property to the owner's satisfaction and at the contractor's 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 employer from subsequent claims. In cases where compensation for inconveniences, land acquisition, damage of crops etc. are claimed by owner, the Employer has to be informed by the Contractor through the SE. This compensation is in general settled under the responsibility of the Employer before

signing the Contract. In unforeseeable cases, the respective administrative entities of the Employer will take care of compensation.

13. Protection of cultural heritage: Upon discovery of ancient heritage, relics or anything that might or believed to be of cultural importance during the execution of works, the procedure for implementing the works contract is required to immediately report such findings through the process established by the employer aimed at protecting such cultural resources.

D. Contractor's Environment and Social Management Plan (C-ESMP)

Within 6 weeks of signing the Contract, the successful bidder shall prepare a C-ESMP to ensure the adequate management of the environmental, social, health and safety (ESHS) aspects of the works, including implementation of the requirements of these ESHS requirements and any specific requirements of an Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) for the works. The Contractor's ESMP (C-ESMP) will serve two main purposes:

For the Contractor, for internal purposes, to ensure that all measures are in place for adequate EHS management,

As an operational manual for staff.

To ensure that the Contractor is fully prepared for the adequate management of the ESHS aspects of the project, and as a basis for monitoring of the Contractor's EHS performance.

The Contractor's ESMP shall provide at least:

a description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP;

a description of specific mitigation measures that will be implemented in order to minimize adverse impacts;

a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the reporting thereof; and

the internal organizational, management and reporting mechanisms put in place for such.

The Contractor's ESHS-MP will be reviewed and approved by the Client before start of the works. It is expected to be reviewed every six months and every review will be reviewed and approved by the Employer. This review would ascertain that the Contractor's ESMP covers all of the identified impacts, and has defined appropriate measures to counteract any potential impacts.

ESHS Payment Requirements

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

OR

The bidder will cost the delivery of the ESHS requirements as a subsidiary obligation covered under the prices quoted for other Bill of Quantity items. However, provisional sums will be set aside for specific activities such as ESMP Trainings, HIV counselling services/SEA awareness and sensitization as mandatory ESHS outcomes.

Incorporation of Environmental and Social Requirements into Contract Management

The findings of the environmental and social assessment will need to be mainstreamed into the entire process for managing the BRT project. The requirements include the following;

Pre-Award Considerations

Evaluation of the capacity of project bidders for implementation of ESHS requirements: The project proponent will undertake a due diligence on the capacity of potential contractors for the faithful execution of the ESHS requirements of the project. This shall include

A review of the Environmental, Social, health & Safety (ESHS) policy of bidding firms;

Due diligence of the circumstances necessitating the suspension or termination of previous contracts on the basis of non-compliance with ESHS requirements of contracts

A review of the academic qualifications and experiences of key staff proposed to man key ESHS implementation functions by bidding firms

Inclusion of a statement of ESHS requirements into bidding and contract documents: The findings of the environmental and social assessment undertaken will be inserted into the bidding documents in a systematic manner. This will include;

A statement of the outcomes of properly implemented ESHS measures (sampled included in annex)

An inclusion of particular conditions of contract or specific contract provisions to furnish specific considerations such as regulatory limits, target periods to General Conditions of Contract (GCCs) provisions.

Management Strategies and Plans for Identified ESHS Issues: Based on the environmental and social assessment which have been reduced into a concise statement of ESHS requirements of the project, the project proponent will request bidders to propose Management Strategies and Plans to address ESHS issues as part of their bids. The strategies will demonstrate the capacity and knowledge of the bidder to manage the identified risks, if successful

Making provision in the Bill of Quantities (BoQ) of the project: This provision can be made in form of measured work items (in case of engineering mitigation measures) OR lump sum provisions (where the contractor is expected to propose costs based on his methodology) OR provisional sums (in case of mitigation measures which have been studies and costed by the client.

Inclusion of Supervisory Responsibility on ESHS issues into Terms of Reference of Supervision Firm: The proponent will include the qualifications, experience and responsibilities of E&S experts into the Terms of Reference of the Supervision Consultant's team.

Construction Phase

Development Contractors ESMP: The proponent shall request the successful bidder to develop a detailed costed Contractors ESMP based on the Management Strategies and Plans earlier detailed in the bids submitted. The C-ESMP will also

contain all sub-plans stated in the environmental and social assessment carried out by the proponent such as the GBV Action Plan, Labour management procedures (LMP) manual, Traffic Management Plan, Occupational Health Management Plan etc with specific details reflecting approved implementation methodology will be prepared and submitted for approval by the contractor.

Mobilization of ESHS Personnel: The contractor shall ensure that all personnel that are to implement the measures described in client's E&S assessment and C-ESMP are available before construction works are initiated.

Training of on-site personnel: The personnel required for all construction and construction support services will be trained on the E&S requirements of the contract before works are launched.

Routine Monitoring of E&S Performance of Contracts: The monitoring plan described in this assessment will be implemented as scheduled. Data on identified monitoring indicators and other indicators that may be considered necessary will be collected by the various responsible persons.

Update of Contractors ESMP: In view of the dynamic nature of social risks of projects, the C-ESMP shall be reviewed and submitted for approval every six (6) months.

Annex 16: Contractors COVID-19 Compliance Guidelines

1. Conduct off-site safety trainings to ensure all employees are aware of the job hazards. The emphasis of this training is on the COVID19 awareness.

2. Contractor is to carry out screening of personnel to determine if any of them is sick or showing any COVID19 related symptoms before any of them is allowed into the work site.

3. Proper education of workforce and enforcement of social distancing protocols on site. Effective social distancing practices must be included in the training plan prior to deployment of the workforce to site.

4. Education should include use of tools; Tools and equipment are not to be shared, where possible. Touch points on tools should be properly wiped down with disinfectant prior to hand over to next shift.

5. Workers are to be encouraged to wash hands comprehensively for at least 30 seconds immediately they are about to enter the worksite.

6. In addition, the following social distancing practices can be included in the workers camp:

    a. Break time can be staggered so that not all workers will be away to the canteen or eating area at the same time

    b. Use of the bathrooms and toilets need to be staggered to prevent crowding.

    c. Work hours can also be staggered to ensure no overcrowding

    d. Provision of entry and exit points from workers camp and site to ensure minimum contact during shift change.

    e. Prevention of visits from family and friends from workers camp and work site

    f. Improve access control to and from the workers camp and works site. Consider the use of personal identification cards that should be presented to grant access.

7. Education and enforcement of handwashing, sanitizing and other hygienic practices.

8. A record of who is on the work site and when needs to be available and with the shift supervisor at all times. This is so that in the event of a worker contracting COVID19, these records will be utilized to inform those who may have come into contact with this person (contact tracing).

9. Contractor to create an isolation area within the sick bay that can offer initial response.

10. Sick bay and health officers in the workers camp are to have the phone numbers and contact details of NCDC for confirmed cases that require evacuation from site.

11. Contractor should ensure the regular disinfecting and cleaning of the following surfaces several times a day; tables, chairs, doorknobs, Light switches, phones, toilets, taps and sinks.

12. Remind workforce of need to follow the protocols, especially washing of hands and to keep common areas and tools, clean.

13. When departing the worksite, workers are to:

    a. Wash hands properly before departing site
    b. Retain PPE on site
    c. Maintain social distancing as you depart